

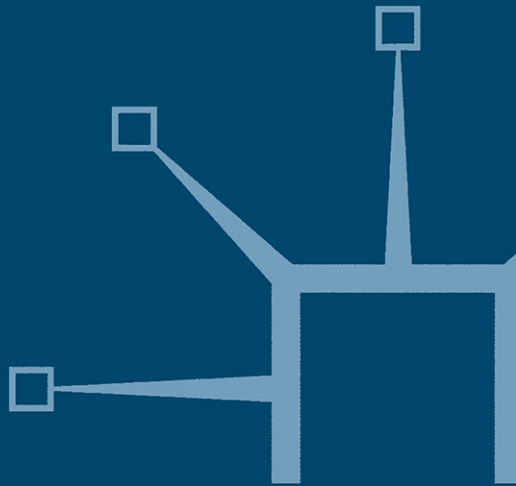
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# Congestion Charging in London

The Policy and the Politics

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Martin G. Richards



## Congestion Charging in London

*Also by Martin Richards*

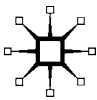
A DISAGGREGATE TRAVEL DEMAND MODEL (*with Moshe Ben-Akiva*)

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**The Policy and the Politics**

Martin G. Richards

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# Preface

The text for this book was finalized immediately after Transport Secretary Alistair Darling had given evidence to the House of Commons Transport Committee, early in February 2005.

Although Transport for London has since published a report of the second year of scheme operation,<sup>1</sup> providing further information on the impacts of the scheme, they remain much as described in Chapter 12, *The First Year*.

However, there have been some significant events that relate to Chapter 14, *The Future*. On 4 July 2005 the London Congestion Charge increased to £8 a day, and it seems most likely that Livingstone will extend the charged area westwards. But in Edinburgh, the City Council's preferred transport strategy, which crucially included congestion charging, was firmly rejected in the February 2005 referendum.

On 5 May 2005 there was a general election, and despite the clear unpopularity of charging among Edinburgh electors and the Government's ambivalence following publication of the Ten-Year Transport Plan, the Labour Party stated, in its manifesto, '*we will seek political consensus in tackling congestion, including examining the potential of moving away from the current system of motoring taxation towards a national system of road-pricing*'.<sup>2</sup>

With Blair's return to power, Alistair Darling continued as Transport Secretary and pursued this commitment, stating '*people say national road pricing is ten years away ... it always will be ... unless we examine the options and decide what we want... once we've decided, we can get on with doing it. ... the prize is getting more out of the road network, therefore improving choice for drivers with more reliable journey times ... the objective is to allow people and goods to move as efficiently as possible and at the same time meeting our environmental objectives*'.<sup>3</sup> And, addressing Parliament, '*a great deal of work has already been done on some of those issues in the development of the lorry road user charging scheme ... that has confirmed that a distance-based charge has the potential to be a workable and practical way forward ... our thinking on national road pricing has developed further ... we are now taking forward work on a national system of road pricing*'.<sup>4</sup>

Thus, it is clear that Darling, and the 2005 Blair Government, see some form of road user charging, whether it replaces, in part or completely, fuel and vehicle duties or is in addition to them, as a possible

key element of transport policy. Darling has also made it clear that he wants to pilot the basic principles in, ideally, a major urban area within the next few years.

However, whilst many saw the planned Lorry Road User Charge scheme as a potentially useful, if expensive, pathfinder, on 5 July 2005 Darling announced to Parliament that as '*plans for distance-based lorry charging [should be taken forward] as part of the wider work on national road pricing ... to develop a single, comprehensive, cost-effective system... the current procurement for lorry road user charging will not continue*'.<sup>5</sup> It is noteworthy that although the Lorry User Charge scheme was the responsibility of HM Revenue and Customs (as Customs and Excise had become), it was Darling as Transport Secretary that announced its demise.

With Darling anticipating that a national road user charging system is unlikely to be in operation much before 2020, and with questions as to whether it will ever be efficient to have a truly national system, rather than one limited to the more congested parts of the network, the basic objectives of the Lorry Road User Charge announced by Gordon Brown in 2002, of providing a level playing field within the UK for truck operators regardless of their nationality, have at best been frozen for a decade, or for good.

The future of congestion and distance-based road user charges in the UK depends on the progress of the national debate called for by Alistair Darling and whether a political consensus can be established. Hopefully, as well as providing a record of the development of congestion charging in London and its early impacts, this book will help some in contributing to that debate.

July 2005

MARTIN G. RICHARDS

## Notes

1. *Congestion Charging: Third Annual Monitoring Report*, April 2005, London: Transport for London.
2. *Britain Forward not Back*, The Labour Party Manifesto 2005, London: The Labour Party.
3. Speech to the Social Market Foundation, London, 9 June 2005.
4. *Hansard*, House of Commons, 5 July 2005, Column 173.
5. *Ibid.*

# Acknowledgements

Writing this book proved to be very much more time consuming than I had expected. My first acknowledgement is therefore to Jenny, my wife, who both encouraged me and never complained about the time I spent working on it, when I was supposed to have 'retired'. My second is to Tim Berners-Lee, the inventor of the Internet as we know it. Without the World Wide Web, I doubt if I would have undertaken the research on which much of the book is based.

Then I have to thank David Bayliss, Alan Carter, Professor Stephen Glaister, Tony Grayling, Professor Peter Jones, Nick Lester, Todd Litman, Professor Peter Mackie, Professor Tony May, Professor Alan McKinnon, Professor Piotr Olszewsk, Ken Perrett, Professor Ken Small, Mark Valleley, Joe Weiss and one who prefers to remain anonymous, for their very helpful comments on drafts of chapters, and for their encouragement. However, it hardly needs saying that I am responsible for any deficiencies, omissions, misinterpretations and any other weaknesses. I also thank Sarah White for the care with which she prepared the artwork and Alan Carter for Figure 3.1. Material from HMSO is represented with permission under HMSO Core Licence number C02W00006851.

I also have to thank Ken Livingstone for having the courage and determination to pursue a transport policy that included congestion charging, defying those who thought such a policy was tantamount to political suicide. Without him, there would have been nothing to write about.

There are many others involved in the London congestion charge in some way, in its development, design, implementation and operation, in its analysis and scrutiny, in supporting or challenging it, who have provided much of the material on which the book is based, all of whom I thank.

MARTIN G. RICHARDS

# List of Abbreviations

|       |   |
|-------|---|
| AA    | Automobile Association  |
| ALG   | Association of London Government  |
| ALS   | Area Licensing Scheme   |
| ANPR  | Automatic Number Plate Recognition  |
| APRIL | Assessment of Pricing for Roads In London                                 |
| AREAL | AREA Licencing  |
| ATM   | automated teller machine  |
| CBD   | Central Business District   |
| CBI   | Confederation of British Industry   |
| CCTV  | closed circuit television   |
| CEN   | Comité Européen de Normelisation (European Committee for Standardization) |
| CfIT  | Commission for Integrated Transport                                       |
| CILT  | Chartered Institute of Logistics and Transport                            |
| CPZ   | Controlled Parking Zone   |
| DETR  | Department for the Environment, Transport and the Regions                 |
| DfT   | Department for Transport  |
| DSRC  | Dedicated Short Range Communication                                       |
| DTLR  | Department for Transport, Local Government and the Regions                |
| DTp   | Department of Transport   |
| DVLA  | Driver and Vehicle Licensing Agency                                       |
| EFC   | Electronic Fee Collection   |
| EIA   | Environmental Impact Assessment   |
| ENP   | Electronic Number Plate   |
| ERP   | Electronic Road Pricing   |
| ETR   | Electronic Toll Road  |
| EVI   | Electronic Vehicle Identification   |
| FSB   | Federation of Small Businesses  |
| FTA   | Freight Transport Association   |
| GLA   | Greater London Authority  |
| GLC   | Greater London Council  |
| GLDP  | Greater London Development Plan   |
| GNSS  | Global Navigation Satellite Systems                                       |
| GOL   | Government Office for London  |



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|                  |  |
|------------------|--|
| GSM-GPRS         | Global System for Mobile Communications – General Packet Radio Service |
| GPS              | Global Positioning System  |
| gtw              | gross tonnes weight  |
| HGV              | heavy goods vehicle  |
| HOT              | High Occupancy/Toll  |
| HOV              | High Occupancy Vehicle   |
| IPPR             | Institute for Public Policy Research                                   |
| IRR              | Inner Ring Road  |
| IT               | information technology   |
| ITS              | Intelligent Transport Systems  |
| IU               | In-vehicle Unit  |
| IVR              | Interactive Voice Response   |
| LBI              | London Bus Initiative  |
| LCCI             | London Chamber of Commerce and Industry                                |
| LCCRP            | London Congestion Charging Research Programme                          |
| LPAC             | London Planning Advisory Committee                                     |
| LRT              | Light Rail Transit   |
| LRUC             | Lorry Road User Charge   |
| LTS              | London Transportation Studies  |
| LTUC             | London Transport Users Committee                                       |
| NAO              | National Audit Office  |
| NCE              | <i>New Civil Engineer</i>  |
| NHS              | National Health Service  |
| NOX              | nitrous oxides   |
| NPV              | Net Present Value  |
| OBU              | On-Board Unit  |
| OGC              | Office of Government Commerce  |
| ONS              | Office of National Statistics  |
| PATAS            | Parking and Traffic Appeals Service                                    |
| PCN              | Penalty Charge Notice  |
| PFI              | Private Finance Initiative   |
| PM <sub>10</sub> | large particulate matter   |
| PNR              | Private Non-Residential parking  |
| PPP              | Public Private Partnership   |
| PR               | public relations   |
| PTE              | Passenger Transport Executive  |
| RAC              | Royal Automobile Club  |
| RFID             | Radio Frequency Identification   |
| RHA              | Road Haulage Association   |
| RICS             | Royal Institute of Chartered Surveyors                                 |

|       |                                       |
|-------|---------------------------------------|
| ROCOL | ROad Charging Options for London      |
| SALT  | SATURN Assessment of London's Traffic |
| SARS  | Severe Acute Respiratory Syndrome     |
| SRA   | Strategic Rail Authority              |
| TfL   | Transport for London                  |
| VED   | Vehicle Excise Duty                   |
| VMT   | vehicle miles travelled               |

# 1

## The Mayor's Challenge

### Ken Livingstone, Mayor of London

On 4 May 2000 Ken Livingstone became London's first directly elected Mayor. Rejected by the Labour Party, he had stood as an Independent, beating former Conservative Transport Minister Steve Norris in the run-off and trouncing the official Labour candidate, former Health Minister Frank Dobson.

As 'Red Ken', Leader of the Labour controlled Greater London Council (GLC), Livingstone had so angered Margaret Thatcher that she abolished the GLC in 1986, leaving the governance of London split between 33 London boroughs and central Government. Although re-establishing regional government for London had been a manifesto commitment of the Labour Government elected in May 1997, it had not wanted to create a body as powerful as the old GLC. Neither had it anticipated that Labour's candidate would be so firmly rejected in favour of 'Cheeky Ken', the softened figure Livingstone sought to portray. So far as 'New Labour' was concerned, Livingstone was still part of the unreformed 'hard left', with Tony Blair declaring that his election would be a disaster for London; however, the way the Labour Party was seen to have manipulated the selection process to ensure that Livingstone was *not* chosen as their candidate strengthened his prospects of election against Dobson, its selected candidate.

Improving London's congested, run-down transport system was a central plank of Livingstone's election campaign. Indeed, transport was the major responsibility that he would have as Mayor. The GLA Act (1999), under which the position of Mayor was established, also created a new organization, Transport for London (TfL), which was to be the executive agency through which the Mayor would exercise his –

## 2 Congestion Charging in London

or her – transport powers. TfL would be responsible for buses, the major road network, traffic control and Docklands Light Rail. But responsibility for the Underground would not pass to him until the hugely complex, very expensive and widely criticized PPP (Public Private Partnership) imposed on Londoners by the Treasury was complete. The Mayor also had only very limited powers in relation to National Rail, despite its key role in London's transport.

The Mayoral candidates shared a major challenge: how to fund their policies? The new office came without any major new government funds, and the Mayor's budget consisted largely of the predecessor organizations' existing funds, many of which were ring-fenced by the government for particular purposes. The only existing stream of revenues within the Mayor's control was a precept on the Council Tax levied by the borough councils on residential property.

### **The Blair Government's transport policy: *A New Deal . . . for Everyone***

On coming into power in 1997, the Labour Government started preparation of a White Paper on the future of transport, as part of its manifesto commitment to tackle *'the problems of congestion and pollution'*. Published in July 1998, the White Paper declared that *'there is now a consensus for a radical change in transport policy'* (DETR, 1998).

One of the 'radical' measures proposed was the introduction of road user charging, a concept long supported by economists but rejected by successive governments, Labour and Conservative, as well as the GLC. But the government explained that *'we have to make hard choices on how to combat congestion and pollution while persuading people to use their cars a little less'*, and asserted that *'carefully designed schemes should reduce traffic mileage and emissions, bringing significant improvements in air quality, reducing noise and greenhouse gas emissions and relieving congestion . . . charging will provide a guaranteed income stream to improve transport and support the renaissance of our towns and cities'*.

### **Road user charging for London**

Whilst the enabling legislation for charging in England and Wales (Northern Ireland and Scotland having separate legislation) was not introduced until the 2000 Transport Act (Transport Act, 2000), the GLA Act of 1999 provided it for London (GLA Act, 1999). This allows TfL to introduce road charging schemes which appear *'desirable or expedient for*

*the purpose of directly or indirectly facilitating the achievement of any policies or proposals set out in the Mayor's transport strategy'. Two forms of charge are permitted, congestion charging and levies on workplace parking spaces, and the net revenues can be retained for the first ten years from the commencement of charging, provided they are used for transport purposes that 'provide value for money'.*

Preparing for the Mayoral elections, the Government Office for London (GOL), through which the government exercised its local functions, had the creative idea of establishing a working party of technical experts to inform Mayoral candidates on how they might use their road user charging powers. The ROad Charging Options for London (ROCOL) Working Group developed an illustrative 'Area Licensing' scheme for central London within the Inner Ring Road, which could be operated with camera-based Automatic Number Plate Recognition (ANPR) using established technology; it was feasible for this to be in place by September 2003, in advance of the second Mayoral elections in 2004 (ROCOL, 2000). A £5 charge for cars and light commercial vehicles and £15 for heavy commercial vehicles was expected to reduce traffic in central London by 12 per cent and was estimated to generate net annual revenues of some £250 million.

### **A new source of revenue for the Mayor?**

Here was a new source of revenue that could be used to fund some of the much needed transport improvements. Livingstone was quick to grasp the opportunity.

However, even though the introduction of charges was a cornerstone of his government's new transport policy, Dobson campaigned on not using the charging powers during his first four-year term of office, saying improvements to the public transport system must come first. How he was to fund those without charges, or major increases in fares and/or the Council Tax precept, was not clear unless he hoped that, if he won, the Chancellor would have such pleasure in the defeat of Livingstone that the Treasury would be generous. Steve Norris, who had been Minister of Transport for London in the Major administration, and had had responsibility for his Department's London Congestion Charging Research Programme (see Chapter 4), also declared that he would not be using the congestion charging powers in his first term. Two other candidates, the Liberal Democrats' Susan Kramer and the Green Party's Darren Johnson, who obtained 12 per cent and 2 per cent respectively of the first round of votes, and whose parties (along

#### 4 Congestion Charging in London

with Conservative and Labour) won seats in the London Assembly, campaigned on introducing a charging scheme.

Attractive as it might have been, the annual revenue stream of up to £250 million suggested by ROCOL progressively shrank as implementation progressed, and by September 2002 it was down to some £130 million a year, after inclusion of penalty revenues, which had been excluded from the ROCOL forecasts.

### Completing the legal processes

Realizing that if he were to introduce a congestion charge, he would need to have it implemented and running smoothly well before standing for re-election in 2004, once elected Livingstone moved quickly. He decided to adopt, in principle, the ROCOL Area Licensing Scheme with camera based enforcement and a daily charge of £5 for cars and £15 for heavy commercial vehicles and, shortly after formally taking up office, he published a discussion document, *Hearing London's Views*, through which he sought responses from key 'stakeholders' on his 'current thinking' on congestion charging (GLA, 2000a).

He also appreciated that he had to have a good team to deliver the scheme, on schedule. He made his first appointment in June 2000, replacing the interim TfL Roads Director, and by October 2000 had the core of a strong team of TfL staff and consultants in place, key members of which had been involved in the ROCOL work.

Livingstone lost no time in preparing the first draft of his Transport Strategy, a document he had to have in place quickly since the GLA Act requires any charging scheme to conform with the Strategy. The first draft, published in November 2000 for consideration by the London Assembly and other 'functional bodies', reaffirmed the Mayor's commitment to congestion charging, through two key 'proposals': '*Transport for London will introduce a congestion charging scheme in central London*', and '*Transport for London will develop the scheme and proposals for a Scheme Order setting out the detailed operation and configuration of the scheme*' (GLA, 2000b).

This draft provided a detailed description of the proposed charging scheme, which included three key changes relative to the ROCOL scheme:

- (a) the charge for heavy commercial vehicles had been reduced to £5, the same as cars and light commercials;

- (b) the introduction of a 90 per cent discount for residents of the charged area;
- (c) the provision of full exemption for cars displaying a 'Blue Badge' (i.e., with mobility impaired drivers or passengers).

Whilst these changes, which resulted from representations received in response to *Hearing Londons' Views*, would help achieve acceptance of the scheme, each would reduce revenues. In addition, providing a 90 per cent discount for residents could have serious implications for any future extension of the Scheme to other parts of London, and the exemption of Blue Badge holders raised concerns about possible abuse and effective enforcement.

