



Innovative parking policies: three examples from the United Kingdom

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1 Introduction

1.1 INTRODUCTION

1.1.1 This report forms part of a larger investigation of parking policy undertaken for the Swedish RTA (Trafikverket, client Elin Sandberg). The study has been produced in response to an instruction from Pelle Envall, TUB, on behalf of WSP Sweden, for a paper summarising a limited number of good practice examples from the UK.

1.1.2 The report has been prepared by Julian Ridge, who is an Associate based in WSP UK's Leeds office.

1.2 SCOPE OF THIS PAPER

1.2.1 As such, this report sets out research on some examples of parking best practice found in the UK. Specifically, it examines three types of scheme:

- A residents' parking scheme where charging rates are based on vehicles' CO₂ emissions in Richmond, a Borough of London;
- "Cashing out" schemes which reward company employees for sustainable travel behaviour – for example, cycling to work – and penalise single occupancy car use;
- "car-free" housing developments, of which there are a number in the bigger UK cities; and

1.2.2 A final chapter briefly draws conclusions on the use of such techniques, on the basis of the research undertaken here.

1.3 OBJECTIVES

1.3.1 The objectives of the research study are:

- to document and analyse 'innovative' solutions for how to deal with parking in dense urban areas.
- to look into parking policies that steer towards a more economically optimal modal split (i.e. increased modal share for walking, cycling and public transport, especially during peak hours).
- to document the availability of data in order to describe parking supply and demand in an area, (i.e. what data planners have access to and what indicators etc they use to analyse it).

1.4 STRUCTURE OF THE REPORT

1.4.1 The report is structured as follows:

- Section 2 considers the CO₂ emissions based scheme in Richmond;
- Section 3 considers "cashing out" schemes
- Section 4 considers car-free development
- Section 5 presents concluding remarks.

1.4.2 If you have any queries about this report please contact Julian Ridge on +44 7825 843609.

2 CO₂ Emissions Based Parking Charges

2.1 INTRODUCTION

2.1.1 In the UK, Richmond Borough Council has implemented a scheme where residents' parking permit charges are based, at least partly, on the CO₂ emission levels of the vehicles owned by the residents.

2.1.2 Richmond has some severe constraints on parking. It is an outer London borough with a well developed town centre which functions as a retail focus for a wide area and includes a number of chain stores and a department store. Richmond also has a number of tourist attractions, including Richmond Park (one of the large Royal Parks in London), Twickenham sports stadium and picturesque stretches of the banks of the River Thames. It also contains significant employment centres, particularly the retail area of the town centre and a university. It is an affluent area of London, in which people aspire to live. As such, car ownership is relatively high. 41% of Richmond's streets are within a controlled parking zone¹.

2.2 AN INTRODUCTION TO RESIDENT/CONTROLLED PARKING ZONES

2.2.1 In the UK many local authorities have "decriminalised" parking offences. When parking is decriminalised, the local authority moves through a process which takes enforcement of parking offences away from the police. At the end of the process, enforcing parking offences rests with the local authority. As such, parking is enforced by Civil Parking Enforcement Officers (CEOs) who are employees of the authority or their chosen contractors and are responsible for ensuring that parking regulations are enforced both on-street and in off-street parking. Areas where on-street parking is restricted in some way (e.g. by charges for use or restrictions on length of stay) are called Controlled Parking Zones (CPZs) which are areas of road which are legally designated as areas where parking is restricted by means of a traffic regulation order (TRO).

2.2.2 CPZs are used around the UK to help manage the competing demands of different user groups in areas of acute parking pressure. They are particularly useful in areas where the demand for commuter, shopping or leisure parking conflicts with residents' needs, and in helping to restrain traffic in areas well served by public transport. Most of central and much of inner London is now covered by CPZs and many outer London town centres also have such controls. CPZs are also common in most larger English towns and cities.

2.2.3 Local authorities are able to levy permit charges for parking on street in CPZs. The charges must cover the cost of operating and enforcing the permit system so that it is revenue neutral for the authority (i.e. generates neither a profit nor a loss).

2.2.4 Because on-street parking space is usually a finite resource in areas where CPZs are in use, local authorities normally impose a cap on the number of permits that they issue. In most places in the UK, all permits in the CPZ are priced at the same level, but where the availability of parking is constrained, price can be used as a mechanism to discourage households from parking more than one vehicle on-street, or to discourage householders from having particularly large/ long vehicles or parking on street where ample off-street parking is available as an alternative. As such, the principle of having a permit price which varies according to the vehicle to which it refers has been established.

¹ Presentation from Terry Powell, Parking Manager at Richmond Council

2.3 THE SCHEME IN RICHMOND

2.3.1 In the case of Richmond, the cost of the permits varies by:

- The user of the parking (e.g. residential or business);
- The location of the CPZ in which the vehicle is parked;
- The CO₂ emissions of the vehicle.

2.3.2 Therefore, for example, a residential permit in the suburbs of Richmond costs less than a business permit in the town centre.

