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CARBON-METERED PARKING

REDUCING CO_2 EMISSIONS THROUGH VARIABLE PARKING FEES

A White Paper by Cobalt Telephone Technologies

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Reducing the Transport Carbon Footprint

The search is on for new ways to influence and reduce both individuals' and the collective carbon footprint. Pressure is mounting internationally, nationally and at local Government level, to attain ever lower carbon dioxide emissions.

UK Targets: The UK's current target is to reduce domestic carbon dioxide emissions to 20 per cent below 1990 levels by 2010[I], with a longer-term aim of achieving at least an 80 per cent reduction by 2050[II].

Car emissions account for 51% of transport emissions

Car Emissions: With cars accounting for 51 per cent of all UK transport emissions[III], and journey distances forecast to rise[IV], the choices motorists make over which vehicle to purchase and use, could play a key role in whether or not these targets are achieved.

Fiscal Instruments: The fiscal instrument of varying Vehicle Excise Duty rates, based on the vehicles' CO_2 emissions (first introduced in 2001), has so far had limited effect in changing purchase patterns. The introduction of six new bands in 2009-10 will increase the penalty for the most polluting vehicles from £400 currently to £455, with the addition of a new car tax of up to £950. Even with this, Ministers believe the overall impact on emissions will be relatively small, with the long term effect amounting to just a fraction of 1 per cent of total transport emissions by 2020[V].

More is therefore needed if attitudes and habits are to be changed.

The Role of Parking: Vehicle Excise Duty is a relatively blunt instrument to use – it taxes ownership, not use – and is paid at most twice a year, so is not a constant reminder to motorists about reducing their carbon footprint.

Parking can be used at the local level to educate, and promote reductions in CO_2 emissions

In contrast, on- and off-street parking, which is used daily by many motorists, would be a much more effective tool for communicating about, and regulating vehicle usage – assuming fees are linked to the polluting properties of the vehicles parking there.

For commuter journeys especially (which are relatively high polluting journeys[VI]) - households with more than one vehicle would receive a strong message to consider swapping to the more carbon-efficient vehicle, given sufficiently strong parking fee incentives.

Local Authority Targets: With Local Authorities now being actively targeted to reduce their CO_2 emissions via the Local Government Performance Framework[VII], many Councils are seeking new ways to raise awareness of carbon emissions and communicate what individuals can do to make a difference.

This White Paper describes an exciting new opportunity to utilise parking fees to educate and incentivise individuals to achieve local Council and national Government objectives on environmental emissions – the implications of which are extremely significant. The strategic tool used to enable this opportunity is called:

Carbon-Metered Parking

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What is Carbon-Metered Parking (CMP)?

Promote positive, emissions-based choices amongst UK motorists

Carbon-metered parking is:

"The process of using variable parking fees, to incentivise and promote positive, carbon-based choices amongst UK motorists: encouraging them to become accountable, on a day-to-day basis, for the amount of carbon dioxide their vehicles produce and developing longer-term attitudes which encourage them to purchase and use more carbon-efficient types of vehicle."