The first draft Strategy was followed by one for public consultation in January 2001, and the final Transport Strategy in July 2001 (GLA, 2001a, 2001b). Through these three stages of the Strategy, a number of detailed changes were made in the charging scheme as a result of representations, but the scheme remained essentially as developed by ROCOL. To complement the charging scheme, the Strategy included measures '*to make public transport and other alternatives to car travel easier, cheaper, faster and more reliable*', and a commitment to introduce '*traffic management measures on roads around the charging zone to deal with displaced traffic*'.

Shortly after publication of the Transport Strategy, TfL published a Draft Scheme Order, the final stage of the enabling procedures for congestion charging (TfL, 2001). In response to representations on the Order, a number of detailed changes were made, including ending the charged period at 6.30 pm rather than 7 pm. These were set out in a revised Scheme Order published in December 2001. Having considered all the representations to the draft Orders and TfL's responses, Livingstone decided to confirm the revised Scheme Order in February 2002, and announced that charging would commence on 17 February 2003 (GLA, 2002).

Although Livingstone had been satisfied that the procedures followed by TfL had met all the legal requirements, the City of Westminster, which had been opposed to the Scheme from its early days, thought otherwise. A group of residents from Kennington, in the south of the charged area, were of a similar view. Both decided to mount legal challenges, but their objections, heard together, were dismissed by the High Court in July 2002. The last formal barrier had been cleared with just seven months left before the scheduled 'go-live' date.

### **Full steam ahead**

With confirmation of the Scheme Order, TfL could proceed with letting a number of contracts, which had been on hold pending the Mayor's final decision. The pressure was now on to:

- (a) deliver and thoroughly test a complex information and communications technology system;
- (b) establish a retail sales network, involving a variety of media;
- (c) complete a large number of traffic and environmental management schemes both within and around the charged area, on TfL and borough roads;
- (d) introduce an upgraded traffic control system for central and inner London;
- (e) introduce new bus routes and 300 new buses;
- (f) mount a major public information campaign, to make drivers from across the country, as well as London, aware of the Scheme and its implications for them.

In September 2002, TfL formally advised the Mayor that all arrangements would be in place and that the Scheme could start as planned on 17 February 2003.

### **Go live: 17 February 2003**

The Scheme commenced operation on schedule on Monday, 17 February 2003, the first day of the spring half-term holiday for schools, when morning peak traffic is usually lighter than average. Despite media reports of major deficiencies in the arrangements for the purchase of licences and the registration for exemptions and discounts, fears of gridlock as drivers sought alternative routes avoiding the charged area, and threats of large-scale civil disobedience ('can't pay – won't pay'), the start of charging was very smooth. Traffic entering the charged area was more than 20 per cent down on a normal weekday, and there were no real problems. Although commentators suggested the real test would come when the schools were back on 24 February, traffic was still down by 20 per cent.

### **The first 18 months**

The scheme has continued to prove effective in reducing traffic congestion in central London; indeed, very much more successful than had



been expected. Paradoxically, with system costs largely fixed, the greater the reduction in traffic within central London, the lower the net revenues, and thus the funds available to the Mayor for improving public transport to accommodate those switching out of the car.

Expectations of increased congestion around the outside of the charge area were not realized; there were small increases on some roads and decreases on others, and traffic management and control measures enabled the Inner Ring Road, running just outside the charged area, to carry more traffic without any increase in congestion. In addition to the planned bus service improvements – additional buses, new routes, more bus priorities – the reduced congestion allowed increased journey speeds and service reliability.

Whilst there is general agreement that the scheme reduced traffic congestion and was accompanied by real improvements in central London bus services, there has been little consensus on its economic impacts. Many in the retail and entertainment sectors are convinced that a downturn in revenues is directly attributable to the charge, whilst TfL claims the downturn is mainly due to other, more general, economic and political factors. And, despite the reduction in congestion, commercial vehicle operators have claimed that the costs to them of administering the scheme outweigh any benefits gained from reduced journey times.

## **This book**

The primary objective of this book is to provide an overview of the central London congestion charging scheme, of its development and implementation, of its impacts, and what can be learned from this unique application of a well established economic principle. It is not intended to be a detailed technical study of the theory or technology of charging, or even a detailed political study, but rather a balanced commentary that will inform all those wanting to understand the London scheme and its wider implications.

However, it is important to set the scheme in a broader context by first exploring the rationale for charging and the ways in which charges can be levied. Another key context is that of the history of highways and charging in London since the major highway plans of the 1940s, which were abandoned in the early 1970s and finally confirmed dead in 1989, and the succession of road pricing studies from the mid-1960s, each of which was dismissed by politicians until Livingstone became Mayor. But London is not the only city that has considered road pricing, and Livingstone's achievement should be set

against what has been thought about and done around the world. The final element in this scene setting is the decision by the 1997 Blair Government to create a new government structure for London, with a directly elected executive Mayor, empowered to introduce congestion charges.

Having set the context, the book provides an overview of the scheme and its implementation, its scrutiny by the London Assembly, the views of those who were expecting to be affected and of the media, its impacts over the first 18 months, and of the lessons than can be learned. The success of the London scheme has created new interest in, and changed many attitudes towards, road user charging, which is now on many policy agendas around the world. Thus, from a perspective of January 2005, the penultimate chapter looks to the future, in London, across the UK and more widely, before finishing with some brief conclusions.

One more caveat: this book is about congestion charging, which is one particular form of road pricing, or road user charges. Whilst there are references to distance-based lorry charges which are not congestion charges, this is because the principles and technologies are of relevance, but we are not concerned here with tolling as a means of financing highway facilities.

### References

- DETR (1998). *A New Deal for Transport: Better for Everyone*, London: Department of the Environment, Transport and the Regions.
- GLA (2000a). *Hearing London's Views*, London: The Greater London Authority.
- GLA (2000b). *The Mayor's Transport Strategy, Stakeholders' Draft*, London: Greater London Authority.
- GLA (2001a). *The Mayor's Transport Strategy Draft for Public Consultation*, London: Greater London Authority.
- GLA (2001b). *The Mayor's Transport Strategy*, London: Greater London Authority.
- GLA (2002). *Statement by the Mayor Concerning his Decision to Confirm the Central London Congestion Charging Scheme Order with Modifications*, London: Greater London Authority.
- GLA Act (1999). *Greater London Authority Act 1999*, London: Her Majesty's Stationery Office.
- ROCOL (2000). *Road Charging Options for London: A Technical Assessment*, London: The Stationery Office.
- TfL (2001). *Central London's Problem: Our Solution – the Central London Congestion Charging Scheme Proposals*, London: Transport For London.
- Transport Act (2000). London: Her Majesty's Stationery Office.

# 2

## Why Charge?

### Introduction

There is a well-established economic rationale for congestion charging, going back to the work of Adam Smith in *The Wealth of Nations*. However, the case for congestion charging has developed to include environmental, social and financial reasons to provide a broader base for the adoption of congestion charging as an element of transport policy.

This broad rationale for congestion charging is explored in this chapter, but a word of warning for those principally concerned with theory: this presentation is intended to explain the basic principles. Those looking for a fuller explanation of the economic rationale are referred to the excellent texts cited here.

### Traffic flow

An individual in a vehicle travelling along an otherwise empty road can travel at a speed of his or her choice so long as it is within the legal limits (free flow). The driver, or vehicle owner, incurs the costs of operating the vehicle, including maintenance and depreciation, as well as the value of the driver's time and that of any passengers or goods carried. But the vehicle also imposes costs on others. It is probably creating polluting emissions and noise, with consequential costs for others. There is a risk of an accident, with possible consequential costs to others not included in the third party elements of the vehicle's insurance. These are all 'external costs', or externalities. In addition, the road has to be built, maintained and policed, all of which have a cost. Unless it is a tolled road, it is likely that a local or central govern-

ment agency will meet those costs, using general taxation or excise duty funds. These, too, are external costs.

As each additional vehicle joins the road, so each incurs and imposes similar costs, until drivers cannot travel at their chosen speed because another, slower, vehicle is in the way. The faster drivers have to reduce their speed, and their journey will now take longer, thereby incurring extra costs. In other words, the slower vehicle has caused the faster vehicles,' costs to increase. In addition, the interaction between these vehicles will lead to an increased risk of accident, and might increase emissions and noise. Thus, the presence of the slower vehicle has imposed additional costs on the drivers (or operators) of the faster vehicles. However, since the slower vehicle is travelling at its driver's preferred speed, its driver (or operator) incurs no additional direct costs.

As the flow builds up, interaction between vehicles means that increasingly few can travel at their desired speed, until a point where only the slowest can. Thereafter, each additional vehicle causes all vehicles to drive below their desired speed, including – most probably – each additional vehicle (congested flow). This is illustrated in Figure 2.1. Up to flow X each vehicle, 1, 2 and the others, travels at its own desired speed, with the speed shown, W, being the average of those on the road. When the flow exceeds X, interactions cause the average speed to decline, first reasonably gradually, but with the reduction becoming increasingly steep, until a point is reached, Y, when the road is no longer able to carry all the vehicles on it and the flow becomes

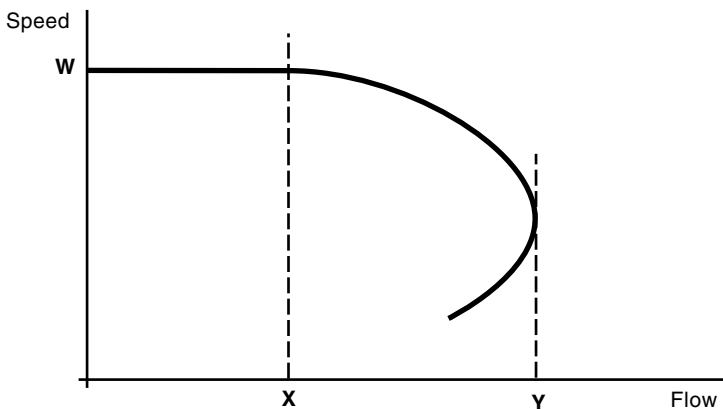


Figure 2.1 A typical highway speed/flow diagram

unstable, reducing the rate of flow. Anyone who has driven on a heavily loaded motorway will have experienced this when traffic flow drops to a crawl or becomes 'stop-go', with no apparent reason other than the volume of traffic. Even if the rate at which traffic joins the back of the queue is reduced, it can take a considerable time before free flow conditions are restored.

### The economic rationale

Taking the example of flow on a road illustrated in Figure 2.1, at flows up to  $X$ , the average cost to each vehicle remains constant, but as the flow increases, so the costs to the users increase, as shown in Figure 2.2. Initially the rate of increase is gradual, but as the traffic flow builds up, so the rate of increase steepens. However, this graph only represents the direct, or internal, cost to the user. It excludes the costs imposed on others, including the other users of that section of road. When the flow becomes unstable, at  $Y$ , flow past a point on the road decreases, but average internal costs continue to increase as journey times lengthen.

As increases in the cost of a journey reduce the benefits someone might associate with it, they may choose not to make that journey, because the cost exceeds the benefits they obtain from that particular journey. This is no different from most other 'products': as the cost of, say, a CD increases, so fewer people will think it worth buying, and demand decreases. In the case of a road, as the internal costs of using it increase, drivers might choose to use a different route, to travel at a

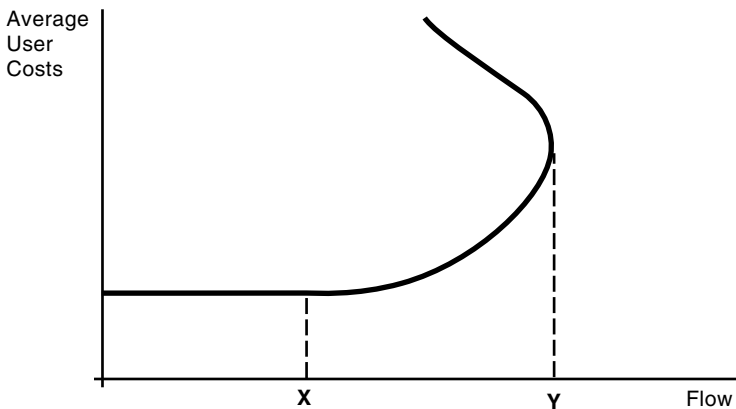


Figure 2.2 A typical average cost/flow diagram

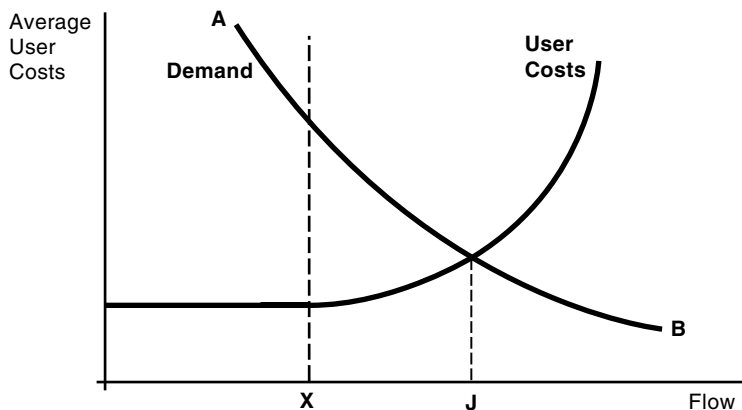


Figure 2.3 A typical demand/cost diagram

different time of day, to go somewhere that avoids the use of that road, to travel by bus or train (another mode of transport) or not to make that particular trip at all. Thus, as internal costs increase, so, according to economic rationale, demand decreases, with the result that at high costs, we have little demand and low traffic flows, but at low costs we have high demand, and high traffic flows. This is illustrated in Figure 2.3 by the demand line *A–B*.

The economic theory of demand suggests that flow stabilizes at level *J*, where the cost and demand curves cross. At this point the cost of using the road is seen to match the benefits of using it. If the flow exceeds *J*, costs are above those at which the average driver thinks it worth making the journey, and demand drops back to that at which costs and benefits to the average driver (or operator) are in equilibrium. This introduces the concept of marginal costs, that the average cost per user varies with the number of users of the road, as well as marginal benefits, in that the benefits perceived to accrue from using the road also vary with the number of users.

However, Figure 2.3 is only concerned with the costs incurred by the vehicles using the road and the benefits to those users. As already noted, there are also external costs associated with the use of a road. These can be grouped as costs imposed on:

- (a) other users by each additional vehicle joining the flow;
- (b) the community (through noise, polluting emissions, severance, accidents, etc.);

- (c) the road provider, through additional operating and maintenance costs, as well as the capital costs of providing the road.

While the marginal internal costs increase with increasing flow, individual elements of the external costs – those incurred by others – respond differently to flow levels and vehicular speed. Accidents are likely to be most severe at high speeds, and thus lighter flows, but are more likely to occur at higher flow levels. The lower the speed, the less likely they are to result in death or very serious damage; but accidents at higher levels of flow are likely to cause much greater disruption to traffic flow. Further, if the road takes traffic away from towns and villages, those communities are likely to benefit from fewer accidents (and thus lower costs), until traffic starts diverting back to them due to congestion – possibly caused by an incident. The impacts, and thus costs, of noise also vary with a combination of speed and volume, and emissions vary with speed.

The cost curve representing the sum of both direct and internal costs, as shown in Figure 2.4, crosses the demand curve at a lower flow, *K*. This says that if each driver (or operator) were to incur the full costs of making that particular journey, fewer would make it, giving a new, lower, equilibrium traffic flow.

Thus the economic rationale for congestion charging is that in only incurring the direct (average) cost *P*, too many vehicles use the road, adding to congestion and other impacts. But if they were to incur the full social and private costs, demand would decrease to *K*, with an

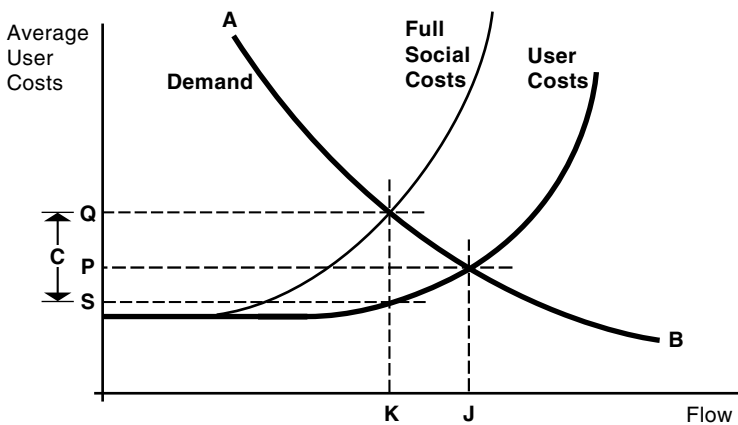


Figure 2.4 A typical demand/cost diagram including social costs

average cost to each vehicle of  $S$ . The rationale continues that in order to achieve this, there should be an additional charge,  $C$ , being the difference between the direct costs at flow  $K$  of  $S$  and the total costs,  $Q$ .

The inclusion of external – social and provider – costs broadens the concept to road pricing. In doing so, it is relevant to note that while prevailing tax and excise duties might be sufficient, on average, to cover those costs, their nature is such that some road users will be paying very much less than the costs they impose on the community and provider, while others will be paying very much more. Even if one were to ignore community and operator costs, the basic rationale still applies, since congestion charging is about the cost each (additional) vehicle imposes on others already on the road.

In summary, the economic rationale is, with current charging (taxation) structures:

- (a) drivers, or operators, do not perceive the true, total, costs of using cars, or trucks, at the time they make their travel decisions;
- (b) they therefore use their car, or truck, more than is economically efficient;
- (c) that *can* lead to increased congestion;
- (d) it might also impose extra costs on other road users, as well as the community in general.