2.3.3 Permits are available from the local borough council and are valid within the borough and for up to one year. Civil Enforcement Officers patrol the CPZs regularly and fines are given if cars are parked within restricted areas without the proper parking permit. The parking times and regulations vary from borough to borough and even within the same borough.

2.3.4 Other users, such as tradesmen, may have to apply for a daily permit and residential/ business permit holders can also purchase daily permits for visitors to use.

2.3.5 The CO₂ emission based parking scheme was introduced in April 2007. The scheme initially applied only to on-street residents' parking provision in a series of "Controlled Parking Zones" in the Borough. The principle was extended to cover on-street and off-street Council-operated parking in October 2009. In July 2010 it was decided that the scheme should be abandoned, following a change of political administration at the Borough.

2.4 REASONS FOR INTRODUCING THE SCHEME

2.4.1 The scheme was introduced by the incumbent Liberal Democrat Council because Richmond Council has a commitment to reduce CO₂ emission levels within the Borough - the Borough wishes to be "the Greenest Borough" in London. Road transport was assessed to contribute 26% of total CO₂ emissions in Richmond, so was a priority for action. The specific objective of the scheme was "to promote sustainable forms of transport and to reduce levels of air pollution and other environmental impacts resulting from road transport".

2.4.2 The impetus for introducing the scheme came from the elected council members. The elected members gave the officers the powers to implement the scheme.

2.5 IMPLEMENTING THE SCHEME

2.5.1 Implementing the scheme took around 16 months. Of this, 10 months was required to formulate a comprehensive programme for introducing the scheme, including consulting with residents, and 6 months was required to actually introduce the scheme – e.g. advertising its introduction, producing new passes etc.

2.5.2 During the consultation phase there was some opposition to the scheme. Principal objections were:

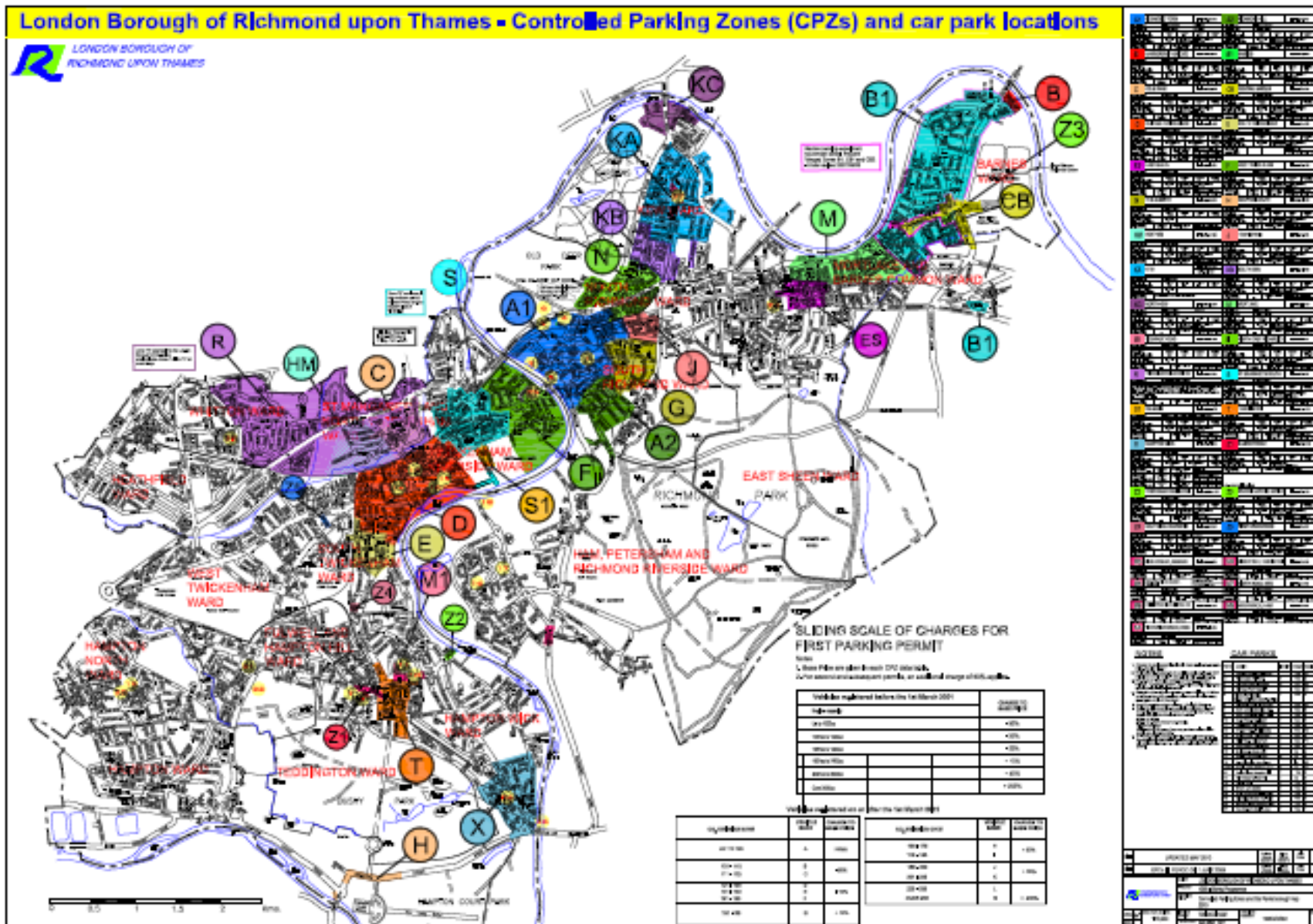
- Some residents felt that they should not pay a local higher parking charge for more polluting vehicles because they already paid higher road tax and fuel tax;
- Some residents felt that penalising residents for driving more polluting vehicles was not an appropriate activity for local government (as opposed to central government).