Cobalt Telephone Technologies, 2008

CMP from the Provider's Point of View

Meeting Government Objectives for Emissions

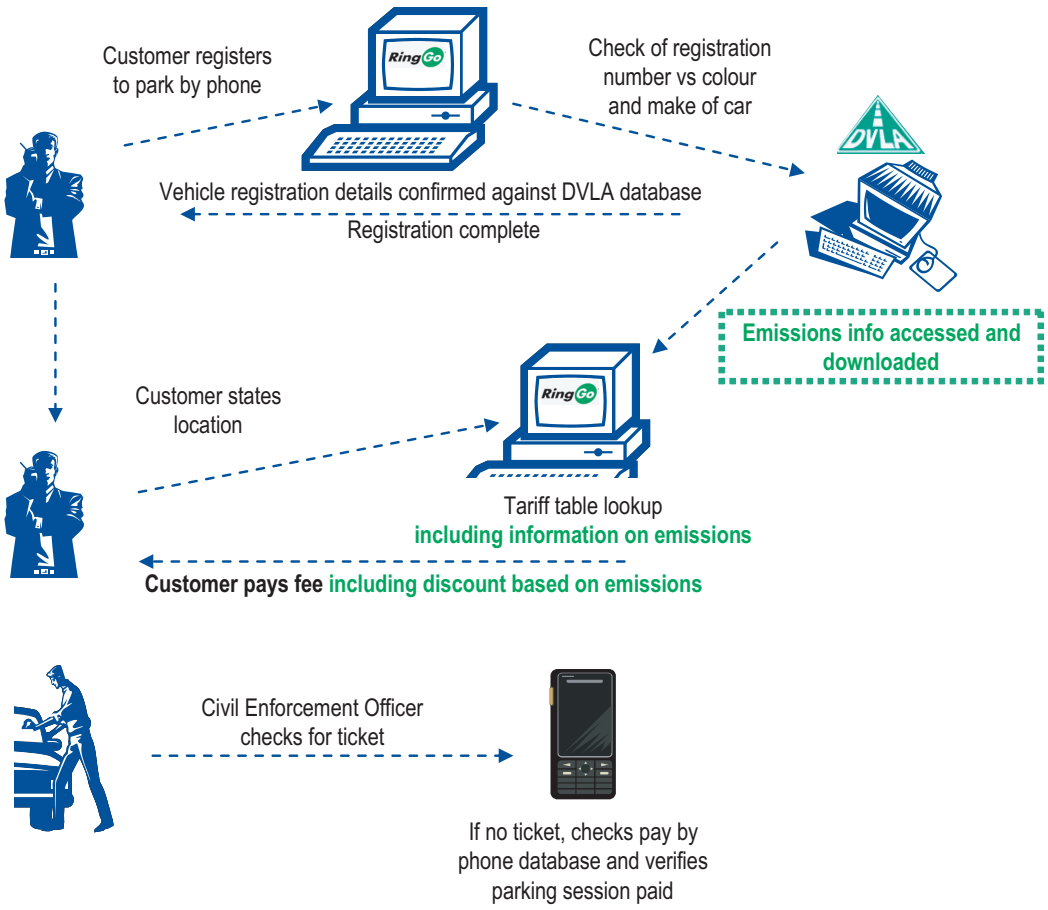
Carbon-metered parking enables local authorities and private car park operators to quickly and easily vary their parking fees based on the carbon footprint of the vehicles parking within their locations. The most polluting vehicles can be charged the highest amount; those with low carbon emissions offered a discount on their parking, as an incentive to individuals to move to less polluting vehicles.

The system operates as a simple extension of digital (phone) parking (see diagrams below):

Step 1:
Customer registers for pay by phone parking

Step 2:
Customer pays for parking session

Enforcement



Emission-based Pricing Bands

The pricing bands are based on CO_2 emissions (g/km) on the information provided by the DVLA for vehicles registered on or after 1 March 2001 (see below). These bands can be concatenated for simplicity or used as stated.

Band	CO_2 emission (g/km)
A	Up to 100
B	101-120
C	121-150
D	151-165
E	166-185
F	Over 185
G	Over 225 – cars registered on/after 23/03/06

CMP from the Customer Point of View

Carbon Metered Parking offers consumers the opportunity to pay a reduced parking fee if they are parking an emissions-efficient vehicle. The steps are as follows:

It is a simple choice - pay a reduced fee for parking or pay the full amount in cash.

1. The vehicle owner reads car park signs and decides whether to park digitally (discounts available) or with cash (no discount).
2. If they decide to pay by cash, full payment is made.
3. Those parking digitally ring the normal number used for phone parking in the car park. The system checks the registration plate against the DVLA database and matches this with the environmental records held of the vehicle.
4. The service confirms the relevant tariff, including the level of discount (if any).
5. The customer is automatically charged the correct fee, including an emissions-based discount if appropriate, for their vehicle.

Dependent on the pricing differential adopted by the parking operator, CMP offers consumers a substantial incentive to use either a lower-emission vehicle (if this is available), or to swop to a lower emission vehicle, the next time they change their car.