This leads to the basic principle of using road pricing to impose additional charges at the time of travel, to reflect the full community costs of the journey at that location and at that time.

An early application of economic analysis to transport, and tolls or charges, was by the French engineer-economist, J. Dupuit, in 1844, who argued that tolls should be proportional to the benefits travellers gain (Dupuit, 1844; Mumby, 1968). Pigou, a Cambridge economist, introduced the concept of externalities and is generally regarded as the father of road pricing, or congestion charging (Pigou, 1920). Since then various economists, and others, have played key roles in the development of the theory of congestion charging. These include James Buchanan (1952), William Vickrey (Vickrey, 1959), Alan Walters (e.g., Walters, 1968) and Rueben Smeed, who chaired a Committee investigating the possibilities of road pricing (Ministry of Transport, 1964), together with Herbert Mohring (Mohring, 1976) and Kenneth Small (e.g., Small, 1992).



## The wider rationale

Although the original rationale was based on economic theory, the argument over recent years has broadened.

First, there is the environmental rationale that those who contribute to environmental damage should pay an 'economic' price: the principle of 'polluter pays'. It is suggested that as vehicles are a key source of some of the more polluting emissions, including nitrogen oxides and small particulates, as well as (in a global context) carbon dioxide, users should pay an emissions charge, which should reflect the severity of the impact. Since some of those impacts tend to be most severe where traffic congestion is at its worst, a congestion-related charge might be a reasonable proxy for an environmental charge. It was in recognition of the environmental costs of the use of motor vehicles that the Major (Conservative) Government introduced the 'Fuel Duty Escalator' in 1993. With the objective of encouraging a combination of reduced car use and the introduction of more fuel-efficient engines, fuel duty was to increase, in real terms, by 3 per cent each year. The 1997 Blair Government subsequently increased the Escalator, first to 5 per cent, then to 6 per cent. However, with UK fuel prices among the highest in Europe, and in response to widespread fuel protests in 2000 (including blockades of fuel depots leading to severe shortages), the government abandoned the Escalator in 2000, and became wary of measures which might be seen as 'anti-car' (see, e.g., Lyons and Chatterjee, 2002).

Second, there is the planning rationale; because of its various adverse effects, it can be very difficult to add highway capacity in many urban locations where congestion occurs. Further, because demand is likely to have been suppressed by the congestion, the benefits to existing users of any extra capacity may be limited, since some of those who had chosen not to use the road because of congestion will begin to use it again.

Third, there is the fiscal rationale, that adding capacity in the type of location where – in particular – urban congestion occurs tends to be very expensive, even if it is technically and politically feasible. With public expenditure severely constrained, building new capacity is becoming an increasingly rare option.

Fourth, there is a policy rationale which recognizes that excess congestion adversely affects economic efficiency and the quality of life within the community. It was this rationale that was one of the

driving forces behind Livingstone’s commitment to charging. However, there is an argument that some congestion is good, being an indication of local economic vibrancy: as Downs (2004) explains, ‘congestion is not all bad’. A community without some traffic congestion, for short periods at a limited number of locations, suggests either overinvestment or economic decline. Just as supermarkets do not provide sufficient checkout capacity to avoid any queues, so it is financially inefficient to provide a highway system that does not become congested at times.

Fifth, for some there is a simple financial rationale based on the expectation that congestion charging can provide a new (net) revenue stream, increasing the funding available for investment in transport.

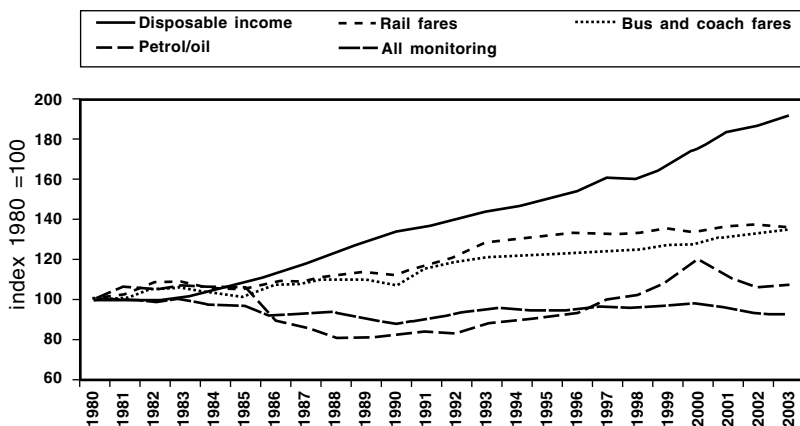


Figure 2.5 Changes in the Real Cost of Transport and in Income, UK, 1980 to 2003

Finally, there is a concern within the UK about the growing imbalance between motoring costs and those of travelling by bus or rail. As shown in Figure 2.5, between 1980 and 2000 motoring costs fell by some 5 per cent in real terms, while rail fares increased by about 30 per cent and bus and coach by some 25 per cent, and disposable incomes grew by 70 per cent (DTLR, 2001). It is expected that the gap between changes in motoring costs and public transport fares will continue to widen, with cars becoming more fuel efficient and cheaper to maintain.

### Equity

Although it can be shown that the community as a whole can benefit from a well-designed congestion charging scheme, it is often argued

that charging is *regressive*, in that it affects those on lower incomes proportionately more than those on higher incomes.

Whether congestion charges are likely to have a greater impact on those on lower or higher incomes can depend on the unit of analysis. Thus, for example, fuel tax has a greater impact on higher income households than those with lower incomes, *on average*, since higher income families tend to make greater use of the cars they own. However, it is regressive if only car-owning households are considered, since it takes a larger proportion of the income of less well-off car owners than of those on higher incomes.

If the introduction of congestion charging leads to improved public transport services, in particular those services most likely to be used by the less well off, then it is possible that, on average, the charge would be progressive. The better-off car user chooses either to change their travel patterns rather than pay the charge, or to pay the charge and continue to travel by car. In either case, they are likely to incur a net disbenefit. If most lower income people were already travelling by public transport, they will benefit without incurring any additional cost. However, if only car users are considered, the impact is most likely to be regressive.

## William Vickrey

William Vickrey was an economist whose skill and tenacity led to the award of the Nobel Prize for Economics, just before he died in 1996.

His first contribution to transport pricing was a 1951 proposal to overcome congestion on the New York subway by increasing fares at peak periods and on heavily trafficked sections (Vickrey, 1955a). Although the application was to an urban railway, the underlying theory underpins much of his later work on highway congestion pricing. Vickrey developed these ideas further in a paper on marginal cost pricing for public utilities, published in 1955, in which he recognized the impact of the marginal user on other, later users, by using the example of someone searching for a parking space. The driver searching for and finding the  $n$ th available space does not take into account the additional costs imposed on the  $n+1$ th user, whose search time has been extended (Vickrey, 1955b).

In 1959 Vickrey presented a proposal to control traffic congestion in Washington, DC, with electronically assessed user fees, to a House Committee considering transport in the nation's capital (Vickrey, 1959). Having explained that the cost per user of the highway plans proposed for the Metropolitan area was very high, he stated that:

*'in the absence of any pricing of highway usage, we seem to be faced with the following dilemma. Either we construct a highway system of extravagant proportions . . . much larger than users would be willing to pay for if they had a choice between paying their share or doing without the facility . . . alternatively we construct a highway system that is severely congested during rush hours . . . so that many resort to . . . rail if . . . available . . . or bus . . . if insulated from the impact of congestion. There is no particularly attractive middle ground. Specific pricing of highway usage is needed and needed badly'.*

He also said:

*'it is no use arguing that . . . the average motorist pays for what he uses through higher gasoline taxes or higher license fees, or even through higher property taxes or income taxes. Unless the amount he pays is made to vary specifically with the amount of his own individual rush-hour usage of the highways, the results will be disastrously expensive'.*

He proposed a peak period zonal system, with users charged as they entered or left each zone. He anticipated that the charges would apply to all streets crossing a zone boundary, varying by class of road with 'any difference in charge made to correspond to some public interest in inducing a motorist to choose one route relative to another'. Thus he recognized that charging could also be used as a policy instrument, rather than just as a measure intended to achieve economic efficiency.

In making his proposal, Vickrey identified two possible ways of collecting the charges: an electronic tag, or photographs of licence plates (ANPR) that would be subsequently scanned. He even provided a demonstration of the electronic tags (which had been developed for rail freight wagon identification) using a model train, and explained that the photographic system could be used to identify those vehicles without a tag. He was satisfied that the computers then available could handle the 300 million transactions a month he expected for Washington, with users being sent monthly accounts. The electronic tag anticipated the technology that would be applied over 20 years later for the Hong Kong Electronic Road Pricing Pilot Project (Dawson, 1985) and the principles of the tag now widely used by toll road authorities, and the combination of tag and photograph anticipated the system applied on Toronto's Highway 407 and Melbourne's CityLink some 40 years later.

The political problems of implementing a charging scheme were readily identified in the subsequent discussion. Whilst the Committee Chairman thought '*it has some possibilities*', he concluded '*it would not be a good platform . . . on which to launch a political career*'. Reflecting what was probably a key driver behind Livingstone's decision to embrace congestion charging, one Committee member recorded the difficulty of getting Federal (Government) funds and suggested that '*no stone should be left unturned to explore methods by which some self supporting or . . . more self supporting system of providing for these costs [of improving the capital's transport system] could be realized*'.

*The Principles of Efficient Congestion Pricing*, published in 1992, was one of Vickrey's last papers on congestion pricing (Vickrey, 1992).

### **Alan Walters**

A paper by Walters, 'The Theory and Measurement of Private and Social Cost of Highway Congestion' (1961), is widely regarded as central to the establishment of the theoretical basis for road user charges. Having developed the principles of an efficient taxation system for a road network, he demonstrated that, in the USA, the actual costs of car use in urban areas were generally very much below the 'efficient' level. In 1968, the World Bank published a study by Walters on *The Economics of Road User Charges* (Walters, 1968). The theory established by Walters in this seminal work on the key principles of road user charges underpins much of the work of later researchers.

### **Milton Friedman**

Speaking in the House of Commons in 1999 on the Greater London Authority Bill, Livingstone described congestion charging as coming '*from the neo-liberal, Thatcherite right*' for which Milton Friedman and others had argued (Hansard, 1999), and *The Guardian* reported that he had later said '*I nicked the idea from Milton Friedman*' (*The Guardian*, 2003). It cited a paper Friedman (the Nobel Prize winning monetarist who, with Alan Walters, had greatly influenced Thatcher's economic policies) had written together with Daniel Boorstin, '*How to plan and pay for the safe and adequate highways we need*' in the early 1950s, but which had not been published until Gabriel Roth included it as an epilogue in *Roads in a Market Economy* (Roth, 1996). Although this paper, which seems to be the only one on the topic published by Friedman, was primarily concerned with the provision of highways,

making the case for 'desocializing' as much of the highway industry as possible, it argued: '*in fairness, the people who drive on a road should be charged for the service received and in proportion to their use of the service*', and said that '*license fees and gasoline tax are . . . very crude means*' of charging (Friedman and Boorstin, 1996). In any event, the notion that 'Red Ken' of Loony Left repute adopted a policy he attributed to arch-monetarist Friedman has a certain appeal!

## **The Smeed Report**

In 1962 the UK Ministry of Transport appointed Rueben Smeed, a scientist with the government's Road Research Laboratory, to chair a committee charged with studying the technical feasibility of '*improving the pricing system relating to the use of roads, and on relevant economic considerations*' (Ministry of Transport, 1964). While much of the main text of the Committee's report is concerned with ways in which congestion charges might be levied, a series of Appendices provides a detailed analytic rationale for both congestion charges and parking taxes. The Committee defined as *a useful guiding principle the idea that:*

*journeys should not be made if they are valued at less than the costs or the losses they cause to other people; similarly journeys should not be restrained if they are valued at more than the costs they incur. If this underlying principle is ignored, a waste of resources is likely to result.*

## **Gabriel Roth**

Aware of Vickrey's evidence to House Committee, Gabriel Roth, a Cambridge economist, contributed to the Ministry of Transport's decision to appoint the Smeed Committee. Having been a member of the Committee, in *Paying for Roads: The Economics of Traffic Congestion* published in 1967, he concluded: '*a resolute administration should not shrink from the proposition that people who require scarce resources should, in general, bear the costs that arise from their choices*' (Roth, 1967).

In 1974, now at the World Bank and advising the Singapore Government on transport policy, he drew the attention of the inter-governmental Road Transport Action Group to proposals prepared by US Consultants Alan M. Voorhees for a supplementary licence scheme for Caracas (Roth, 1996). Although the Caracas proposals were not implemented, Singapore introduced a supplementary licence for its Central Business District in 1975.

## Parking controls

It has long been argued that congestion in urban areas is caused, in part, by the availability of parking at a cost well below the market value. A working group on *Better Use of Town Roads*, set up by the government following publication of the Smeed Report, concluded that parking controls could contribute to the management of urban congestion (Ministry of Transport, 1967).

In the mid-1970s, the Department of the Environment reviewed options for the control of private non-residential parking, PNR, as a means of traffic restraint, explaining that '*there is simply not enough room for the number of vehicles competing for our roadspace*' (Department of the Environment, 1976a). In a case study that examined a range of methods of restraining traffic, it concluded that restraining parking within the city centre would be almost as effective, in the early years, as a system based on charging over a larger area (Department of the Environment, 1976b). Despite these findings, the idea was dropped until, as discussed in Chapter 6, the 1999 GLA Act and 2000 Transport Act allowed the introduction of workplace parking levies to reduce traffic congestion.

In the USA, Donald Shoup has long argued that the provision of free employee parking encourages car use for commuting journeys and that this is exacerbated by free parking not being a taxable benefit. The effect of this on car use can be reduced by allowing employees to 'parking cash out', by taking a cash sum in lieu of a free parking space (Shoup and Willson, 1992), which has become a statutory requirement for larger employers in those parts of California with more serious air quality conditions (see California Environmental Protection Agency, 2002; Shoup, 1997).

## National road pricing

The work of Vickrey, Walters and others was as much concerned with rational pricing across the whole road system as with urban congestion, and these ideas have been developed by Gabriel Roth (e.g., Roth, 1966, 1996), David Newbery (e.g., Newbery, 1995) and others, many of whom have argued that roads should be financed by direct user charges that meet (at least some of) the costs of road use, including congestion.

David Begg, as Chairman of the UK Commission for Integrated Transport, CfIT (funded by the UK Department for Transport), was an

advocate of charging and had been since proposing congestion charging as an element of transport policy for Edinburgh when he was Convenor of the City's Transport Committee in the 1990s. A CfIT study, *Paying for Road Use*, indicated that if traffic flows are to be at the equilibrium level across the network in England (i.e.  $K$  in Figure 2.4), there would need to be an average charge of 4.4p per mile (2.7p per km) during the period 7 am to 7 pm, Monday to Friday (CfIT, 2002a). That would reduce traffic by 4.2 per cent and congestion by 44 per cent. However, the charge per mile would vary very considerably, from 54.6p in central London to 1.0p on rural (non-motorway) roads. In introducing these findings, Begg noted:

*'the concept of paying for what we consume and when we consume it is one of the fundamentals of economics. It is applied in every other public utility and in other forms of transport . . . on planes, trains and ferries it has long been automatic for passengers to pay according to when and how they want to travel. Why should roads be different? . . . current motoring taxation is a very blunt instrument.'*

He concluded that *'the most anti-car policy is to allow the growth and spread of congestion . . . there would be big wins . . . through changing the way we pay for road use'* (CfIT, 2002b).

In 2002 the RAC Foundation also published a study in which they looked at transport policy options over the next 50 years (RAC Foundation, 2002). They forecast a 50 per cent growth in total car kms between 2001 and 2031, without restraints. However, with no additional highway capacity or restraint measures, congestion would reduce growth to 30 per cent with average journey times increasing by 20 per cent. They concluded that if the rate of expenditure on roads provided for in the Government's Ten-Year Transport Plan (DETR, 2000) continued until 2050, motoring costs would have to increase each year by 4 per cent, in real terms, in order to contain congestion to existing levels. However, as that would represent unprecedentedly high levels, they saw some form of congestion charging as being unavoidable, if congestion was not to worsen considerably.

The argument that a radical change in vehicle use charges is required if congestion is not to become increasingly severe was continued by Stephen Glaister (Glaister and Graham, 2003). This showed that England's roads are likely to become increasingly congested, and that the level of investment in new roads to provide the capacity to meet demand, at current user costs, would be beyond reasonable



expectations, even if such construction were socially and politically feasible.

## Value pricing

Although Vickrey pressed the case in the USA for more rational pricing of transport systems for some 40 years, the concept of paying an economic price for road use was not well received in a nation in which the right to use cars and cheap fuel are seen as an essential freedom. Provisions of the US Intermodal Surface Transport Efficiency Act (ISTEA) of 1991 for funding pilot congestion pricing schemes led to no acceptable proposals from States or Metropolitan governments. However, what proved locally acceptable was the concept of *value pricing*, defined by Martin Wachs as 'the use of prices, charges and fees for travelling in order to produce needed revenue and simultaneously to influence travel behavior so that travellers make decisions that use highway and transit systems more efficiently and more equitably' (Wachs, 2003). The most common application is to High Occupancy Toll (HOT) lanes, which allow the use of High Occupancy Vehicle (HOV) facilities by low occupancy vehicles, provided they pay a toll, with the toll being set to manage demand and avoid congestion. (HOV lanes are normally only available for use by vehicles with at least two, sometimes three, occupants. They cannot be used by 'single occupancy vehicles', SOVs.)