2.5.3 There was no organised opposition to the scheme (in the form of single issue pressure groups) although some existing residents groups opposed the scheme. The AA and RAC (British motorists' organisations) opposed the scheme. The car makers did not oppose the scheme (although Porsche, for example, threatened a judicial review of a CO2 emission based London congestion charge).

2.5.4 The cost of implementing the residents' scheme was assessed to be £20,000, most of which was spent on advertising the scheme (which is required under the UK's statutory consultation regulations) or officer time attending public consultation events.

2.5.5 The map overleaf shows the CPZs in Richmond. As can be seen, the CPZs in the Borough cover an extensive area.

FIGURE 2.1: CPZS IN RICHMOND



CHARGES

2.5.6 The scheme in Richmond uses a charging system based on the location of the controlled parking zone for which the permit is issued and the level of CO₂ emitted by the vehicle which the permit is for.

2.5.7 As can be seen in the map above (figure 2.1) Richmond already had a well established system of CPZs. For each CPZ, a “base cost” has been identified. The base cost is highest in the central CPZs (for example, A1 and A2, which cover the town centre) and fall as the CPZs become further out. As an example, the base cost for a parking permit in the centre of Richmond is around £120 per year.

2.5.8 The cost of a permit is then “varied” from the base cost according to the CO₂ emission level of the vehicle to which the permit refers. The bands for the vehicles are based on the bands used to set vehicle excise duty (a tax which all vehicles must pay to be used on the roads in the UK, which has varied according to CO₂ emissions since 2001 – separate arrangements are used for vehicles first registered before March 2001). Tables 2.2 and 2.3 show the bandings used.

2.5.9 The charging regime is designed to be neutral in its overall effect – i.e. the additional revenue paid by the owners of vehicles with high emission levels is offset by discounts offered to the owners of less polluting vehicles.

TABLE 2.2: VEHICLES REGISTERED AFTER 28TH FEBRUARY 2001

Vehicles registered on or after 1 st March 2001 Engine CO2 emissions	Vehicle Band	Variation from Baseline Cost
Up to and including 100g/km	Band A	-100% (Free)
From 101g/km to 110g/km inclusive	Band B	-50%
From 111g/km to 120g/km inclusive	Band C	-50%
From 121g/km to 130g/km inclusive	Band D	-10%
From 131g/km to 140g/km inclusive	Band E	-10%
From 141g/km to 150g/km inclusive	Band F	-10%
From 151g/km to 165g/km inclusive	Band G	+ 10%
From 166g/km to 175g/km inclusive	Band H	+ 30%
From 176g/km to 185g/km inclusive	Band I	+ 30%
From 186g/km to 200g/km inclusive	Band J	+ 50%
From 201g/km to 225g/km inclusive	Band K	+ 50%
From 226g/km to 255g/km inclusive	Band L	+ 200%
256g/km and above	Band M	+ 200%

TABLE 2.3: VEHICLES REGISTERED BEFORE 1ST MARCH 2001

Cylinder Capacity (cc)	Variation from Baseline Cost
Up to and including 1000cc	-50%
From 1001cc to 1550cc inclusive	-30%
From 1551cc to 1800cc inclusive	-20%
From 1801cc to 2400cc inclusive	+ 10%
From 2401cc to 3000cc inclusive	+ 50%
3001cc and above	+ 200%

2.5.10 Households may apply for more than one permit and permits for second and subsequent cars are charged at 50% more than the cost of a first car in the same band. There are also some exemptions from the charging regime – for example for people who hold blue disabled parking badges, but also for vehicles with very low levels of emissions (less than 100g of CO₂ per km).

2.5.11 Proof of vehicle details is required when first applying for a permit in a CPZ, so that the emission level of the vehicle can be checked before the permit is issued.

2.5.12 Permits are also issued for businesses. Business permits are significantly more expensive than residential permits, so for example a band M permit costs £900 for a business. Car clubs are considered to be businesses for the purposes of setting parking permit prices.

2.6 ON-STREET/ OFF STREET COUNCIL CONTROLLED PARKING

2.6.1 The principle of banding based on emissions has now been applied to on-street and off-street paid for parking at car parks and at parking metres. The charge only applies to the parking stock which is controlled by the Council, although this includes all on-street paid for parking and a significant amount of off-street parking.

