



Westminster is installing 3,000 sensors and guiding motorists to vacant parking spaces via a smartphone app

Parking is pivotal to prosperity plans

Having long been a cause of contention with their constituents, local authorities are now using parking provision to entice shoppers and reduce congestion.

To say that parking, and particularly parking enforcement, is a contentious and emotive issue is something of an understatement. Across the globe the discontentment with parking facilities, charges and enforcement is a major cause of friction between local authorities and the residents, businesses and drivers in the area. Recently there was outrage in the UK after the RAC Foundation revealed that in 2012/13 the local councils made a surplus of almost £600 million from parking charges and penalty notices. This represents a 5% increase over the previous year.

The chairman of the Local Government Association, Peter Box, said councils did not make a profit from parking because surplus income was spent on projects such as road improvements and subsidised bus travel. Yet the report's author, RAC Foundation director Professor Stephen Glaister, said if capital expenditure is removed from the calculations, the councils' surplus has increased by 12%. He said: "Overall spending on local roads has fallen by 9% over the past three years with road safety expenditure down by as much as 20%."

With almost three quarters (73%) of people old enough to vote in UK elections holding a driving licence, the government has announced a review of parking charges and enforcement.

Now the use of smart technology is providing authorities with an opportunity to rethink parking strategies as Jake Bezzant, Smart Parking's Commercial Manager in New Zealand explains: "The authorities are caught in something of a no-win situation. Local traders say expensive and inconvenient parking coupled with oppressive

enforcement is killing town centres and almost literally driving customers towards out-of-town shopping centres. On the other hand the authorities cannot allow unfettered parking because roads in town centres are often narrow and would be clogged with parked cars, making deliveries impossible. And if they reduce the cost of parking then the shopworkers' cars would fill all the parking places."

However, having noted the very real deterrent effect car parking arrangements can have on high streets and other areas, authorities are starting to use parking as a way of changing consumers' behaviour and to promote particular regions within their jurisdiction. Bezzant says: "The technology used in parking is no longer a 'one-size-fits-all' solution and authorities are increasingly using this flexibility to help keep roads clear in one area or attract more visitors to another."

Rotorua District Council in New Zealand is a case in point. It is implementing a scheme to encourage tourists, shoppers and business users into the town centre while keeping the traffic moving and preventing abuse. Its newly-implemented P120 initiative allows two hours of free parking in the immediate inner city area, while retaining unlimited metered parking on the inner city fringes and unlimited free parking on the city perimeter. According to Mayor Steve Chadwick, the parking initiative forms a key part of the Council's efforts to revitalise the heart of the city and the surrounding district.

The council's enterprises manager, Nick Dallimore went even further saying initiatives like free time-limited P120 parking are 'absolutely critical for helping reinvigorate the inner city'.

Rotorua's P120 initiative comes after the completion of a successful trial by Smart Parking in 2013 and the company has won the contract to provide the technology to implement, monitor and



ABOVE: Free parking is a key ingredient in Rotorua Council's efforts to revitalise the city centre



LEFT: The zone controller covers a number of sensors and can be mounted on any convenient post

enforce the new city-centre parking scheme. Smart Parking is installing up to 1,500 of its SmartEye sensors across the central business district together with 100 SmartLink zone controllers and its SmartRep management software. Not only will the sensors be deployed on around 500 of the P120 bays, they will also be installed in some of the metered bays outside the central business district.

The sensor fits into a cup which is embedded in the surface of the parking bay to allow rapid battery changes. Each sensor emits two infrared beams and when the space is occupied the beams bounce back to the sensor which triggers a change of status on the bay. A number of sensors transmit these changes to a SmartLink zone controller which is typically mounted on any existing convenient pole. The sensor polls for occupancy status every two seconds and the status change is reversed when a vehicle vacates the space. This change is transmitted via the zone controller, which then transmits to the SmartRep management software.

Motorists are notified of and guided to vacant parking spaces in near real-time via a smartphone app which Bezzant says works well for on-street parking where the driver may not know all the street names. He says variable message signs (which Rotorua Council is considering) work best for off-street applications where a driver is clear about their destination.

Data on arrival and departure times is recorded into SmartRep and an overstay automatically triggers an alert that feeds into Rotorua's TicketOr parking enforcement software. This sends a message to the parking warden's handheld device.

The Council has widely publicised the new scheme in which it warns drivers that the electronic sensors can detect overstaying vehicles. The two hour limit will be strictly enforced 'to create fair parking opportunities for everyone'.

When a parking warden issues an infringement notice, the evidence associated with the contravention is automatically collated by the TicketOr system.

Rotorua's scheme went live at the beginning of December 2013 and has received very positive feedback. For the duration of the initial 18-month trial the council has decommissioned the meters adjacent to parking bays in the P120 zone and fitted bright orange-coloured metal plates to the front and back reminding people of the 120

In Australia the authorities in Sydney are using the sensor technology to help control the sporadic parking problems in the area around the Bondi, Tamarama and Bronte

beaches. Those considering a trip to one of the famous beaches are now able to check the current state of parking availability before deciding when to make the journey.

minute limit for free parking. Dallimore, said: "We've watched some parkers still trying to feed the meters in the P120 zone, despite the metal plates blocking the coin slot."

Because one of the key goals was to discourage long-stay parking in the city centre, Rotorua does not implement a No Returns policy so drivers can move their vehicle from one P120 bay to another. "In Rotorua's case parking is free but time limited, so the system has been configured to only alert parking enforcement personnel when a single occupant overstays the two-hour rule," says Bezzant.

In order to encourage shopworkers to leave the parking bays empty for visitors, the council has discounted the cost of a weekly pass at a nearby multistorey car park, reducing the price from NZ\$27 to NZ\$20 (US\$22 to US\$16.5).

Information on traffic throughput and driver behaviour collected from the sensors in the P120 and other parking zones in the inner city will be collated to help develop future strategy planning and investment decisions.

While the technology is virtually identical, the aims of Westminster City Council in central London are very different to those in New Zealand. There is no shortage of shoppers and theatre-goers in London's West End and the streets are some of the busiest and most congested in the UK so drivers can spend long periods going from one street to the next in search of a vacant car parking space. This is not only frustrating, it can add considerably to congestion by obstructing through traffic. In order to help motorists find a parking space as quickly as possible the council is planning to install up to 10,000 SmartEye sensors in two phases across the Borough.

In the first phase 3,000 sensors will be installed at all 'paid-for' and disabled parking bays across the West End. Motorists will be able to identify vacant car parking spaces via their smartphones and once parked, drivers can either use their smartphones to pay for the parking or use either cash or a card at a nearby Pay & Display terminal.

As each parking session is paid for, the departure of a vehicle automatically ends that session and triggers the need for the following occupant to pay for the next session. In Westminster's case, the Council has included the capability for drivers to receive an alert via their smartphone when their parking session is about to end and to 'top-up' their parking session and extend their stay.

According to the report at the end of Westminster's pilot scheme, the real-time data has proven popular with a continued growth of app downloads and usage. It has also resulted in a 2.3% reduction in the gap between actual and paid usage of the parking bays.

If the deployment continues to prove successful, the Council is planning a second phase with a further 7,000 sensors installed across the Borough. ■

"Parking technology is no longer a 'one-size-fits-all' solution"

Jake Bezzant