Citing the US experience, the principle of charging for the use of new (additional) capacity within an existing highway was included among the options for addressing congestion presented by the UK Government for discussion in *Managing our Roads* (DfT, 2003).

## Journey time reliability

The first US HOT lanes, on State Route 91 (SR91), established the principle that some users are prepared to pay for journey time reliability (Lam and Small, 2001), supported by research among users of another HOT facility on I-15, *FasTrak* (Supernak *et al.*, 2001). It was also a key assumption underlying the construction of the UK's first tolled, privately financed and built, motorway, M6Toll, which provides an alternative to some 60 km of the heavily trafficked M6 motorway where it passes through Birmingham.

Anecdotal evidence obtained during the Department of Transport's London Congestion Charging Research Programme identified the

uncertainties associated with journey time reliability as being a real cost to business (DTp, 1995). Being able to plan a journey to arrive on time at the destination with a reasonable degree of certainty can be of great importance, particularly for 'just in time' supply chains. Indeed, Livingstone quoted the frustration of London businesses with the uncertainty in travel times as one of the primary reasons for introducing his congestion charge scheme (London Assembly, 2000) and Richard Turner of the Freight Transport Association told the Commons Transport Committee that '*speed is not the issue, predictability is important*' (House of Commons, 2005).

### **A commentary**

The concept of congestion charging is underpinned by a substantial body of economic theory, as well as pragmatism. The simple case is that traffic congestion results in inefficient use of the available road space, to the disbenefit of the community as a whole, and occurs because the use of road space is not efficiently priced. With increases in road capacity likely to lag well behind increases in demand, congestion (together with its adverse economic and environmental consequences) is likely to become more extensive unless road user charges reflect those costs.

### **References**

- Buchanan, James (1952). 'The Pricing of Highway Services', *National Tax Journal*, Vol. V, No. 2.
- California Environmental Protection Agency (2002). *California's Parking Cash-Out Program*, Sacramento: Air Resources Board.
- CfIT (2002a). *Paying for Road Use: The Technical Report*, Oscar Faber, NERA and ITS University of Leeds, London: Commission for Integrated Transport.
- CfIT (2002b). *Paying for Road Use*, London: Commission for Integrated Transport.
- Dawson, J. (1985). 'Electronic Road Pricing in Hong Kong: A Fair Way to Go?', *Traffic Engineering and Control*, Vol. 26, No. 11.
- Department of the Environment (1976a). *The Control of Private Non-Residential Parking: A Consultation Paper*, London: Department of the Environment.
- Department of the Environment (1976b). *A Study of Some Methods of Traffic Restraint*, Research Report 14, London: Department of the Environment.
- DETR (2000). *Transport 2010, The 10 Year Plan*, London: Department of the Environment, Transport and the Regions.
- DfT (2003). *Managing our Roads*, London: Department for Transport.
- Downs, Anthony (2004). *Still Stuck in Traffic*, Washington, DC: Brookings Institution Press.

- DTLR (2001). *Key Transport Facts 1980–1999*, London: Department of Transport, Local Government and the Regions.
- DTp (1995). *The London Congestion Charging Research Programme: Final Report*, London: Department of Transport, HMSO. (Note: a report of the principal findings is also available from HMSO, and a summary of the Final Report is available in a series of six papers published in *Traffic Engineering and Control*: see Richards *et al.*, 1996.)
- Dupuit, J. (1844). *Public Works and the Consumer*. Reprinted in Mumby (1968).
- Friedman, M. and D. Boorstin (1996). 'How to plan and pay for safe and adequate highways we need', in Roth (1996).
- Glaister, S. and D. Graham (2003). *Transport Pricing and Investment in England*, Southampton: The Independent Commission for Transport, University of Southampton.
- Hansard (1999). Column 1016, 5 May, London: HMSO.
- House of Commons (2005). Uncorrected transcript of oral evidence, to be published as HC 218-I, Minutes of evidence taken before Transport Committee, 12 January 2005.
- Lam, T. C. and K. Small (2001). 'The value of time and reliability: measurement from a value pricing experiment', *Transportation Research E*, Vol. 37, pp. 231–51.
- London Assembly (2000). *Congestion Charging: London Assembly Scrutiny Report*, London: Greater London Authority.
- Lyons, G. and K. Chatterjee (eds) (2002). *Transport Lessons from the Fuel Tax Protests of 2000*. Aldershot: Ashgate.
- Ministry of Transport (1964). *Road Pricing: The Economic and Technical Possibilities*, London: HMSO.
- Ministry of Transport (1967). *Better Use of Town Roads*, London: HMSO.
- Mohring, Herbert (1976). *Transportation Economics*, Cambridge, MA: Ballinger.
- Mumby, Denys (1968). *Introduction to Transport: Selected Readings*, Harmondsworth: Penguin Modern Economics.
- Newbery, David (1995). *Reforming Road Taxation*, Basingstoke: The Automobile Association.
- Pigou, A. C. (1920). *The Economics of Welfare*, London: Macmillan.
- RAC Foundation (2002). *Motoring towards 2050*, London: The RAC Foundation.
- Richards, M. G. *et al.* (1996). 'The London Congestion Charging Research Programme', a series of six papers in *Traffic Engineering and Control*, Vol. 37, Nos 2 to 7.
- Roth, Gabriel (1966). *A Self-Financing Road System*. Research Monograph 3, London: The Institute of Economic Affairs.
- Roth, Gabriel (1967). *Paying for Roads: The Economics of Traffic Congestion*, Harmondsworth: Penguin.
- Roth, Gabriel (1996). *Roads in a Market Economy*, Aldershot: Avebury Technical.
- Shoup, Donald (1997). 'Evaluating the Effects of Cashing Out Employers Paid Parking: Eight Case Studies', *Transport Policy*, Vol. 4, No. 4.
- Shoup, Donald and Richard Willson (1992). 'Commuting, Congestion and Pollution: The Employer-Paid Parking Connection', in *Papers Presented at the Congestion Pricing Symposium, June 10–12, 1992*, Publication FHWA-PL-93-003, Washington, DC: Federal Highway Administration, US Department of Transportation.

- Small, Kenneth (1992). *Urban Transport Economics*, Switzerland Harwood, Academic.
- Supernak, J., J. Golob, T. Golob, C. Kaschade, C. Kazimi, E. Schreffler, D. Steffey (2001). *1–15 Congestion Pricing Project, Phase II Year Three Overall Report*, San Diego: association of Governments.
- The Guardian*, 2003. 'Ready, Ken?', by Andy Beckett, 10 February.
- Vickrey, William (1955a). 'A Proposal for Revising New York's Subway Fare Structure', *Journal of the Operational Research Society of America*, 3. Reprinted as William Vickrey (edited by Richard Arnott, Anthony B. Atkinson, Kenneth Arrow, Jacques H. Drèze), *Public Economics; Selected Papers by William Vickrey*, Cambridge: Cambridge University Press.
- Vickrey, William (1955b). 'Some Implications of Marginal Cost Pricing for Utilities', *American Economic Review*, Vol. 45, No. 2. Reprinted in Mumby (1968).
- Vickrey, William (1959). *Hearings before the Joint Committee on Washington Metropolitan Problems*, 86th Congress, 11 November 1959, pp. 454–77, Washington, DC: United States Government Printing Office. An edited version was published in *Journal of Urban Economics*, Vol. 36 (1994), pp. 42–65.)
- Vickrey, William (1992). *The Principles of Efficient Congestion Pricing*. New York: Columbia University.
- Wachs, Martin (2003). Presentation to 'Value Pricing for Transportation in Washington, DC', Conference, Washington Metropolitan Council of Governments, June 2003.
- Walters, Alan A. (1961). 'The Theory and Measurement of Private and Social Cost of Highway Congestion', *Econometrica*, Vol. 29, No. 4.
- Walters, Alan A. (1968). *The Economics of Road User Charges*, World Bank Staff Occasional Papers Number 5, Baltimore, MD: The Johns Hopkins University Press.

# 3

## How to Charge?

### Introduction

It has frequently been argued, particularly by politicians seeking to avoid difficult decisions on the challenges posed by congestion charging, that ‘the principles are sound but the technology is not yet available’. Barbara Castle, Sir George Young and Alistair Darling are among the UK Transport Secretaries who have used technology deficiencies to postpone difficult decisions. There also were doubts about the technology when Singapore wanted to replace its paper-based charging system with electronic road pricing in the early 1990s. But, just as they had led the way with the implementation of an innovative stored value public transport ticket, common across the island’s three public transport operators, so they did with Electronic Road Pricing. They commissioned three consortia to develop and trial the necessary equipment and systems, from which one was selected for final development and implementation. With reasonably definite plans for implementation, suppliers were willing to invest considerable sums to complement government funding.

Livingstone had neither the time or budget to sponsor technical developments, but he was not put off by those who questioned the technology he proposed to use. Committed to implementing a charging scheme, he was prepared to run with what was available.

### Some guiding principles

The Smeed Report of 1964 (see Chapter 2) identified nine requirements of any congestion charging scheme considered ‘important’, and a further eight considered ‘desirable’, for any road pricing scheme (Ministry

of Transport, 1964). Most of these are equally relevant 40 years later, and are therefore worth repeating here.

The 'important' requirements were as listed below:

- 1 Charges should be closely related to the amount of use made of the roads.
- 2 It should be possible to vary prices to some extent for different roads (or areas), at different times of day, week or year, and for different classes of vehicle.
- 3 Prices should be stable and readily ascertainable by road users before they embark upon a journey.
- 4 Payment in advance should be possible, although credit facilities may also be permissible under certain conditions.
- 5 The incidence of the system upon individual road users should be accepted as fair.
- 6 The method should be simple for road users to understand.
- 7 Any equipment used should possess a high degree of reliability.
- 8 The method should be reasonably free from possible fraud and evasion, both deliberate and unintentional.
- 9 The method should be capable of being applied, if necessary, to the whole country and to a vehicle population of over 30 million.

The requirements considered to be 'desirable' were those given below:

- 1 Payment should be possible in small amounts and at fairly frequent intervals, although payment in larger amounts should be possible if preferred.
- 2 Drivers in high-cost areas should be made aware of the rate they are incurring.
- 3 The attention of drivers should not be unduly diverted from their other responsibilities.
- 4 The method should be applicable without difficulty to road users from abroad.
- 5 Enforcement measures should impose as little extra work on the police forces as possible and should therefore lie within the capacity of traffic wardens.
- 6 It would be preferable if the method could also be used to charge for street parking.
- 7 The method should, if possible, indicate the strength of demand for roadspace in different places so as to give guidance to the planning of new road improvements.

- 8 The method should be amenable to gradual introduction, commencing with an experimental phase.

Vickrey (1992) has added two other useful criteria:

- 1 Charges should not be used as a means of redistribution, on the grounds that there are more efficient and equitable means of achieving redistribution.
- 2 All vehicles should be charged without exception, both on the grounds of avoiding disputes over qualification for exemptions and to ensure that the true cost of operating vehicles is understood, even if it is only an accounting transfer.

Other requirements that have emerged include:

- 1 The systems must accommodate occasional users and visitors, easily, quickly and at low cost.
- 2 Systems should permit users to check the validity of charges incurred, and the current balance with pre-payment systems.
- 3 Charging should operate across a wide (multi-lane) road, with vehicles placed anywhere across the road at a range of speeds from 'stop-go' congestion to well in excess of the legal speed limit, without disrupting traffic flow.
- 4 Effective enforcement must be possible under all reasonable traffic, lighting and weather conditions.

## The charging bases

The economic theory of congestion charging discussed in Chapter 2 suggests the most efficient basis for a charge would be one that reflected the actual level of congestion occurring at a particular location and time, and ideas have been developed for technology that would facilitate some form of *congestion metering*. Typically, such a system would determine the vehicle's average speed over a section of road, relative to a pre-determined 'free flow' speed. However, such systems are seen to suffer from a number of crucial weaknesses. One is that they fail to recognize the Smeed requirement that prices should be stable and known before starting a journey, a requirement that must be satisfied if the charge is to influence travel decisions in a rational manner. Second, there is a difficult question of liability when congestion is caused by accidents, vehicle breakdowns, street works or other incidents. Third,

there is a very real possibility that a charge based, at least in part, on actual speed could encourage dangerous driving. It was for these reasons that congestion metering was rejected by the London Congestion Charging Research Programme, as described in Chapter 4 (DTp, 1995).

*Time-based* charging can be seen, in some respects, as an alternative to congestion metering, in that charges are related to the amount of time taken to travel through an area or along a section of road. However, time-based charging suffers from similar concerns as congestion-based charging, and was therefore also rejected by the London Congestion Charging Research Programme.

A third possible basis is *distance*. Although less effective as a direct measure of congestion, the charge is predictable, given prior knowledge of the rate, or rates, and distance. As early concepts used a connection to the vehicle's odometer, they were subject to error, and were open to possible fraud and evasion, thereby failing to satisfy Smeed's requirement of not being susceptible to fraud. However, Global Navigation Satellite Systems (GNSS), such as the US GPS (Global Positioning System), have the potential to offer a satisfactory means of measuring the distance travelled along a road, or within an area.

The London Congestion Charge is described as an *area licence*, since it requires a user to have a licence for their vehicle to be on the public highway within the charged area within the charged period. In principle, an area licence fee can vary by vehicle type, and (within practical limits) by the time of day and day of the week; once paid, the user can make unlimited use of the road network within the charged area. Thus, the greater the distance travelled – or number of trips made – the lower the impact of the charge on an individual's travel decisions.

A variant on the area licence is an *entry licence*, which is only required for vehicles *entering* the charge area within the charged period. Thus vehicles within the charged area before charging commences can travel within it, and leave it, without charge and, once the charge has been paid for a day, there is no limit on the extent to which a vehicle is used. As entry licences are only required to enter the area, they must be enforced at, or very close to, the entry point, whereas an area licence can be enforced anywhere within the charged area. Although known as the Area Licensing Scheme (ALS), the scheme introduced in 1975 for Singapore's Central Business District (see Chapter 5, and Watson and Holland, 1978) was an entry licence.

The Singapore ALS was replaced in 1998 by a point-based electronic charging scheme (see Chapter 5). With point-based charging, a charge is incurred every time a charge point is passed. The points can be



linked to form a cordon around an area, so that drivers are charged each time they enter (and/or leave) the area; or to form a series of cells, with a charge being incurred each time a vehicle moves from one cell to another; or to create 'screen lines', such as along a river, with drivers charged each time they cross it. In principle, charges can vary by time of day, day of week and vehicle type, as well as from point to point or between cordons, or screenlines.

Although the basic concept of point-based charging is fairly easy for users to understand, if the charging scheme is to satisfy the Smeed requirement that '*the method should be simple for road users to understand*', there are practical limits to the complexity of the system.

### Paper licences

The world's first true congestion charging scheme, the Singapore Area Licensing Scheme (see Chapter 5), utilized a paper supplementary licence that all vehicles entering the Scheme area, during the charged hours, had to display. Licences could be purchased on a daily or a monthly basis, and the validity of the licence was clearly shown, as was the type of vehicle to which it applied. Enforcement was by observation from the roadside.

Essentially simple, and with low implementation costs, paper licences have three major disadvantages. First, there is a real limit to the number of charging classes that can be accommodated, given the need to be able to identify whether a vehicle is carrying a valid licence. One of the reasons for replacing the paper-based Singapore scheme by electronic road pricing was that the number of different licences in use (some 24) was thought to have reached a practical limit. The second relates to the distribution and purchase arrangements. With a reasonable face value for licences, distribution has to be secure and can be costly. The third, and possibly most crucial, is that of enforcement. With higher cost licences, the potential for counterfeiting is very real. Although it has been suggested that modern anti-fraud printing devices could control counterfeiting, if production costs are to be consistent with the face value of the licence, it is unlikely any would allow reliable recognition from the roadside. Indeed, whether legal or counterfeit, checking licences in the windscreens of passing vehicles is not easy.

Prior to the introduction of the London Congestion Charge, only 20 per cent of traffic entering central London parked on-street; the remainder either travelled through the area or parked off-street, mainly

in private vehicle parks. In considering possibilities for London, the ROCOL Working Group (see Chapter 6) concluded that effective enforcement of a paper licence would have to include stopping vehicles on the street (ROCOL, 2000). However, as even a 20 per cent rate of inspection would increase congestion, the Working Group concluded that to achieve an acceptable level of compliance a higher penalty charge would be required than might prove acceptable, given penalty levels for other offences. In addition, as only the police are empowered to stop moving vehicles in the UK (except in specific circumstances), and given their other priorities, there would probably be a need for legislation to enable others to stop vehicles to inspect licences.

Thus, while paper licences might be suitable for small schemes, and under special circumstances, they are unlikely to be suitable for most congestion charging schemes.

### **Virtual licences**

The London scheme is an area licence, in that users are required to pay a fee in order to be on the public highway within the charged area during the charged period. Having rejected a paper licence, the ROCOL Working Group concluded that a 'virtual licence' using camera-based Automatic Number Plate Recognition (ANPR) provided a viable alternative, and could be implemented within the three year target (see Chapter 6: see also ROCOL, 2000). ANPR had the advantage of being established technology. It was being used by the City of London Police in controlling the 'Ring of Steel' created as an anti-terrorist measure, by Customs and Excise to identify vehicles going through the Channel ferry port at Dover and, most significantly, it was also in use for toll collection by the private sector companies managing Highway 407 in Toronto and the CityLink road in Melbourne, as an alternative to an Electronic Fee Collection (EFC) tag for occasional users.

The principle of an ANPR scheme is that images of the licence plates of vehicles that should have paid the charge are recorded, interpreted using a computer-based ANPR system, and then compared with a database of registered users (i.e., those who have paid the charge for the day). The owners, or keepers, of those vehicles for which no charge has been paid are identified through reference to the national vehicle registration system, and enforcement action initiated.