2.6.2 There was significant opposition to this scheme, with a suggestion that implementing an emissions-based charge at paid for parking was a “stealth tax” or “yet another way of taxing people”. In practice, charges were set to achieve a reduction in parking costs for most motorists. The Council assessed that 69% of motorists would see their parking charges remain the same, whilst 31% of motorists would see an increase in charges.

2.6.3 The scheme for paid for parking is quite complex. Parking in Richmond can now be paid for in the following ways:

- Paid in cash
- Paid using a Richmond Card (a smartcard for the Borough)
- Paid for by phone using a text based service.

2.6.4 The phone-based parking system was implemented at the same time as the CO₂ emissions based scheme. New parking meters and machines were required across the Borough to implement the phone based payment system. It was a relatively small additional task to allow the meters to issue tickets with charges linked to CO₂ emissions.

2.6.5 The phone based system incorporates an innovation whereby it links to the database of registered vehicles held by the Driver Vehicle Licensing Agency in the UK. This allows the system to check the emissions level of a vehicle being registered for parking and apply the correct tariff.

2.6.6 Residents of Richmond are entitled to use a Richmond Card to reduce their parking cost. This is a stored value smartcard which is used to both identify a vehicle being parked (and its eligibility for discounted parking) and pay for the parking ticket. Tickets issued in this way show the registration number of the vehicle which they are issued for (so that a parking enforcement officer can check the ticket in the vehicle is correct for the vehicle).

2.6.7 Implementing the system at Council on and off street parking took 16 months. This was longer than the originally envisaged 10 month period because delivery of the software behind the phone based payment system took five months longer than expected to deliver.

2.6.8 Implementing the paid for parking scheme cost around £50,000, comprising the software for the pay by phone system, advertising and officer time. Replacing all of the parking equipment in the Borough took place simultaneously. It was assessed that none of the cost of this could be ascribed to the CO₂ based scheme because the old equipment was life expired and due for replacement in any case.

2.6.9 The outturn cost for the scheme was approximately the same as the forecast cost.

2.7 MONITORING THE SCHEME

2.7.1 The Council has undertaken monitoring exercises for the scheme. Table 2.4 shows the monitoring results for the residents' scheme:

TABLE 2.4: RESIDENTS' SCHEME²

Band	% of vehicles in borough's CPZs, 2007/8	% of vehicles in borough's CPZs 2009/10
A to F (eligible for discounts)	24.51%	30.52%
G to M (pay additional charge)	75.49%	69.48%

2.7.2 As can be seen, the proportion of vehicles with high levels of emissions registered for a residents' parking permit in the CPZ has fallen between 2007/8 and 2009/10 whilst the proportion with low emissions (and hence eligible for a discount) has risen. Indeed there has been a rise of about 25% in the proportion of vehicles eligible for a discount.

2.7.3 This would appear to show that the residents' scheme has been effective in achieving its objective, however, Richmond BC also suggested that a number of factors in the wider economy may have acted to create a trend of adopting less polluting vehicles generally, specifically these are:

- Higher fuel costs (particularly in Summer 2008), discouraging use of vehicles with high fuel consumption/ CO₂ emissions;
- A vehicle scrappage scheme designed to encourage motorists to trade elderly, more polluting vehicles, for more modern, less polluting types;
- Greater availability and acceptance of hybrid vehicles.

2.7.4 Some residents are also thought to have changed their parking behaviour to avoid paying high charges for vehicles with high emissions – for example, clearing out garages and driveways so that the vehicles can be parked off-street.

2.7.5 There has been no apparent change in the use of paid for parking. However, the paid for scheme has been implemented for less than a year – so it would be early to see a change in users' behaviour of this scheme.

2.8 ABANDONMENT OF THE SCHEME

2.8.1 During the Council elections in Spring 2010, the Conservative party in Richmond made a manifesto commitment to abandon the CO₂ based parking scheme. The Conservative party took control of the Council in May 2010 and abandoned the scheme shortly afterwards citing its complexity³ as the reason it should be abandoned. A consultation in preparation of the abandonment is under way (November 2010).

² Monitoring Statistics from Richmond Borough Council.

³ Local Transport Today.

2.9 OTHER EXAMPLES IN THE UK

2.9.1 Richmond is, at least for now, the only example of an authority which has implemented a parking regime based on CO₂ emissions. However, the principle of differential charging according to vehicle type is established, so other schemes which achieve similar outcomes exist. For example, Westminster Council (in inner London) has a scheme which is based on vehicle length and also allows Eco vehicles (such as electric cars) to park for free to encourage the increased use of environmentally friendly vehicles.

2.9.2 There has also been a great deal of interest in the scheme in Richmond from other towns and cities in the UK with constrained parking supply and/ or ambitious targets to reduce their CO₂ emissions. However, none has adopted the mechanism so far, and the abandonment of the scheme in Richmond would appear to be a significant set back in the use of CO₂ emission based schemes.