Enforcement of CMP

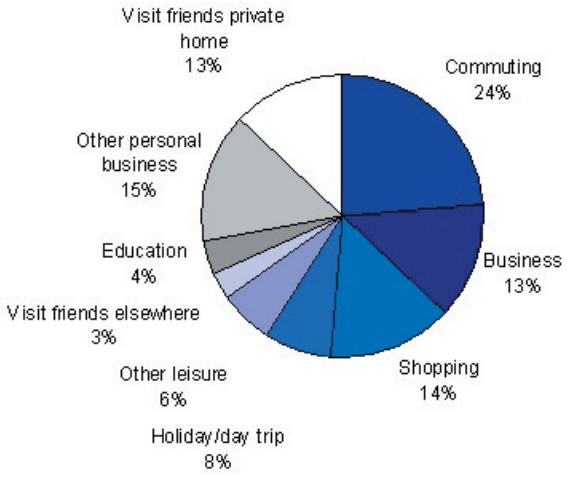
Civil Enforcement Officers enforce Carbon-Metered Parking in exactly the same way they enforce normal pay by phone parking – using internet-enabled handsets to access real-time information from the phone parking database – which indicates which vehicles are validly parked and which are not.

The fees motorists are charged are automatically derived from the vehicle registration details provided. If someone provides incorrect vehicle details, to get a discounted parking rate, the parking session and vehicle details will not appear on the Civil Enforcement Officers' database and a penalty notice will ensue.

Benefits of CMP for Operators

Tackling Emissions Positively

As highlighted above, Government at both the local and national level is coming under increasing pressure to reduce environmental emissions, and private car journeys are a key area. Indeed, the Department of Transport is currently working on a Carbon Dioxide Reduction Strategy, due to be published with its wider transport strategy, in Spring 2009.



The figure (left) indicates the estimated CO_2 emissions from all modes of passenger transport within Great Britain, by journey purpose (average of the 2002/06 National Travel Surveys)[VIII].

The bluest shades highlight trips which are most likely to require on/off-street parking – indicating substantial potential for reducing emissions if these trips are targeted with CMP.

Positive Media Attention

Unlike much of the media attention given to parking (which tends at local and national level to focus on negative, rather than positive issues), environmental messages attract high, generally positive, media interest.

There is therefore potential for positive media attention to accrue to Local Authorities that implement such forward-thinking changes.

Moving Payments from Cash to Digital

An additional benefit of Carbon-Metered Parking for Car Park Operators is that it encourages customers to move from cash to digital payments. The advantages for Operators of encouraging such a move, are well documented and include:

Operators benefit from moving more customers to digital (phone) parking

- Savings from reduced cash handling, counting, processing and banking.
- Reductions in fraud, theft, vandalism and losses due to shrinkage and counterfeit coins.
- Reduced wear and tear on machines, leading to lower maintenance and replacement costs.
- Increased compliance and revenues – motorists can pay to park whether or not machines are operational and tend to pay more than when paying with cash.

Completely Cashless

While operators may decide to introduce phone parking as an optional alternative to cash payments, the real benefits of Carbon-Metered Parking will come about only when all payments are made digitally. At this point, the full range of emissions-based charging can be utilised – ensuring those with the most polluting vehicles pay more than the standard rate of parking and those with low emissions are rewarded and pay substantially less.

Implementing CMP

Digital parking payments of the type described above, are offered by a number of different suppliers. However, the key requirement for implementing Carbon-Metered Parking is the connection and look up against the DVLA database.

Currently, only one supplier in the marketplace offers this facility and that service is RingGo, supplied by Cobalt Telephone Technologies.

About Cobalt Telephone Technologies

Cobalt Telephone Technologies has over 10 years experience supplying secure, automated, telephony and web-based payment services to local authorities and private industry. RingGo, its flagship phone parking service, is currently offered by 22 local authorities, including six London Boroughs; four railway operators - First Great Western, Network Rail, Chiltern Railways and South West Trains and in various privately-operated car parks.

Carbon-Metered Parking is just the latest in a long run of innovations for the company.

For more information and a discussion on how Cobalt Telephone Technologies can help you implement Carbon-Metered Parking, please contact us today, by phone 01256 339195 or e-mail sales@ctt.co.uk.

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VII Dept for Communities and Local Government (CLG), 2007 – National Indicator 186 "Per capita reduction of CO_2 emissions in the Local Authority area"
VIII Carbon Pathways Analysis: Informing Development of a Carbon Reduction Strategy for the Transport Sector (Figure 3.3), July 2008

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