The main benefits relative to paper licences are that nothing has to be displayed on the vehicle other than its licence plate, enforcement operations have no impact on traffic flow, and the system provides photo-

graphic evidence to support any enforcement proceedings. Although the London scheme has proved relatively expensive to operate, the use of ANPR by the operators of Highway 407 and CityLink suggests that there may be some particular feature of the London scheme that has increased its costs.

## **Electronic tags**

Toll road operators throughout the world now make use of EFC, based on a tag installed in a participating vehicle which identifies that vehicle. Most of these tags are 'monolithic' or 'passive', in that they have no internal power supply and are activated by a roadside transmitter which sends a signal to the tag that responds with its identity, which is read by an associated receiver at the roadside, enabling a charge to be added to or deducted from a centrally held credit or debit account. More sophisticated, active tags with their own source of power can hold the funds required to pay the charge. For the Singapore Electronic Road Pricing (ERP) scheme (see Chapter 5) a smartcard, on which cash credits are stored, is inserted in the tag. The smartcard can be topped up with additional cash credits at automated teller machines (ATMs) around the city. While such systems require security protocols to ensure that unauthorized agents cannot deduct value, they can provide anonymity for each transaction. Tag-based systems can also be used to provide supplementary, 'added value', information to users.

To simplify enforcement, EFC on tolled facilities usually requires vehicles to pass through a divided lane at the toll stations, travelling at moderate speed. However, to avoid restricting flow – and thus possibly creating congestion – congestion charging systems usually need to operate under 'free-flow' conditions, allowing vehicles to be placed anywhere across the roadway, and under a wide range of speeds, without interference. As well as the Singapore ERP system, there are such 'open' tolling systems on Melbourne's CityLink, Highway 407 in Toronto, the HOT lanes of SR91 and I-15 in California and Austria's lorry charging scheme (see Chapter 5), among others.

Tags can be used with a variety of charging concepts, including entry and area licensing, cordons, cells and screenlines. Since the tag itself can relate to a particular vehicle type, it is possible for the charge to vary by vehicle type. However, effective enforcement requires the independent identification of the vehicle type. Whilst this is feasible using manual observation, or automatically when vehicles are required to pass through defined toll plaza lanes, there are definite limits to the types that can be

reliably identified using automatic systems under free-flow conditions, with vehicles able to be anywhere across the roadway. Length and weight are the primary distinguishing characteristics, since these can be determined by equipment buried in the road surface, across the full width of the highway. Side-profiles can be recorded and analysed, but only when one vehicle is not obscured, in part or completely, by another, and overhead views usually require gantries, which might not be aesthetically acceptable in some locations.

Several different tag technologies are in use around the world, many of which are specific to one facility, or to one operator's network. However, the need to ensure inter-operability both within countries and across Europe – to avoid vehicle owners having to fit a profusion of different tags – has led to the emergence of a common technology, based on microwave or dedicated short range communication (DSRC) operating at 5.8 GHz (ISO, 2003), although some inter-operability issues have yet to be resolved.

A separate development, Radio Frequency Identification (RFID), offers considerable potential for charging schemes. These very small, low cost devices, which are already being used to track consignments, could be used as electronic licence plates, avoiding the need for ANPR for enforcing any charging system, and they could be used in place of



*Figure 3.1* Singapore ERP: a typical roadside installation

the current EFC technology. Although a commercial Electronic Vehicle Identification (EVI) system has been developed using RFID (*Financial Times*, 2004), introducing EVI across the EU is seen by the European Commission as both '*ambitious and complex*' (EU, 2003a), although Japan is planning large-scale trials (Yomiuri, 2005).

Tags require relatively substantial investment in roadside equipment in order to communicate with the tag and to photograph potentially non-compliant vehicles and their licence plates. If charges vary by vehicle type, equipment that discriminates between types is also required. In the case of Singapore ERP, three gantries over the road are required, as shown in Figure 3.1, as well as a complex set of induction loops buried within the road surface.

## Global Navigation Satellite Systems

Global Navigation Satellite Systems were developed by the US and Soviet authorities for military purposes, but a wide range of civil applications have been developed for the US GPS.

GPS is already widely used by truck operators to track the location of their vehicles, and GPS-based systems have been adopted for a charging system for heavy goods vehicles (HGVs) in Germany and Switzerland (see Chapter 5). Although the German system relates only to the use of the autobahn (motorway) network, to conform with current European Union regulations, that for Switzerland applies to the entire Swiss road network. As discussed in Chapter 14, the British Government is planning to replace the existing HGV taxation system by introducing a distance-based charge, for which it has been suggested '*satellite based systems . . . probably offer the best way forward*' (Treasury, 2003).

Signals from at least three of a global network of satellites are used to compute the user's position. Under normal conditions, the US GPS enables positions to be fixed to within 3 metres. However, if positioning accuracy is important it has been suggested that for 95 per cent confidence in a precise location, the margin of error is some 30 metres (Appelbe, 2004). Depending on a direct 'line of sight' to satellites, there can be problems with GNSS in urban areas, as buildings can act as shields, creating 'urban canyons', and the system does not work within tunnels. Location accuracy can be enhanced through the use of either additional geo-stationary satellites serving a specific region, or ground transmitters, and 'dead reckoning' systems can be used to estimate location based on the last known position; however, these require connection

to the vehicle's odometer, to measure distance travelled since the last GPS fix was received, and a gyroscope to determine direction.

The accuracy with which a vehicle's position is recorded is important for area or point charging schemes (cordons, etc.), since it is critical to determine whether a vehicle actually enters the charged area, or passes through a charge point. Given possible error levels, it might be possible to define some cordon systems so that charges are only incurred when a vehicle is  $x$  metres within the legal boundary, but allowing for error margins in point-based systems might be more difficult. For distance-based charging, the crucial need is to identify the distance travelled, and inaccuracies of some metres do not present a problem. Although there might be a problem if the charge varied between two parallel and very close highways, identification of the correct highway should be possible from sections before and after the parallel section. Galileo (see below) should provide a higher level of resolution than GPS, particularly when complemented by planned ground stations. A combination of GPS and Galileo would provide a high level of resolution. However, although Galileo is due to begin operations in 2008, commentators suggest that 2012 is a more likely date for full operations. GPS is due to be upgraded by about 2010.

Whilst the GPS signal is free, the system is under the control of the US Defence Department and, for US security reasons, can be degraded, with the result that location information is much less precise, or switched off. To provide an alternative, totally civilian, system, the European Commission and the European Space Agency are building a new satellite-based system, Galileo, scheduled to be available in 2008 (Galileo, 2004). Unlike GPS, there will be a charge for the use of Galileo signals that have the integrity (the accuracy of location) likely to be required for urban charging systems.

GNSS need to communicate to the charging authority either distance information or the fact that the vehicle has just passed a charge point. For distance-based systems, continuous tracking is not a practical option, because of both the volume of information that would have to be transmitted and handled, as well as serious concerns about privacy and civil liberties. The information therefore needs to be recorded in the vehicle's on-board unit (OBU) and transmitted to the charging authority at intervals. Two basic options exist. One is simply to record the tracking information, which is analysed and the charges computed by the charging authority; the second is for the OBU to hold mapping information and to have the power to compute the charge based on the roads used and, possibly, the time and day on which they were

used, and to display the charges being incurred to the driver. Such a system can be used with a smartcard for payment, thus overcoming (or at least reducing) privacy concerns. However, the OBU has to have the ability to update the map and charge tariffs, as well as to compute the charges and possibly complete the charge transaction. Not only are such sophisticated OBUs expensive, but the updating process and the use of smartcards are potential sources of error, fraud, malfunction or non-compliance.

The Swiss lorry-charging system stores tracking information on a smartcard, which is removed each month and the information recorded downloaded to the charging authority over the Internet; alternatively, the card can be posted to the authority. In the German scheme, the data is downloaded periodically over a GSM (cellular) phone link directly from the OBU. Other possibilities include DSRC, with roadside stations to interrogate and download information from passing vehicles, and on-board stored value smartcards from which the charge is deducted. However, the latter requires the charges to be calculated by the OBU, whereas other systems simply require the transmission of location information and other necessary information, such as time and date, from which the charges can be computed centrally by the authority. But, if charges are to influence driver decisions, on-board calculation and display of the charges being incurred is highly desirable.

Since distance-based systems, typically those using GNSS, require the continuous recording of a vehicle's location during charged periods within charged areas or on charged roads, it is necessary to ensure the OBU is fully operational when required. This can be done either from fixed roadside locations or by mobile patrols; indeed, mobile patrols are likely to form an integral part of the enforcement for any GNSS, to reduce the possibility of users disabling the system between known enforcement locations.

### **Enforcement: managing violations**

Effective enforcement is central to the high levels of compliance essential for a successful congestion charging system. Whilst the key enforcement characteristics of particular charging technologies have been addressed in the foregoing sections, this section is concerned with the identification and pursuit of possible violators.

A basic enforcement principle is that the combination of the penalty incurred by a violator and the probability of being detected should

deter all but a small minority from deliberate violation, yet the penalties must also be just. With the view likely to be taken by the courts on the 'reasonableness' of the penalty, research indicates a need for an intensive enforcement regime (e.g., ROCOL, 2000). The ROCOL Working Group concluded that a penalty as high as £200 would be unlikely to be accepted by the courts as reasonable, and the basic penalty for Livingstone's central London scheme was fixed at £80 (later increased to £100), the same as that for parking offences, with a reduction for early payment and an increase for late payment. Whilst some violations will be inadvertent, there is likely to be a small group of persistent offenders for whom the penalties must be appropriate; in London, the vehicles of these people can be impounded, and ultimately disposed of.

Other key requirements of any enforcement system include:

- impartiality
- accuracy
- rapid operation
- being easy to understand, and comply with
- fair and efficient administration, including the management of appeals against possibly inappropriate penalties

The perception of a just and effective system is particularly important to ensuring a high level of compliance from the outset. If users begin to think that they can 'get away without paying', there is a real danger of increasing violation levels; the effort required to improve compliance, once it has been allowed to deteriorate, is normally much greater than that required to maintain an established higher level.

As with many on-street parking offences in the UK, violations of a congestion charging scheme are dealt with under civil law, and are administered by the congestion charging authority. This has two main benefits. First, action can be rapid, with the resources to be committed being determined by the authority rather than the police, for whom the pursuit of violators might not always be a high priority, given their other responsibilities and resources. Second, the penalty revenues can be retained by the authority, contributing to the costs of operation. However, the appeals procedures must be managed impartially, by a body independent of the congestion charging authority.

With most charging systems operating under 'free flow', the enforcement system has to identify possibly non-compliant vehicles at the time of the 'offence', while allowing for the pursuit of violators later.



This invariably requires recording the licence plate of possible violating vehicles, and tracing the owner through vehicle licensing records later. Although the original Singapore paper licence scheme relied on manual observation, any modern scheme will use ANPR. One camera records the licence plate and computers, with some manual intervention, interpret it, and another records a 'context' image for use in helping to interpret difficult plates and/or to provide evidence in the case of a challenge. ANPR systems can accurately identify in excess of 90 per cent of number plates (Breeman, Lagerweij and Jägers, 2003).

Thus, enforcement depends on the accuracy of, and speed of access to, vehicle licensing records. However, there have been real concerns about the currency and accuracy of the UK records, which are maintained centrally by the Driver and Vehicle Licensing Agency; in 2002–3 the Department for Transport estimated that 5.5 per cent of UK vehicles had not paid the annual Vehicle Excise Duty (DfT, 2002). The use of such records for a variety of traffic enforcement requirements has led to a review of processes, to seek to ensure they are fit for these purposes.

### **Inter-operability**

With increasing numbers of road user charging schemes, whether congestion charging, highway tolls or distance-based charges for heavy goods vehicles, there is a need to ensure that users do not need a plethora of in-vehicle units as they travel from city to city, or across Europe. To avoid this, it must become possible to use a single unit for schemes and toll roads operated by different authorities. This not only requires compatible charging technology but also a means by which charges can be transferred between authorities. A EU Directive requires all new systems introduced after 1 January 2007 to use one or more of satellite positioning (GNSS), mobile communications using the GSM-GPRS standard, and 5.8 GHz microwave (DSRC) technology (EU, 2004). However, the Directive recommends the use of GNSS and mobile communications and commits to a report by 31 December 2009 on the migration of other (existing) systems to these. Whilst there is general acceptance of the need for transfer of payments between charging authorities, a proposal in a draft Directive had been for the creation of a central charging authority (EU, 2003b). The practical and political feasibility of a single, central, charging authority, as opposed to ensuring efficient 'clearing house' arrangements between local authorities was thoroughly questioned (e.g., Debell and Jeanes, 2003). The final

Directive provides for the establishment of a *European electronic toll service*.

Whilst the need for inter-operability of charging systems across Europe is clear, there is a risk that the harmonization that might be seen to logically accompany inter-operability stifles technical development. However, the technology associated with charging is developing rapidly and it is important that inter-operability arrangements foster rather than inhibit continuous development.

### **Payment arrangements and civil liberties**

With electronic charging, there are four principal options for payment:

- (a) off-vehicle and in arrears through a centrally managed account;
- (b) off-vehicle, with charges deducted from a centrally held account kept in credit;
- (c) on-vehicle, using a smartcard carrying credits, from which the charges are deducted as incurred;
- (d) electronic cash, in which a smartcard on the vehicle is used to authorize a direct debit payment.

These require the establishment – or use of existing – ‘back office’ facilities to process transactions, maintain records and manage the enforcement process. The scale and function of such facilities varies between charging options, and their integration with other payment systems; the more complex the charging system (and payment options) the greater the costs, as well as the risk of error by users and administrators, and of non-compliance. As will be explained in Chapter 12, the back-office functions proved to be an initial weakness of the London scheme.

One of the central concerns in Hong Kong at the time of the 1980s Pilot Project (see Chapter 5) was that of privacy, since with the central accounting required with the technology then available, a record of the sightings of each vehicle would be held centrally, and would (unless requested otherwise) be listed on a monthly account to enable users to check their charges, much as with detailed records of telephone calls. While it can be argued that privacy has not proved to be an issue with electronic toll collection on motorways, participating in such schemes is optional; there is normally a cash alternative. Two particular exceptions to this are Toronto’s Highway 407 and Melbourne’s CityLink. On both of these there are no conventional tollbooths, and ANPR is used to collect tolls from those users without a tag.

With any system that records either the passage of a vehicle past a point, as in area and cordon schemes, or along a route, as in distance-based (GPS) schemes, there are two key risks. The first is that inappropriate access might be gained to the centrally held records, whether by legitimate authorities (such as the security services, the courts, Inland Revenue) or by those without authority. The second is that detailed records sent to users might reveal information to partners or employers that users would prefer they did not know. Yet records are required to enable users to ensure that the charges incurred are correct, and to enable the charging authority to verify transactions and pursue violators. The information must therefore be held until both parties – the authority and the user – are satisfied with the validity of the transactions, or until appeals or legal proceedings have been finalized.

The stored value card used to pay the charge in Singapore is very similar in concept to the ‘pay as you go’ mobile phone, in that there is no open billing trail. However, as the authority needs to ensure that the system is not being defrauded, they may well keep records of transactions by OBU, although that need not be linked to the identity of the vehicle or owner.

Whilst access to the centrally held information can be tightly controlled, and possibly protected by legislation, individual users are responsible for their own accounts. In Hong Kong it was decided that they should have the choice between a fully detailed and a summary account, and the outline terms of reference for a UK Government feasibility study of road charging included a requirement that the system should ‘respect privacy’ (DfT, 2003). While privacy is undoubtedly a concern, many see merit in the security services having access to information that enables them to successfully pursue criminals and terrorists. In London, the images of vehicles that have paid the charge are discarded, although agreement has been reached to allow the Metropolitan Police access to the available camera images for specific purposes.

### **A commentary**

Although ‘the technology is not yet ready’ has been a reason used by politicians from Barbara Castle through to Alistair Darling for not introducing congestion charging in the UK, and by their counterparts in various parts of the world, the extensive use of Electronic Fee Collection on toll roads around the world, the use of ANPR for toll collection in Melbourne and Toronto, the Singapore ERP scheme, the central London congestion charging scheme, and truck-charging

systems in Austria, Germany and Switzerland, as well as long established 'toll rings' in a number of Norwegian cities, suggest that where there is the political will and commitment, suitable systems are available; that 'good' can be good enough, that there may be no need to wait for 'the best' which, like *mannana*, can always be just over the horizon.

With GPS already adopted for truck charging in Germany and Switzerland and likely to be adopted for the planned UK lorry scheme, and with the European Commission pressing for inter-operability across Europe, it seems most probable that GNSS will form the basis of any wider, national, charging system in due course. However, the costs are such that DSRC (tag and beacon) systems, already widely deployed, are likely to be used for most charging systems initiated over the next few years. What is of crucial importance in developing schemes is first to define what the system is required to do, and then to consider the technology; the policy should drive the technology, rather than the reverse.