2.9.3 The Richmond scheme was awarded the Environmental Award by the British Parking Awards in 2010.

2.10 KEY MESSAGES

2.10.1 Richmond Council has been able to introduce an emissions based residents' parking scheme. Key messages are:

- The stimulus for the scheme came from Council members concerned to reduce CO₂ emissions in Richmond;
- The scheme was built on a well established system of designated controlled parking zones and implementation took 16 months for the residents' scheme and a further 16 months for the paid for parking scheme;
- Because the scheme is implemented through existing CPZs, it applies to existing residencies and commercial premises, not just new development;
- The costs of implementing the scheme were relatively low and mostly comprised of officer time, statutory advertising and consultation costs;
- Enforcement of the scheme through on-street CEOs was central to its effectiveness;
- There was relatively little organised resistance to the introduction of the scheme
- Once the residents' parking scheme was implemented, the Council implemented the paid-for parking scheme;
- Monitoring would suggest that the scheme has met its central objective, but it was criticised because it was complex and difficult to understand;
- A decision has been made to abandon the scheme following a change of political administration in Richmond;
- Despite interest from other local authorities across the UK, the scheme in Richmond has remained unique, at least at the time of writing.

3 Cashing Out Schemes

3.1 INTRODUCTION

3.1.1 Another approach used in the UK has been the use of parking 'cash out' schemes whereby employees at a workplace are given a financial incentive not to drive their car to work.

3.1.2 Such schemes have been implemented as part of a developers' planning obligations for a new office site. As such, they are agreed with the local authority as one of a suite of measures to mitigate the traffic impact of a new development.

3.1.3 They are implemented as a part of a green travel plan for the development. The green travel plan sets out how the developer is going to mitigate the traffic impact of their development typically contains a number of measures, including:

- Facilities to encourage public transport use (for example, new bus shelters or dedicated bus services to the development);
- A car sharing database to encourage employees to lift share;
- Facilities for cyclists (typically secure cycle storage, lockers for clothing and showers);
- Good pedestrian links between the development and surrounding road network, and within the development; and
- A structure for managing the travel plan and monitoring its effectiveness.

3.1.4 Cash out schemes take this a stage further by introducing a mechanism to restrain car use through levying a charge on those who commute by car. The schemes can also be attractive to developers because the payments being made to non-car users are off-set by the financial costs that would otherwise be incurred in providing, maintaining, and managing on-site car parking provision for employees. Furthermore, land which would otherwise be used as parking space can be released and landscaped as gardens or used for additional office development.

3.1.5 A complication with cash out schemes in the UK is their treatment in the tax system. A direct cash payment to reward the use of sustainable modes would be treated as a benefit in kind under UK tax rules and hence would be subject to the appropriate level of income tax for the recipient. Therefore, a points system is used, whereby points are awarded for sustainable use and taken away for car use, with an adjustment made to the recipient's monthly salary as appropriate. Different mechanisms for addressing payment may be more appropriate in other tax domains, such as in Sweden.

3.1.6 To illustrate the concept of car parking cash out schemes, the following two case studies are outlined:

- Pfizer (Kent)
- Vodafone (Berkshire)

3.2 PFIZER (KENT)

3.2.1 Pfizer is a medical research/ drugs company with offices and laboratories in Sandwich in Kent. Sandwich is a small town of around 10,000 inhabitants. The Pfizer site has approximately 3,000 employees and there is widespread in-commuting to the Pfizer site from adjacent towns such as Deal, Canterbury and Ramsgate and the countryside surrounding Sandwich.

HOW THE SCHEME WORKS

3.2.2 The scheme operates by crediting those staff who do not bring a vehicle on to the site. The amount credited ranges from £2-£5 per day, per employee. The scheme also extends to car sharers and motorbike users and is credited to salaries at the end of each month. The cash incentive is considered a direct trade off against the estimated £400 to £500 annual cost per space of providing and maintaining car parks. The payment is also pegged to the cost of travelling by bus.

3.2.3 The cash out scheme also operates alongside other initiatives such as encouraging cycling to work by installing changing rooms, and locating bike racks close to the main buildings so that cyclists do not have as far to walk to their work places. Car sharing is further encouraged by way of an intranet-based journey matching service.

SCHEME ADMINISTRATION AND COSTS

3.2.4 The credit is administered through 'smart site access cards' which are used to access car parks as well as buildings. The credit initially takes the form of points, which are converted to cash received through payroll at the end of each month. This is to reflect the tax implications of issuing cash directly through the scheme which could otherwise be viewed as a benefit in kind.

3.2.5 The cash out software cost between £75–100,000 and the company estimates annual pay out to staff to cost about £500,000

SCHEME EFFECTIVENESS

3.2.6 Over the three years since introduction (1998 – 2001) there was a modal shift of 12% from single-occupancy vehicle use, with car sharing up by 15% in the same period. A third of all staff took to travelling to work by modes other than the car. The individual modal shift is summarised in the following table:

Mode	1998 (%)	2001 (%)
Single Occupancy Car	66.7	58.8
Car Sharing	17.7	20.4
Bus	6.7	11.8
Bike	5.7	5.2
Walk	1.5	1.4
Train	0	0.3
Other	0.1	0.1

Source: (Elliot & Chadwick, 2002)

3.2.7 The results of monitoring the cash-out scheme suggest a reduction in single occupancy car journeys, and a car/people ratio decreasing from 75:100 to 68:100 - a 9% reduction.

3.2.8 Furthermore, a more than 75% increase was observed in the market share of public transport amongst Pfizer employees, together with an increase in car sharing.

3.3 VODAFONE (BERKSHIRE)

3.3.1 Newbury is a town in southern England with approximately 60,000 people in its built up area. Vodafone's headquarters are located on the outskirts of Newbury and approximately 4,500 people work on the site.

3.3.2 Vodafone introduced a car parking cash out scheme in 1999 due to limits on parking provision at their new headquarters. Vodafone's headquarters stands alone on a site on the periphery of Newbury. Consequently it is easy to control access to the site and there is very little scope for parking on adjacent roads or off street parking provision.

HOW THE SCHEME WORKS

3.3.3 The main strategy is to give financial rewards for those staff that do not drive alone to work. Those who motorcycle, walk or take the shuttle bus service receive £85 per month with their salary, and car sharers receive £42.50.

3.3.4 As well as this option, the company introduced a comprehensive package of measures to further encourage greener travel to and from its sites, through introducing its own works buses to and from nearby rail stations and nearby villages and towns, providing safe cycle storage at stations, as well as starting a car sharing service.

SCHEME ADMINISTRATION AND COSTS

3.3.5 The company estimates that the running cost per annum of the 'cash-out' scheme is £1.2m, excluding costs associated with investment in additional supporting measures. The annual running cost per employee is placed at £430.74.

SCHEME EFFECTIVENESS

3.3.6 By October 2001, the breakdown of staff (out of a total of 4,500) taking out the scheme was as follows:

Purpose	No.Staff	% of Staff
Staff taking cash out to use on other alternatives (including cycle, motorcycle, walk, bus, train)	1157	21.4
Staff taking cash out to car share	307	5.7
Total Staff taking cash out	1464	27.1

3.3.7 Staff survey results for 2001 to ascertain any changes in modal shift are shown as below:

Mode of travel to work		1998 (%)	2001 (%)
Car sharers		3.5	5.7
Those who come by sustainable modes		14	21.4
	Bus	0.5	4.0
	Train	0.9	3.4
	Cycle	2.2	2.6
	Walk	7.8	9.9
Car		82.5	72.9

3.4 DEVELOPMENT OF THE SCHEMES:

3.4.1 The Vodafone and Pfizer schemes are acknowledged successes, but have not been adopted on a widespread basis in the UK, despite increasing land values making such schemes potentially more attractive for developers since the schemes were developed in the late 1990s. There has also been a greater focus on sustainable transport over this period. Nonetheless, the two schemes remain a basis for developing similar schemes in future.

3.5 KEY MESSAGES

3.5.1 Key messages about cashing out schemes are:

- Two cash out schemes were introduced in the UK in the late 1990s. Although the schemes are acknowledged to have been successful, they have not been adopted on a widespread basis;
- The schemes are effective because they are backed by wider constraints on parking (e.g. CPZ on surrounding streets or stand-alone developments). If cash out schemes were not backed by wider parking controls there is a danger that parking activity would relocate to adjacent streets (and indeed this can be seen in many locations in the UK where parking constraints have been introduced at sites where there is ample parking available on adjacent streets (e.g. hospital and university sites) – and parking has relocated to on-street, causing conflict between residents and commuters;
- The schemes are not practiced in isolation, but are supported by a wide green travel plan to encourage walking/ cycling etc
- New infrastructure is provided to support the cash out scheme – for example, on-street provision for cyclists at adjacent major road junctions, cycle storage, lockers, showers, bus stops and perhaps dedicated bus services.
- In the UK there are tax problems which have led to the circuitous payment route for cash out schemes, but they may not exist in other countries.

4 Car Free Developments

4.1 INTRODUCTION

4.1.1 Much residential development is car free because it was built before the invention of the car or before mass car ownership took place. For example, Venice is a car free city, and many European cities have centres which are essentially pedestrianised despite residential populations. There are also many smaller examples of car free or nearly car free apartment blocks in the centres of cities where insufficient parking is provided for most residents to own a car and park it at their residence. By implication, car ownership in these places is very low because residents find it difficult and/ or prohibitively expensive to keep a car in these places.

4.1.2 More recently, there have been a number of developments in northern Europe, including in the UK, which have been promoted as “car-free” developments where residents agree to limits on their ownership and use of cars, perceiving that they have made a choice to trade car availability against living in an area where there is little intrusion by the car.

4.1.3 In the UK such developments have been relatively small in scale. There are examples of much larger developments in Germany and the Netherlands.