## References

- Appelbe, H. (2004). 'Taking charge', *Traffic Technology International*, October/November.
- Breeman, J., P. Lagerweij and W. Jägers (2003). 'Under Licence', *Traffic Technology International*, Annual Review.
- Debell, C. and P. Jeanes (2003). 'Is the Commission's Latest Draft a Directive Too Far?', *Traffic Engineering and Control*, Vol. 44, No. 9.
- DfT (2002). 'Vehicle Excise Duty Evasion 2002', *Transport Statistics Bulletin*, London: Department for Transport.
- DfT (2003). *Managing our Roads*, London: Department for Transport.
- DTp (1995). *London Congestion Charging Research Programme*, London: Department of Transport, HMSO. (Note: a report of the principal findings is also available from HMSO, and a summary of the Final Report is available in a series of six papers published in *Traffic Engineering and Control*: see Richards *et al.*, 1996.)
- EU (2003a). [http://europa.eu.int/comm/transport/road/roadsafety/its/evi/index\\_en.htm](http://europa.eu.int/comm/transport/road/roadsafety/its/evi/index_en.htm).
- EU (2003b). *Proposal for a Directive of the European Parliament and of the Council on the Widespread Introduction and Interoperability of Electronic Road Toll Systems in the Community*, Brussels.
- EU (2004). *Directive 2004/52/EC of the European Parliament and of the Council of 29 April 2004, on the Interoperability of Electronic Road Toll Systems in the Community*, Brussels.
- Financial Times* (2004). 'The intelligent number plate leads the way', 30 August.
- Galileo (2004). [http://europa.eu.int/comm/dgs/energy\\_transport/galileo/index\\_en.htm](http://europa.eu.int/comm/dgs/energy_transport/galileo/index_en.htm).

- ISO (2003). CEN ISO/TS 17573:2003. *Electronic Fee Collection – System architecture for vehicle related transport services*, Geneva: International Organization for Standardization.
- Ministry of Transport (1964). *Road Pricing: The Economic and Technical Possibilities*, London, HMSO.
- Richards, M. G. *et al.* (1996). 'The London Congestion Charging Research Programme', a series of six papers in *Traffic Engineering and Control*, Vol. 37, Nos 2 to 7.
- ROCOL (2000). *Road Charging Options for London: A Technical Assessment*, London: HMSO.
- Treasury (2003). *Modernising the taxation system of the haulage industry – lorry road-user charge, Progress Report Two*, London: HM Treasury, Customs and Excise, Department for Transport.
- Vickrey, William (1992). *The Principles of Efficient Congestion Pricing*, New York: Columbia University.
- Watson, P. and E. Holland (1978). *Relieving Traffic Congestion: The Singapore Area License Scheme*, World Bank Staff Working Paper 281, Washington, DC: World Bank.
- Yomiuri (2005). '“Smart” car license plates eyed to combat congestion', *The Daily Yomiuri*, Japan, 8 February.

# 4

## Highways and Traffic Restraint in London before the Mayor

### Introduction

In an early 1960s study of London over the 40 years to 2000, Peter Hall concluded that transport *'is a problem that strikes more of us more immediately, more of the time, than any other'*, and that *'the key to the problem is regulation'* (Hall, 1963). Anticipating more recent concerns about induced and suppressed demands, he suggested: *'unless there is regulation, any improvement, however dramatic, will be swamped after a short period'*. One of the restraint options he considered was a licence to enter central London. Although he had thought that parking fees were the better option, he concluded that *'advances in electronics had made it possible to "meter" the movements of all vehicles and to charge them an economic rate for the use of a section of the street system'*.

### Planning for new road networks

Patrick Abercrombie, appointed by the government in 1944 to plan for London and its region after the Second World War, noted that *'the most obvious and ubiquitous defect of pre-war London was that of traffic'* (Abercrombie, 1945). Abercrombie based his highway plans on a hierarchy of roads to create cells within which, at the lowest level, there was only local traffic. The largest cells were to be created by five major ring roads, ranging from an inner one around central London, to one 18 miles (29 km) out, each linked to the others by radials. Although adopted in 1947 by the Ministry of Town and Country Planning as central to the government's long-term policy for London, the inner ring was abandoned in 1950, when it was realized that its construction costs represented the total of London County Council's roads budget for the next 120 years (Hart, 1976).

With the inner ring gone, one of the first acts of the newly formed Greater London Council in 1965 was to confirm its commitment to the 'Motorway Box', a 33-mile (53 km) long series of motorways some 4–6 miles (6.5–10 km) out of central London. This, together with a variant on the Abercrombie Plan, formed much of the transport base for the Greater London Development Plan (GLDP) published in 1969 (GLC, 1969). Beyond the Motorway Box (which became Ringway 1), there was Ringway 2, about 7 miles (11 km) out of central London, which would link the inner ends of all the major, national, radial motorways and trunk roads then planned, with selected routes continuing through to the Motorway Box, and Ringway 3, some 12 miles (19 km) out. The ringways and radials provided a 400-mile (640 km) urban motorway network, complemented by some 1,000 miles (1,600 km) of second-tier roads, mostly existing routes. But, even with this network in place, the GLC recognized that there would still be some congestion. Although these plans had enjoyed cross-party support within the GLC, they were not well received by a broad 'coalition' of others.

To assess the GLDP in its entirety, the government established a panel under Frank Layfield. Although the GLDP was concerned with all aspects of development, three-quarters of the 30,000 objections the Panel considered related to transport and reflected a range of concerns, including the impacts on those in the 20,000 homes that would have to be demolished to construct the planned highways, and whether the plan gave adequate consideration to other transport modes. Hart suggested that the GLC had overestimated its powers and underestimated the strength of the non-party political opposition (Hart, 1976). Objectors included the London Amenity and Transport Association, which commissioned J.M. Thomson, secretary to the Smeed Committee (see Chapter 2), to lead a detailed study of transport options (Thomson, 1969). Reporting in 1972, the Layfield Panel concluded that the GLDP was too dependent on roads for its transport component, and suggested that a modified transport policy was required, which would include a much reduced new highway network (Hart, 1976). The Cabinet accepted the principles of the Panel's conclusions in 1973, and approved a road network that included the Motorway Box and Abercrombie's B ring. However, a few months later Labour gained control of the GLC from the Conservatives, and abandoned all plans for major roads. In the final version of the GLDP, approved by the Secretary of State in 1976, one of four key elements of the Transport Strategy was restraint of the use of cars, particularly in busy areas at the busiest times (GLC, 1976a).

Although control switched back to the Conservatives in 1977 before returning to Labour in 1981, the highway plans were not revived. However, following the abolition of the GLC by the Thatcher Government in 1986 (see Chapter 6), responsibility for the major road network passed to the Department of Transport, which commissioned 'Assessment Studies' to examine possible transport scenarios for four areas within London. Whilst these identified provision of additional highway capacity as strong options, it had become evident that, with a few exceptions, building new roads or substantially increasing the capacity of existing roads was no longer acceptable in London – politically, socially, or environmentally. Thus, although after publication of the Abercrombie and Greater London Development plans some major roads were built and existing roads widened within London, the only Ringway to be built was largely outside London (the M25, London's orbital motorway), and both Conservative and Labour administrations concluded that major capacity increases within the capital were off the agenda.

### **Better use of town roads**

Although the Smeed Committee (Chapter 3), had suggested a trial of road pricing in London, the first London-specific study of road pricing was undertaken in 1965 by J.M. Thomson, for a Working Group established by the government following publication of the Buchanan Report, *Traffic in Towns* (Ministry of Transport, 1963), and the Smeed Report (Ministry of Transport, 1964), to consider means of restraining urban traffic (Ministry of Transport, 1967). Thomson researched both peak period and all-day supplementary licence schemes for an area of central London similar to Livingstone's scheme, other than the part south of the Thames (Thomson, 1967). He concluded that a daily charge of 30p (in 1965 prices, or nearly £4.00 in 2004 prices) would reduce through trips by cars by some 80 per cent, and terminating car trips by about 40 per cent. An overall 23 per cent reduction of peak traffic would lead to a 25 per cent increase in average speeds during the peak, and a 26 per cent reduction in off-peak traffic would give a 21 per cent speed increase. With 80 per cent of the net benefits obtained at both 15p and 40p (1965 prices), the 30p charge appeared to be close to the optimum in cost-benefit terms.

Although the Working Group Thomson reported to '*found no reason to doubt the broad picture . . . of the extent and value of improvements to traffic conditions in the central area*', they were very guarded about both



the net benefits and practical possibilities of road pricing, and the Minister, Barbara Castle, concluded: '*it is not certain that road pricing can offer a solution; it will, in any case, not be an immediate one*' (Ministry of Transport, 1967). Thus this Minister, widely regarded for much of her work in transport, began the pattern maintained by successive UK Ministers (and Secretaries of State) of kicking charging into the long grass.

## The Greater London Council Supplementary Licensing Scheme

Recognizing the opposition to its highway plans, the GLC initiated the development of a more balanced transport policy, marked by the publication in 1972 of a Green Paper, *Traffic and the Environment*, which identified the possible need for restraint policies (GLC, 1972). Objectives set for restraint included the control of journeys causing the most environmental and traffic nuisance, those which could most easily be transferred to public transport and those which were least important, whilst being seen to be fair and reasonable. A further paper, *Living with Traffic*, published in March 1973, only months before the elections in which the Conservatives lost control to Labour, identified fiscal measures as '*the most likely form of traffic restraint*' with supplementary licensing being seen '*to offer the best and most immediate prospect of achieving the required traffic reduction in central London*' (GLC, 1973). This was followed by publication of a Supplementary Licensing study (GLC, 1974) and the launch in 1975 of a consultation process to obtain the views of Londoners to help the GLC '*decide on two of the next vital steps in its transport strategy: whether to adopt supplementary licensing, and whether to seek control of office car parks*' (GLC, 1975b).

The basic proposal was to introduce an area licence that most vehicles within the charged area would be required to display between 8am and 6pm, Monday to Friday. Although the possibility of applying the licence to both central and inner London was examined, the greatest traffic benefits were obtained from limiting it to central London, as defined by the Inner Ring Road, the same area as adopted by Livingstone (GLC, 1974; May, 1975). All eligible vehicles would be required to display the licence, which would be for either one day or a whole calendar month. Enforcement would be manual, and a police responsibility. The proposed fee for cars was set at between 60p and £1.00 a day at 1973 prices (just under £5.00 to £8.00 in 2004 prices), with commercial vehicle licences costing £1.80 to £3.00, depending on weight.

Buses, taxis, emergency vehicles and motor cycles were to be exempt, and a discount (of between 50 per cent and 75 per cent) was proposed for local residents.

It was estimated that traffic within central London would be reduced by about one-third and by about 10 per cent in inner London, although there would be an increase on parts of the Inner Ring Road. The greatest impact would be on cars and through traffic. Traffic and road schemes costing between £2 and £10 million (1973 prices) would be required to mitigate the traffic and environment consequences of local traffic increases outside the charged area. Overall, benefits were estimated to exceed costs by some £25 million a year (1973 prices). Including the need for enabling legislation, the GLC estimated that it would take about 2½ years to implement the central London scheme.

Although the work was initiated by a Conservative administration, it was launched after Labour gained control in 1973. Whilst the new administration recognized a need for action on traffic congestion, it was reported to regard Supplementary Licensing as a 'last resort'. Whilst the decision within the Labour Group had been close, possibly because even had they approved the plans the then Conservative Government was unlikely to introduce the necessary legislation, the grounds given for their rejection included the complexity of enforcement, the impacts on lower income drivers who had to use their cars and difficulties in providing for people with special needs, so the proposals were not developed further (GLC, 1979).

## **Parking**

To help reduce growing congestion during the 1950s, amidst a heated debate a pricing regime for parking (together with a reduction in on-street parking capacity) was introduced in central London in 1958, with the installation of parking meters and charges that favoured shorter stays. However, regulations requiring parking provision in new developments led to an increase in off-street parking as sites were redeveloped through the 1960s, increasing the use of cars, particularly for commuting. By the late 1960s, the GLC had revised the standards for the most congested areas – central and inner London – down, and obtained powers under the Transport (London) Act of 1969 to control public off-street parking spaces. This Act, passed by the Labour Government which gave the Conservative-led GLC control of London Transport, also enabled the GLC to introduce controlled areas within which all off-street parking areas open to the public, other than those owned by the local authority, had to be licensed by the local authority, who had the

powers to set the number of spaces available and their allocation between short and long term, casual and regular parking, the scale of charges (or a minimum charge) and the opening hours. The local authorities were granted considerable powers to monitor compliance with the licence terms. As endeavours to agree voluntary arrangements, including a change in charging structures from those favouring longer stays, were generally unsuccessful, proposals for the creation of a controlled zone in a part of the West End (central London) were outlined in *Living with Traffic* in 1973, under the Conservative administration (GLC, 1973). Whilst these were not pursued immediately, the incoming 1973 Labour administration published regulations for controlled schemes, under the 1969 Act, for parts of central London and Hammersmith in 1976 (GLC, 1976b), and the scheme came into effect shortly before the 1977 elections. Despite their promotion of a similar scheme in 1973, the Conservatives campaigned against the proposals and, having won the 1977 election, withdrew the scheme.

With much of central London's off-street non-residential parking being private, the GLC sought to reduce the total volume, with a tax on 'excess' spaces put forward as one option in *Living with Traffic* (GLC, 1973). These ideas were developed in liaison with the Department of the Environment, leading to the publication of a consultation paper published in parallel with the one on Supplementary Licences, which put forward the possibility of a tax on office parking spaces, at a suggested level of £250 a year (£3,100 in 2004 prices: GLC, 1975a). Initiated by a Conservative administration, the Labour administration of the mid-1970s decided not to pursue them.

### **The area control study**

With it becoming increasingly clear that parking controls alone would not be sufficient to control congestion, the GLC initiated a further road pricing study, with the objective of overcoming the difficulties identified with the Supplementary Licence (GLC, 1979). The study led to a proposal for an entry licence, which would be required to enter central London north of the Thames (bounded by the Inner Ring Road to the west, north and east, and the Thames to the south), during the working day, 8am to 6pm. A single charge of 50p for cars and vans (in 1977 prices, some £2.00 in 2004 prices) was estimated to reduce morning peak traffic within the charged area by 31 per cent, and by 20 per cent outside the peaks. In comparison with the Supplementary Licensing proposals, considerably more exemptions and concessions were considered. These included discounts for residents of the charged area, those

working unsocial hours and business motorists, and exemptions for high occupancy cars and goods vehicles, in addition to disabled car users. Although the study concluded, *'it is clearly possible to develop a concessionary scheme which minimises hardship and shields (insofar as it is necessary) any commercial activity from increased costs'*, it identified difficulties in the operation of a number of these possibilities.

The proposals were not developed further, and although Livingstone led the GLC from 1981, congestion charging was not revisited before abolition of the GLC in 1986.

### **The London assessment and other contemporaneous studies**

The four Assessment Studies, commissioned by the Department of Transport after becoming responsible for London's transport strategy in 1986, concluded that measures to reduce car use through substantial expansion of rail transport *or* through physical, legal or fiscal restraint would not be wholly effective (see the Appendix in Glaister, 1991, for a summary). One outcome was the decision to implement a 'Priority Route Network', with parking and loading restrictions and bus priorities on 500 km (300 m) of key routes to speed flow for buses and other traffic, which became the Red Routes. Setting out their approach to policy in London, the Government noted that whilst *'road pricing has been suggested as a way of rationing scarce road space . . . there would be very serious difficulties'* (DTp, 1989). The main difficulties were seen to be the implementation costs, enforcement, a perceived lack of sensitivity of *'conventional and simple methods of pricing'*, and public unacceptability. However, the Secretary of State recognized the *'theoretical attractions'* and concluded that although charging would require research and discussion, he *'would not wish to rule it out'*.

In parallel with the Assessment Studies, a preliminary (desk) study of road pricing commissioned by the Department concluded that a system of cordons covering much of London would be both effective in reducing congestion and economically justified. However, it was thought that a *'scheme that was restricted to central London would do little to alleviate the problems identified in the Assessment Studies, nor in other parts of inner and outer London'* (Halcrow Fox Associates, 1989).

### **The London Planning Advisory Committee**

On the GLC's abolition, the London Planning Advisory Committee (LPAC) was established (in April 1986) through which the London bor-

oughs would provide strategic guidance on planning matters to the Secretary of State, who had become responsible for strategic planning in London. Following an initial study of strategic transport options (LPAC, 1988b), LPAC (1988a) advised the Secretary of State:

*'a road pricing scheme focussed on Central London appears to be an option which could achieve a significant increase in the efficiency of the road system . . . if the principle was accepted that the revenues . . . were to be spent on public transport schemes serving Central London, travellers would experience the benefits as well as the costs. This could increase its public acceptability'.*

These studies were followed by more detailed investigations of a wide variety of transport policy measures, including major capital investment in roads and railways, public transport service improvements, traffic and environmental management, the withdrawal of tax advantages on employer-provided cars, congestion charging and reductions in operating subsidies for public transport, which paralleled the Assessment Studies. They found that improving public transport would only be of limited effect in reducing car use, in part because of the latent demand for car travel, and concluded that although parking measures and the removal of tax advantages for employer-provided cars would be helpful, the *'introduction of charges for moving was unavoidable'* (May and Gardner, 1990).

Whilst recognizing the practical difficulties of congestion charging, it was suggested that *'the real difficulties are overwhelmingly political'* and that *'the potential unpopularity perceived by politicians is exaggerated'*. This was supported, in part, by the final four key findings of a 1991 study of Londoners' attitudes to road pricing:

- *'congestion is the biggest single problem of living in London',*
- *'congestion charging is not strongly advocated by Londoners',*
- *'road user charging on its own would not be acceptable',*
- *'road user charging would only be acceptable to the majority . . . provided the revenues were reinvested in public transport, improved roads or other measures'.* (Specified by individual respondents: National Economic Development Office, 1991)

Backed by this research, LPAC's 1994 Guidance to the Secretary of State recommended that: *'Government should use the results of its road pricing study [DTp, 1995a] to implement a system of road pricing in*

*London, in which its equity, environmental, accessibility and development implications are given as much regard as the traffic and financial impacts.'* This recommendation was particularly remarkable because it was agreed by all 33 London boroughs, regardless of political control, and was signed off by LPAC's Liberal Democrat Chair together with the Labour and Conservative Vice-Chairs. The Chair, Sally Hamwee, was later elected to the London Assembly and served as Assembly Chair, while the Labour Vice-Chair, Nicky Gavron, was also elected to the Assembly, served as Deputy Mayor and led the preparation of the Mayor's Spatial Development Strategy before being selected, albeit temporarily, as the Labour candidate for the 2004 Mayoral elections (see Chapter 14).

### ***'A Cleaner, Faster London'***

In parallel with the Assessment Studies and LPAC's initial work, Patricia Hewitt, a researcher with the Institute for Public Policy Research, wrote a report, *A Cleaner, Faster London* (1989), in which she concluded:

*'Londoners face a simple choice. If a charge is imposed on private car use in the congested central area, then congestion and pollution can be substantially reduced. If road pricing is rejected, other measures to improve public transport and traffic management will not prevent conditions on central London's roads from deteriorating further. Recent surveys suggest that the public accepts the need to pay for using a private car in central London. Politicians should now do the same.'*

She went on to become a Labour MP and a member of Blair's Cabinet.

### **The London Congestion Charging Research Programme**

The London Assessment Studies and LPAC work had made it clear that there were not many acceptable (whether from a social, environmental, political or financial viewpoint) options for capital investment to ease London's growing congestion problems. With restraint back on the agenda, in 1991 the Department of Transport commissioned the London Congestion Charging Research Programme (LCCRP), a £2.5 million, 3-year study, to '*assess the case for and against, and the practical feasibility of, implementing congestion charging with the M25*' (DTp, 1995a; Richards *et al.*, 1996b). This sought to provide information on a wide range of issues, including the areas and times of day to be

charged, charge levels and structures, the transport, environmental, social and economic impacts and their distribution, measures to mitigate adverse impacts and to complement the charge, the technology and administration of charging, implementation costs and operating costs and revenues and the process of implementation.

A key element of the work was forecasting (modelling) possible responses to charging regimes. These include switches to another mode or destination or a decision not to make the trip, changes in the time of day at which a journey is made (i.e. whether to travel at a time with no or a lower charge, or to travel at time with a higher charge but lower congestion than previously experienced). As a shift in the time, or mode, or destination of one journey can affect other journeys during the course of the trip sequence, whether it is a complex home-school-work-shopping-home chain or a simple home-work-home sequence, and decisions can be related to household type, including cars owned and income, it was necessary to use complete home-to-home trip chains, rather than the individual trips (e.g., home to work) used in most transport models, and to allow for a range of person/household types. Further, as travel patterns change, so flows and speeds on the road network change and the public transport system becomes less or more overcrowded, with the result that some other travel decisions may change. As no existing model would accommodate all the possible responses thought both necessary and feasible, a structure consisting of three levels was devised (Bates *et al.*, 1996). The middle level was a well-established, conventional London-wide model, LTS, which provided the basic forecasts and assigned trips to the transport networks. Above LTS sat a completely new, incremental equilibrium, model, APRIL, which handled the main travel responses, across a large number of person, trip and mode types, as well as times of day. The lower level was a detailed traffic model of a part of London, used to determine local traffic flow changes.

An initial wide range of charging options was narrowed down to point-based charging on cordons around and screenlines through areas, using tag-based electronic charge collection. As explained in Chapter 3, congestion, time and distance as the charge base were rejected for a variety of reasons, including safety, and paper licences were rejected because of enforcement difficulties and inflexibility. Four basic charging schemes were considered:

- (a) a cordon just inside the Inner Ring Road, identical to that adopted by Livingstone;

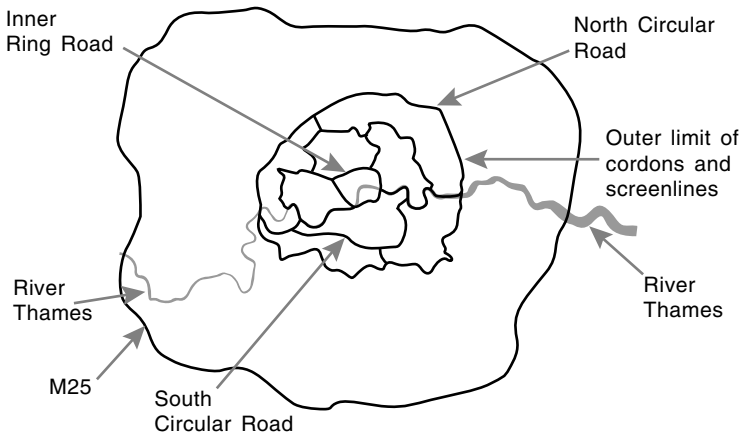


Figure 4.1 The three cordons and screenlines scheme

- (b) the central cordon combined with one in inner London, following the South Circular and at about the same distance out in the north;
- (c) three cordons; central, inner and a third following the North Circular and at about the same distance out in the south;
- (d) three cordons with screenlines; the three cordons with the areas outside central London divided by radial lines to give eight cells (see Figure 4.1 and Richards *et al.*, 1996a).

A fifth scheme, in which the area within each of the cordons was divided into approximately hexagonal cells with a radius of about 1 mile, (1.6 km) which would have been similar in effect to a distance-based charge, was dropped because of high implementation and operating costs and economic inefficiency.

To assist comparison, a fixed set of one-way central area charges was established, varying from £2, the 'low' charge, through £4, to £8, the 'high' charge (1991 prices; £2.75, £5.50 and £11.00 in 2004 prices), on which charges at all other locations were based. There was no differentiation by vehicle type, except for motorcycles, for which there was no charge. Buses, taxis, emergency vehicles and the mobility impaired whose vehicle is exempt from Vehicle Excise Duty were assumed to be exempt from the charge. Otherwise, it was argued that '*any charge privilege [a discount or exemption] must be deemed to be fair and properly used, and should only have a small impact on the effectiveness of congestion charging*'.



The simplest scheme assessed was an inbound central London cordon. An £8 (1991 prices, £11 in 2004 prices) charge for each time a vehicle entered the area between 7am and 7pm on a weekday was estimated to reduce traffic within central London by 22 per cent, while a £2 charge would reduce it by 8 per cent (May, Coombe and Travers, 1996). Although most of the benefits were achieved at £4, the optimum charge, in terms of net benefits, was about £6 (£8.25 in 2004 prices). In terms of net benefits, the three cordons and screenlines was the most efficient scheme tested. With charges in both directions at each charge point varying by time of day, the 'high' charge gave traffic reductions in central London of 17 per cent, 11 per cent in inner London and 3 per cent in outer London. The charge structure for this scheme is given in Table 4.1.

Conscious of concerns about both privacy and fleet operators' need for audit information, four technology options were costed:

- (a) central, off-vehicle, accounting;
- (b) smartcards on which credits could be stored, permitting anonymous transactions;
- (c) electronic cash, operating very much like a debit card;
- (d) a hybrid, which would provide a choice between off-vehicle accounting for fleet operators, electronic cash and the anonymity of smartcards.

Table 4.1 The three cordons and screenlines charge structure: the 'high' charge (1991 prices)

|                         |          | 0700–<br>1000 | 1000–<br>1100 | 1100–<br>1500 | 1500–<br>1600 | 1600–<br>1900 |
|-------------------------|----------|---------------|---------------|---------------|---------------|---------------|
| Central cordon          | Inbound  | £4.00         | £3.00         | £2.00         | £1.00         | –             |
|                         | Outbound | –             | £1.00         | £2.00         | £3.00         | £4.00         |
| Inner inner screenlines |          | £0.50         | £0.50         | £0.50         | £0.50         | £0.50         |
| Inner inner cordon      | Inbound  | £1.00         | £0.75         | £0.50         | £0.25         | –             |
|                         | Outbound | –             | £0.25         | £0.50         | £0.75         | £1.00         |
| Outer inner screenlines |          | £0.50         | £0.50         | £0.50         | £0.50         | £0.50         |
| Outer inner cordon      | Inbound  | £1.00         | £0.75         | £0.50         | £0.25         | –             |
|                         | Outbound | –             | £0.25         | £0.50         | £0.75         | £1.00         |

Source: The London Congestion Charging Research Programme (Department of Transport, 1995a).

Although no electronic road pricing system satisfying the key requirements was then in use, Singapore had committed to implementing an ERP scheme (see Chapter 5) and was well advanced with trials, and other simpler, systems were well established for automatic toll collection. However, managing occasional users and visitors was seen to introduce complexities which did not apply to the island state of Singapore, and the roadside equipment associated with the proposed Singapore system was considered too visually intrusive for use in London (see Figure 3.1). The study concluded that before electronic road pricing could be implemented in London there would either have to be extensive field trials to reduce key risks, or suitable technology would have to have been proved in application elsewhere.

For all the schemes assessed in detail, the Net Present Value of the benefits at the high charge level exceeded the implementation costs within no more than four years, with the three cordons and screenlines scheme achieving payback within less than two years. However, at the low charge level, the payback periods were three years or longer, with some schemes (including the three cordons and screenlines) never achieving a payback except with just electronic cash payment (due to its relatively low costs).

To complement the congestion charges, a variety of transport strategies was also tested. These included the reallocation of road space to bus priorities and traffic calming, increasing rail service frequencies, improving bus and rail frequencies and providing bus priorities, new rail infrastructure, and a combination of new rail infrastructure and public transport service improvements. With the exception of the reallocation of roadspace, each strategy gave net economic benefits when applied alone but, when combined with congestion charging, the net benefits were less than the sum of the benefits obtained from each policy (pricing and a complementary strategy) applied individually, with the sole exception of inbound charging on the central cordon at the low (£2) rate with roadspace reallocation, which created additional net benefits. Since the charge and the complementary measures were impacting the choice between modes in a similar direction, the lack of synergy was not particularly surprising and did not imply that a package of measures was not worth implementing. The distribution of economic benefits across the community varied considerably, with road users generally incurring significant disbenefits in the simpler cordon schemes, while the community as a whole gained through the net revenues. However, the three cordons and screenlines scheme performed most equitably, with relatively low disbenefits to road users.

In considering implementation, critical areas were expected to include:

- (a) the detailed design of the charge boundaries, balancing area-wide benefits against local disbenefits;
- (b) the arrangements for the provision of in-vehicle units and arrangements for occasional users;
- (c) the targets, nature and management of any exemptions or discounts;
- (d) understanding of the importance of anonymity;
- (e) containing rogue offenders;
- (f) the use of net revenues (important to both public attitudes and the net impacts on London's economy).

The LCCRP concluded that congestion charging could reduce congestion and the environmental impacts of traffic, and provide a rapid return on investment in both financial and economic terms. However, implementation would require general agreement that charging was a reasonable element of transport policy. The main risks were thought to be with the reactions of the public, the reliability of the technology, the complexity of the administrative systems and the adequacy of enforcement.

The LCCRP was initiated when Malcolm Rifkind was Secretary of State for Transport. He was succeeded by John MacGregor who, in addressing the Chartered Institute of Transport, said: *'the decision on the best form of traffic restraint will not be an easy one . . . the Government must not shrink from this . . . if the costs of congestion are not to grow'*. Yet, in announcing the publication of the study report in 1995, Sir George Young (who had just succeeded Brian Mawhinney, who, in turn, had replaced MacGregor) said, *'we have no current plans to introduce congestion charging . . . or to bring forward proposals for the primary legislation'* (DTp, 1995b). Young concluded that technology and complexity prevented early implementation, a remarkably similar conclusion to Barbara Castle's in the *Better Use of Town Roads* report nearly 30 years earlier. But he left the door open, saying, *'the Government does, however, maintain an open mind on whether congestion charging might be a necessary or desirable option for the longer term'*.

### **A commentary**

With limited exceptions, providing additional highway capacity in London is no longer a policy acceptable to any political party, and

attention has turned to traffic restraint policies. Yet, although congestion charging for London had been carefully considered in a series of studies since the mid-1960s, and has been shown to be effective in reducing traffic, it has been rejected by political leaders, Conservative and Labour, local and national, a number of times. Interestingly, the Smeed Committee reported under one government, whilst the final report of the follow-up study was published under a new administration, and the GLC Supplementary Licensing Scheme was initiated under one administration and reported under another. While the work of the LCCRP was contained within a single political administration, it was overseen by a succession of four Secretaries of State, and had Sir George Young not replaced Brian Mawhinney only days before publication, it is thought that the concept would have been firmly rejected rather than being kicked into the long grass. Political stability, or sustained cross-party consensus, appears to be an essential element to the adoption of congestion charging.

Whilst there is remarkable consistency in the level of charge considered by Thomson, the GLC Supplementary Licence and the LCCRP, all of which appeared to suggest a charge of similar order to the £5 (in 2004 values) adopted by Livingstone, the forecast traffic reduction steadily decreased over the 30 years separating Thomson from the LCCRP.

## References

- Abercrombie, P. (1945). *The Greater London Development Plan 1944*, London: HMSO.
- Bates, J., I. Williams, D. Coombe and J. Leather (1996). 'The London Congestion Charging Research Programme: The Transport Models', *Traffic Engineering and Control*, Vol. 37, No. 5.
- DTP (1989). *Statement on Transport in London*, London: Department of Transport.
- DTP (1995a). *London Congestion Charging Research Programme*, London: Department of Transport, HMSO. (Note: a report of the principal findings is also available from HMSO, and a summary of the Final Report is available in a series of six papers published in *Traffic Engineering and Control*: see Richards *et al.*, 1996.)
- DTP (1995b). *Young Publishes London Congestion Charging Study*, Press Release, London: Department of Transport.
- Glaister, Stephen (ed.) (1991). *Transport Options for London*, London: Greater London Group, Greater London Papers 18, London School of Economics.
- GLC (1969). *The Greater London Development Plan*, London: Greater London Council.
- GLC (1972). *Traffic and the Environment*, London: Greater London Council.
- GLC (1973). *Living with Traffic*, London: Greater London Council.
- GLC (1974). *Supplementary Licensing*, London: Greater London Council.

- GLC (1975a). *Parking (a consultation paper)*, London: Greater London Council.
- GLC (1975b). *Supplementary Licensing: GLC Seeks Londoners' Views*, Press Statement No. 90, London: Greater London Council.
- GLC (1976a). *Greater London Development Plan: Notice of Approval*, written statement, London: Greater London Council.
- GLC (1976b). *Licensing of Public Off-street Car Parks*, TP1903, London: Greater London Council.
- GLC (1979). *Area Control*, London: Greater London Council.
- Halcrow Fox Associates (1989). *Road Pricing in London: A Preliminary Desk Study*, London: Department of Transport.
- Hall, P. (1963). *London 2000*, London: Faber & Faber.
- Hart, D. (1976). *Strategic Planning in London: Rise and Fall of the Primary Network*, Oxford: Pergamon Press.
- Hewitt, Patricia (1989). *A Cleaner, Faster London: Road Pricing, Transport Policy and the Environment*, London: Institute for Public Policy Research.
- LPAC (1988a). *Strategic Planning Advice on Guidance for London, Policies for the 1990s*, London Planning Advisory Committee.
- LPAC (1988b). *Transportation Strategic Advice: Scenario Testing Exercise*, The MVA Consultancy in association with Colin Buchanan and Partners and the Transport and Road Research Laboratory, London Planning Advisory Committee.
- LPAC (1994). *Advice on Strategic Planning Guidance for London*, London Planning Advisory Committee.
- May, A. D. (1975). 'Supplementary Licensing: An Evaluation', *Traffic Engineering and Control*, Vol. 16, No. 4.
- May, A. D. and K. Gardner (1990). 'Transport Policy for London in 2021: The Case for an Integrated Approach', *Transportation*, Vol. 16, No. 3.
- May, A. D., D. Coombe and T. Travers (1996). 'The London Congestion Charging Research Programme: Assessment of the Impacts', *Traffic Engineering and Control*, Vol. 37, No. 6.
- Ministry of Transport (1963). *Traffic in Towns*, London: HMSO.
- Ministry of Transport (1964). *Road Pricing: The Economic and Technical Possibilities* London: HMSO.
- Ministry of Transport (1967). *Better Use of Town Roads*, London: HMSO. (For a fuller study of transport modelling see Thomson, 1967.)
- National Economic Development Office (1991). *A Road User Charge? Londoners' Views*, London.
- Richards, M. G. *et al.* (1996a). 'The London Congestion Charging Research Programme', a series of six papers in *Traffic Engineering and Control*, Vol. 37, Nos 2 to 7.
- Richards, M. G., C. Gilliam and J. Larkinson (1996b). 'The London Congestion Charging Research Programme: The Programme in Overview', *Traffic Engineering and Control*, Vol. 37, No. 2.
- Thomson, J. M. (1967). 'An Evaluation of Two Proposals for Traffic Restraint in Central London', *Journal of the Royal Statistical Society*, Part 2, p. 130.
- Thomson, J. M. (1969). *Motorways in London*, for the London Amenity and Transport Association, London: Gerald Duckworth.
- Transport (London) Act (1969). London: Her Majesty's Stationery Office.

# 5

## Experience around the World

### Introduction

Despite the well established rationale for congestion charging and for efficient road pricing more generally set out in Chapter 2, few cities or states have actually implemented a scheme, although several have come close. The purpose of this chapter is to provide an overview, first, of those schemes outside the UK that have become a reality, followed by one (Stockholm) in progress and two that have been considered but not implemented.

### The Singapore Area Licensing Scheme

Introduced in 1975, the Singapore Area Licensing Scheme (ALS) was the first true congestion charging scheme. Initially, most vehicles entering the Central Business District, or CBD (an area of some 610 hectares, 2.4 square miles) between 7.30am and 9.30am, Monday to Saturday, were required to display a supplementary licence costing S\$3.00 (£1.00); commercial vehicles and buses, as well as cars or taxis carrying at least 4 persons, were exempt. The supplementary licence was a paper sticker with date information clearly shown, colour-coded to indicate date or month, with shapes varying by vehicle class. Enforcement was by manual observation, from the roadside, of vehicles entering the scheme area, with possible violators traced through their licence plates.