4.2 UK EXPERIENCE

4.2.1 In the UK, the amount of parking provision for new residents is determined through “parking standards” which set out the **maximum** amount of parking which should be provided in any new development (e.g. residential, commercial etc). This is in contrast to most other countries where parking levels for new developments state a **minimum** amount of parking to be provided. These parking standards are set by local councils (who act in the UK as planning authorities), but within a national framework set out in Planning Policy Guidance (PPG) notes. PPG3 (Housing) and PPG13 (Transport) are most relevant to car free housing. Both guidance notes support the principle of reducing car dependency through development and patterns which place a reduced emphasis on providing for the car and, by implication, car free housing. At a local level it is likely that other policy documents, for example, Local Transport Plans and Local Development Frameworks (which are statutory documents which all local authorities in the UK must produce) will also support the principle of car free housing.

4.2.2 The UK decision to adopt a maximum level of parking provision follows from changes introduced into UK planning law through PPG6 and PPG13 during the 1990s. These two planning policy guidance notes set out the need to restrain the growth in car use which had taken place in the UK since the 1960s, partly because of a historic lack of constraint on parking provision at new out of town developments.

4.2.3 Because there is no minimum level of parking provision, developers are able to build developments where there is very minimal parking provision, and such developments have become known as “car-free” developments. In practice they have developed in large cities where land values are high, public transport networks are dense and/ or it is easy to walk to most services, shops and facilities, and people are thus able to make a lifestyle choice to live without a car.

4.2.4 There are essentially two sorts of car free development in the UK:

- Those where residents have to sign away the right to own a car (very uncommon);

-
- Those where residents do not sign away the right to own a car, but where you have to purchase/ rent your parking space near your home on the 'open market', i.e. in an off-street multi-storey garage.

4.2.5 None of the UK developments are absolutely car free, as access to the developments needs to be retained for tradesmen and emergency services vehicles. However, generally around 0.25 to 0.5 parking spaces is provided per dwelling⁴.

4.3 DEVELOPMENTS WHERE RESIDENTS SIGN AWAY THEIR RIGHT TO KEEP A CAR

4.3.1 There is only one example of a development in the UK where residents have had to sign away the right to keep a car.

CASE STUDY: SLATEFORD GREEN, CANMORE EDINBURGH

4.3.2 Car free development arrived in 2000 in Edinburgh, a city of around 500,000 inhabitants and the capital city of Scotland. A venture between Canmore Housing Association and Malcolm Homes offered 120 homes in various tenures to residents willing to sign away rights to own a car whilst living there. The homes are located on the western edge of Edinburgh city centre, close to Haymarket rail station. Edinburgh and Glasgow City Councils subsequently adopted guidance to promote car-free development.

4.3.3 Canmore was originally proposed to feature a car club, which would make vehicles available to residents who needed them. Unfortunately, it was not possible to deliver the car club initially, so residents who need access to a car have to hire one through existing hire car companies. Subsequently, two car club-vehicles have become available at the site through an agreement with Budget rent-a-car.

4.3.4 The development is not within a controlled parking zone, although it is not possible to park at the development itself or on its access road.

4.3.5 Images of the development can be seen below.



4.3.6 The car-free nature is one of a number of environmental features of the Slateford Green development, including:

- Heating provided by condensation from a nearby distillery
- Recycling of grey water

4.3.7 The development offers both apartments for rent through Canmore Housing Association and owner occupied apartments. The rented apartments were filled swiftly once the development was completed, but full occupancy was not achieved with the owner-occupied apartments, some of which were reallocated to the rental market. Research amongst residents suggests that they were more attracted by the low costs of heating the apartments than their car-free nature.

⁴ Car Free Development, a guide for developers and planners, Car-free UK, 2008.

4.3.8 Many residents have low incomes and do not own a car, so the car-free nature of the development is a non-issue for them. Nonetheless, research demonstrated that 26% of households did in fact own a car, keeping it off site. However, car ownership at the development is below local averages and has also fallen since the development opened (from 1 car to every 7 inhabitants to 1 car to every 8.8 inhabitants)⁵. The Council has subsequently had to advise tenants that it cannot enforce the car-free tenancy agreement.

4.4 DEVELOPMENTS WITHOUT CAR PARKING PROVISION

4.4.1 In the UK these sorts of developments are typically developments where there is no allocated parking provision, rather than developments which have an initial stated objective of being car-free. As such, there are many of these developments and many more developments where buying a parking space is an optional and expensive add-on to the rent or price of a property.

4.4.2 Such developments are common in city centres where land is at a premium and high density public transport networks make owning a car unnecessary. They can be particularly attractive to younger people whose desire for quick access to the social and commercial life of the city centre is greater than their desire to own a car.

4.4.3 Developers also find such developments attractive because the space which would be used for car parking in a conventional development can then be put to other uses – e.g. landscaping or gardening space, or increasing the proportion of the development which can be given over to the building itself.

4.4.4 Two case studies are discussed below, although there are many examples of such development across the UK, many of which are so commonplace as to not merit comment.

CASE STUDY: CAMDEN

4.4.5 Camden is a borough in inner London. The principle of car free development is supported in inner London through PPG notes 3 and 13, the UK's Urban White Paper (Our towns and cities: the future – delivering an urban renaissance), the Mayor of London's Transport Strategy and the London Plan.

4.4.6 In Camden, high land values and historically low car ownership⁶ combine to make car-free development particularly attractive. Consequently the Borough has become very experienced in car free developments and 2,523⁷ car free housing units had been built in Camden at 287 separate developments, the majority of which are very small in scale. Residents at these developments are not eligible for parking permits to park on-street in CPZs, so if they wish to own a car they will need to find an off-street parking location, such as a space in a multi-storey car park which can be leased on a long term basis.

4.4.7 Images of car-free developments in Camden can be seen overleaf:

⁵ Urban Ecology: Innovations in housing policy and the future of cities, Scheurer, 2001.

⁶ Only around 30% of residents in central London own a car.

⁷ Car-free development, Camden



Green Dragon House where the area for car parking has been re-used as a communal facility.



The Montgomery Building – which fronts directly onto a busy road, provides housing very close to the City of London

4.4.8 Discussion with planning and transport officers at Camden Council indicated that most developers in the Borough do not (at least for multi-occupancy buildings such as flats) consider parking provision to be a priority. This is because they accept that the space available for parking in central London is constrained, and that many residents are unlikely to own a car in any case. Consequently, when developers approach the Council for outline planning permission they are likely to have an open mind about how much parking to provide at their development.

4.4.9 As such, the developers are likely to accept that their development is designated as car free. This has the advantage that central courtyards can be used for gardens rather than parking, which increase the attractiveness of the development.

4.4.10 The designation of car-free is also not applied absolutely rigidly, and it is possible for residents to get a permit to park on adjacent streets in special circumstances (for example, residents who are registered as disabled and who have a blue disabled parking badge can get a parking permit).

4.4.11 Consequently, key lessons from the experience in Camden are:

- Many developers in central London see providing parking for their developments as a relatively low priority;
- This means that it is relatively easy for the Borough Council to have new housing designated as car free;
- Purchasers of this housing often see parking as a low priority – hence are happy to purchase the housing units; and
- The Council are willing to relax the car free designation in special cases – for example, people with disabilities.

CASE STUDY: SOUTHWARK

4.4.12 Southwark Council is also an inner London Council and, like Camden, has low car ownership and a dense public transport network. Friendship House (photos below) has been developed recently to provide 35 flats and 4 work units as a car free development.



Friendship House, on Borough Road, SE1, central London.

4.5 KEY MESSAGES

4.5.1 Key messages on car-free developments are:

- Such developments are attractive where public transport networks are dense, residents have low car ownership and land values are high. As such, many such developments exist in cities such as London and Edinburgh;
- In the UK there are many nominally car free developments – i.e. with very low provision of parking space. Many are small in scale and located in city centres;
- Only one development has tried to get residents to sign away their right to own a car, and in practice this has been unenforceable. However, many car-free developments have been assisted by controlled parking zones on adjacent streets;
- Residents who choose to live in a car free development often attach a low value to owning a car themselves. As many car-free developments are served by dense public transport networks and/ or are in locations where access to a car is not required to undertake essential journeys. Consequently, many residents are happy to be non-car available. They may join a car club or hire cars when required;
- The UK does not have any very large scale car free developments as are found in Germany and the Netherlands.

5 Conclusions on UK Best Practice

5.1.1 Key conclusions are as follows:

- Emission based, cash out and car free development schemes are made possible by the existence of a constraint on parking availability. For the emissions based scheme in Richmond this has been the availability of on-street space in CPZs. For car-free developments and cash-out schemes the constraint is enacted through the amount of parking provided at new developments.
- All types of innovative parking need to be supported by wider initiatives. At their simplest, these should be arrangements to prevent constrained parking activity relocating onto adjacent streets. In the UK, Traffic Regulation Orders must be made to form a Controlled Parking Zone (CPZ) and the Traffic Regulation Orders (TRO) must then be supported by a programme of enforcement to ensure that they are effective in restricting parking availability to those who are entitled to use it.
- All three types of scheme would have their effectiveness blunted if a significant amount of off-street parking was available at low rates near to the CPZ/development. However, for many car free residential developments, the constraint is self enforcing – the people who live in the developments do not wish to own a car.
- The schemes need to have some degree of flexibility built in to take account of residents' or employees' changes in circumstance (for instance loss of mobility and having to use a car).
- A travel plan is required to support cashing out schemes and ensure that alternative ways to travel (instead of by car) are available to employees and are attractive to use;
- Complementary measures are important to support all three types of scheme, enacted through the travel plan. A range of complementary measures should be considered, including public transport season ticket loans, secure cycle parking/lockers/ showers and changing facilities. Large commercial or residential developments could also consider providing off-site infrastructure to support green travel behaviour – for example dedicated cycle paths, measures to improve adjacent road junctions, pedestrian crossings, bus stops and (perhaps) dedicated bus services to the development.
- Cashing out schemes have had to be implemented through a complex system of payment to avoid tension with UK tax laws. This may not be the case with a system implemented outside the UK.