Whilst the overall objective was to reduce traffic congestion within the CBD during the morning and evening peaks, four key requirements led to the selection of the ALS from other possibilities.

- 1 The economic life and vitality of the CBD had to be maintained, whilst discouraging car use by commuters.

- 2 The use of cars should be discouraged only at specific times and places.
- 3 The scheme should be easy to implement and enforce.
- 4 Efficient and reliable transport alternatives, better than the standard commuter buses, should be available (Watson and Holland, 1978).

Introduction of the ALS was accompanied by increased parking charges within the charged area; all commercial car park operators were required to charge at least as much as public car parks, and the rates were designed to favour short-term parking. In addition, two air-conditioned coach services were introduced as well as a Park-and-Ride scheme with 10,000 car parking spaces just outside the Scheme area and bus services to major CBD destinations. The S\$30 per month Park-and-Ride charge compared with S\$60 for a monthly Area Licence. Shortly after charging commenced, the charged period was extended to 10.15am, the exemption for taxis withdrawn, and the cost of a daily licence for cars raised to S\$5.00. The Park-and-Ride and air-conditioned coach services were withdrawn due to limited demand. With a penalty charge of S\$50 (compared with the S\$60 monthly licence), compliance was high. The amended scheme gave a 44 per cent reduction in traffic, with a 13 per cent increase in the 30 minutes before and a 10 per cent increase in the 30 minutes after the charged period.

Over the following 20 years, the ALS evolved in a number of directions, and by the time it was replaced by Electronic Road Pricing in 1998, the key features were as shown below:

- 1 Hours of operation:
  - (a) full licence: 7.30am–6.30pm, Monday to Friday; 7.30am–2.00pm, Saturday;
  - (b) off peak licence: 10.15am–4.00pm, Monday–Friday; 10.15am–2.00pm, Saturday.
- 2 Charge rates:
  - (a) full licence: S\$3.00 (£1.10); S\$6.00 for company-owned cars;
  - (b) off peak licence S\$2.00.
- 3 Vehicles exempt: buses, police and emergency vehicles.

In addition, a peak hour scheme had been introduced on the East Coast Parkway, as a trial in advance of Electronic Road Pricing.

The ALS was one element of a comprehensive transport policy (see, e.g., Willoughby, 2000). Other elements included those shown below.

- 1 Substantial taxes on car ownership, to constrain growth. From 1990, these included bidding under a quota system for the purchase of new vehicles that typically added some S\$45,000 (£17,000) to the cost of a new car (Olszewski and Turner, 1993; Santos, Li and Koh, 2004).
- 2 Investment in public transport, with the construction of a mass transit rail network, upgrading of the bus system and the introduction of a system-wide stored value magnetic travel card.
- 3 Investment in the strategic highway network and traffic control systems.

### **Electronic Road Pricing in Singapore**

As Singapore became more affluent, so more of its citizens wanted to own a car, even if they made only limited use of it. One policy option was to reduce ownership taxes and increase usage charges for those times and on those parts of the network most susceptible to congestion. However, the ALS scheme had been developed as far as was practically possible. In the early 1990s, the government initiated studies for Electronic Road Pricing (ERP). In developing the approach, a key requirement was that users should be aware of the cost of each transaction as it was made, leading to the rejection of billing in arrears. In addition, use of a 'cash' smartcard (from which the charge could be deducted) would be consistent with a wider government policy to move towards a cashless society (Menon and Chin, 1998).

Although the basic components of an ERP system were available, they had not been used in the context of an ERP scheme. The government therefore decided to award contracts to consortia to develop and test prototypes of their particular system. Bids were invited against a functional specification, and three contracts were awarded. Each contractor was paid S\$1.5 million (£500,000) to demonstrate their system in an extensive and demanding series of trials. Among the requirements was that charge transactions could be completed, with high levels of integrity, at high speeds across the full width of the highway, without vehicles (particularly motorcycles) being able to hide alongside or behind high vehicles (such as double-decker buses) or behind long vehicles. The S\$1.5 million paid to the contractors met only part of their costs; the extra costs were evidently justified by the hoped-for returns, in Singapore and elsewhere. On completion of the trials, one contractor was invited to submit a complete system design, and to subject a pre-production system to further exhaustive trials. This arrange-



ment proved very useful, in that it identified a number of problems which would have caused operating difficulties had they been present in the production system. The implementation contract was awarded in 1995, subject to satisfactory completion of the pre-production trials, and the scheme commenced operation in 1998.

The charge system consists of four key elements:

- the in-vehicle unit, the IU (or OBU – on-board unit – as it is known in some other systems)
- a stored value smartcard, the CashCard
- the roadside equipment
- the control centre

The IU, a DSRC tag attached to the vehicle's windscreen or on the handlebars of motorcycles, is coloured to differentiate between vehicle types. When a journey is subject to the charge, the user inserts a CashCard in the IU. The CashCard is issued by a consortium of banks and can be used for a variety of other payments, and the balance can be increased at ATM facilities across the city. Exempt vehicles are required to have special IUs that do not require a CashCard. The specification required that IUs should:

- (a) be permanently fixed to the vehicle and be fitted within 20 minutes;
- (b) draw power from the vehicle's battery (dry cell batteries proved unreliable in the high temperatures experienced behind windcreens);
- (c) complete a self check, including the CashCard, when the vehicle is switched on, and provide fault alerts;
- (d) advise the driver of the CashCard balance when inserted, and after each transaction;
- (e) warn the driver when the CashCard balance is low;
- (f) use audible signals to complement visual messages.

Much of the roadside equipment is mounted on three gantries across the road at each charge point (see Figure 3.1). The first stage of the process at a charge point is to recognize the presence of an IU and its class, when an instruction is issued to the IU to debit the appropriate charge from the CashCard. The debit process is undertaken before the vehicle passes a second gantry, where the IU is interrogated to confirm successful completion of the debiting process. Successful completion is accompanied by a short bleep; the new CashCard balance is shown on

the IU; and details of the transactions are transmitted to the control centre. A failed transaction, due to the absence of a CashCard or an insufficient credit balance, is indicated by a long bleep and the display of an error message, and the vehicle's rear licence plate is photographed, which is also the case if the vehicle has a faulty or no IU. This image, together with information on the transaction, is transmitted to the control centre for analysis and action. The process is managed by a local computer, the outstation, at the roadside. At the end of each day, the total value of transactions is transferred from the CashCard issuers to the charging agency, the government's Land Transport Authority.

The total cost of implementing ERP was some S\$200 million (£70 million), of which half was for the IUs, and the balance for the gantries, outstations and central control system. Fitting the entire stock of some 700,000 registered vehicles with IUs at 200 fitting stations took ten months; foreign vehicles visiting Singapore hire temporary IUs. To spread fitting, and avoid a last minute rush, each vehicle was allocated a specific month in which its IU had to be fitted. Given the delay between fitting the first vehicles and commencement of charging, for the three months prior to charging most charge points were operating with zero charge. Owners identifying problems were encouraged to have their IU and CashCard checked. Although the fitting process had alerted all vehicle owners to the introduction of ERP, there was also an extensive publicity campaign prior to the start of ERP, which was initiated at two points on expressways on 1 April 1998. The initial scheme, including the CBD, was fully operational by 1 September 1998. This was expanded later to include other expressways and arterials, to a total of 45 charge points; 28 for the CBD scheme and 17 on six expressways and arterial roads.

For the CBD, the system operates as an entry (or cordon) charge and as a point charge on all other roads. The CBD charge applies for the whole day, Monday to Friday, 7.30am to 7pm, with, currently, a free window between 10am and 12 noon, and between 7.30am and 9.30am on expressways and arterials. The level of charge varies by vehicle type, reflecting the impact of the vehicle on traffic capacity, with motorcycles having the lowest charge and 'very heavy goods vehicles' and 'big buses' the highest. In August 2003, the peak charge for entering the CBD was S\$1.25 for motorcycles, S\$2.50 (£0.90) for cars, S\$3.75 for heavy goods vehicles and S\$5.00 for very heavy vehicles.

Users rapidly became accustomed to the system and, by the end of the first year, the proportion of violations had fallen from an initial 0.44 per cent to 0.26 per cent, with 84 per cent of violators not having a CashCard in the IU (Menon, 2000). Although users had to pay each

time they entered the CBD, rather than paying a single ALS charge for the whole day, initial revenues were down by 40 per cent relative to the ALS scheme. In part this was because those entering the CBD only once a day paid less, and in part because ERP did not apply on Saturdays. Menon suggested this served to prove the government's objective of seeking to manage congestion rather than maximize revenues.

The introduction of ERP provided considerable flexibility in the charging structure across the island. Rather than a single CBD charge, charges now vary between entry points, with higher charges at those with greater congestion. They also vary by time of day, with charges increasing in steps during the build-up to a peak, and then decreasing. Charges are reviewed every three months, with the target of achieving an average speed on expressways of between 45 kph and 65 kph, and of between 20 kph and 30 kph on arterials and within the CBD. The flexibility of the system is shown in Table 5.1, which gives the charges for cars to enter the CBD at most entry points. The current charges are displayed on variable message signs at charge points.

*Table 5.1* Singapore CBD entry charges for cars (at most charge points), August 2004

|              |                 |                 |                 |                 |                 |                 |                 |                 |
|--------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Time period  | 07.30–<br>08.00 | 08.00–<br>08.05 | 08.05–<br>08.30 | 08.30–<br>09.00 | 09.00–<br>09.25 | 09.25–<br>09.30 | 09.30–<br>09.55 | 09.55–<br>10.00 |
| Charge(\$\$) | 0.00            | 1.00            | 2.00            | 2.50            | 2.00            | 1.50            | 1.00            | 0.50            |
| Time period  | 10.00–<br>12.00 | 12.00–<br>12.30 | 12.30–<br>17.30 | 17.30–<br>18.00 | 18.00–<br>18.25 | 18.25–<br>18.30 | 18.30–<br>18.55 | 18.55–<br>19.00 |
| Charge(\$\$) | 0.00            | 0.50            | 1.00            | 1.50            | 2.00            | 1.50            | 1.00            | 0.50            |

*Source:* Land Transport Authority (2004).

The introduction of ERP was complemented by a reduction in the annual Road Tax and an increase in the import quota for new vehicles, thereby reducing the cost of purchase. The government is considering the use of a GNSS/GPS-based charging system for a third generation congestion of charges.

## Norway

Urban road pricing was first introduced in Norway in 1986, in Bergen, which was followed by a number of other cities. However, unlike Singapore and London, the primary purpose of these schemes was to raise funds for investment in local highways rather than to control congestion. Indeed, while tolls are permitted under Norwegian legislation to

raise funds for investment, they are not allowed to be used to regulate traffic (Skogsholm, 1998).

Building on a well-established practice of toll financing for highway projects, in 1986 the city of Bergen introduced a 'toll ring' to raise funds to complete a highway programme which it was estimated would take 30 years to complete with conventional funding. With funds raised through tolls matched, Kroner for Kroner, by the government, the programme could be completed within 15 years (Larsen, 1988). Tolls were charged as vehicles approached the city, between 6am and 10pm, Monday to Friday. They were paid either in cash at a toll booth or by purchasing a supplementary licence. Given the objective of fund raising, rather than congestion management, single trip charges for cars were set at a relatively low level of NOK5.00 (£0.45) in 1986 prices, while an annual pass cost NOK1,100 (£100) for cars and NOK2,200 for heavy goods vehicles. Only scheduled buses were exempt from the charge. The net impact was a reduction in traffic during the hours of operation of between 6 per cent and 7 per cent. Ramjerdi (1994) estimated the capital and annual operating costs represented some 19 per cent of revenues, while Gomez-Ibanez and Small (1994) put them at 17.6 per cent.

Bergen was followed by Oslo in 1990 and Trondheim in 1991. Both had similar objectives to Bergen, the funding of a package of transport improvements, but 20 per cent of the Oslo package was for public transport improvements, and many of the highway schemes were designed to take traffic away from city streets. One major project was financed in anticipation of the toll revenues and opened two weeks before charging started. The Trondheim package also included public transport improvements, as well as facilities for pedestrians and cyclists. Two other cities, Kristiansand and Nord Jæren, have since implemented toll rings to finance transport projects, and the isolated city of Tromsø (in the far north) introduced a fuel tax surcharge. Initially set at NOK0.50 (£0.04) per litre in 1990, it was increased to NOK0.65 per litre in 1996.

Both Oslo and Trondheim commenced operations with EFC allowing non-stop operations for vehicles with tags. The costs of toll collection are 19 per cent of revenues in Oslo and 17 per cent in Trondheim (Ramjerdi, 1994). Whereas Oslo offered an annual pass, the Trondheim system was more like a congestion charging scheme, with users paying for each trip (those with tags pay for a maximum of 75 trips a month); charges vary between the morning peak (6am to 10am) and the rest of the day (10am to 5pm). The base charge for a car in Oslo is NOK11 (£1)

and NOK10 (£0.90) in Trondheim. Oslo offers a bulk purchase option, with 350 cordon crossings for NOK2,700 (£245) or 25 crossings for NOK240. The Trondheim scheme had a relatively large impact proportionally on shopping trips, with retailers extending open hours beyond the end of the charged period (Gomez-Ibanez and Small, 1994), although Ramjerdi reported the overall impact on traffic as 'quite small', and that for Oslo as some 10 per cent (Ramjerdi, 1994).

The first Bergen scheme, set up for 15 years, from 1986 to 2001, was deemed successful, and a new scheme was agreed, running for ten years from 2002. The basic toll was increased to NOK15 (£1.30), and only 45 per cent of the net revenues were to be dedicated to highway schemes. The first Oslo package had a life of ten years and has been succeeded by a new tolling agreement, running to 2011, with the net revenues dedicated entirely to public transport investment (Tretvik, 2003). The Trondheim scheme was revised in 1998, and is due to be terminated in 2005, when it is expected to be followed by a new toll-financed package of transport improvements.

That these schemes have proved politically and publicly acceptable is demonstrated by the decisions to renew the original Bergen and Oslo schemes. However, the switch in emphasis in the use of net revenues from highways to public transport in the new schemes is significant, and legislation to permit congestion charging has become a possibility (Norwegian Government, 2002).

Although the schemes have proved acceptable, they are not necessarily popular. A large majority of residents of Bergen, Oslo and Trondheim were against the schemes before they commenced, but opposition became significantly less once they had become established. In Bergen and Trondheim this moved to a small margin in favour of the toll ring, whereas a consistent net negative attitude continued in Oslo, with a major increase in the difference in 2001, the year the new scheme was finalized (Tretvik, 2003). In Oslo, in 2002, the generation of funds was the most common reason for a positive attitude, with the effect of limiting traffic within the city the second most common. Unfairness for motorists was the leading reason for a negative attitude; most other reasons related to the impacts of toll collection, including its inefficiency as a way of raising funds and the delays created.

## **Rome**

Rome first introduced an access control system for the historic core of the city (4.6 sq. km) in 1989, when vehicular access was limited to

residents and some other classes of user. In 1998, authorized non-residents were required to pay for annual permits, costing the equivalent of an annual public transport pass; disabled users and some service vehicles are granted free access. The system was upgraded in 2001, when DSRC tags replaced the permits, and Automatic Number Plate Recognition was introduced for enforcement (Progress, 2003). Access is controlled through 23 entrance gates, on weekdays between 6.30am and 6pm, and on Saturdays between 2pm and 6pm. In total, some 70,000 vehicles enter the controlled area each day, with 30,000 vehicles registered by residents, 50,000 by disabled users and 30,000 by service operators with free access; in addition, 29,000 authorized individual and 8,000 freight delivery vehicles pay for access.

### **CityLink, Melbourne, and Highway 407, Toronto**

Although not a congestion charge, the privately funded, toll-financed CityLink in Melbourne is of relevance here because it operates a free flow EFC tag toll collection system for regular users, whilst permitting occasional users to register for recognition using ANPR, an arrangement which could be used for congestion charging schemes. To encourage use of the tags, for which there is a charge per trip, a maximum of 12 day passes a year are allowed for any vehicle (CityLink, 2004). Like Melbourne's CityLink, the privately financed 407 ETR (Electronic Toll Road) in Toronto provides a choice between EFC tags and ANPR, with a C\$3.35 (£1.50) transaction charge for each ANPR transaction, but no limit on the number of transactions a year (407 ETR, 2004).

### **The USA: value pricing**

As noted in Chapter 2, the principle of value pricing has been adopted in the USA, based on the general principle of charging low occupancy vehicles a toll for the use of lanes otherwise reserved for high occupancy vehicles (HOVs) but which are underutilized (the so-called HOT, or High Occupancy Toll, lanes).

The first such scheme was the privately financed provision of additional, tolled, 'express' lanes over 16 miles (26 km) of SR91, in Orange County, California. Four new lanes opened in 1995 can only be used by vehicles equipped with a FasTrak tag enabling automatic payment of a toll. The toll rates, which vary by time of day and day of week, are fixed in advance, based on experience, at a level intended to maintain the targeted level of service. Vehicles with three or more occupants

travel free. Thus, SR91 users have the choice between paying a toll to avoid congestion and travelling for free on the 'public' lanes. Although expected to be predominantly used by high income drivers, experience indicates that the Express Toll lanes are used by a broad cross-section of the community; although those in higher incomes are more likely to use them frequently than those on lower incomes, there is little difference between those with lower or mid-range incomes (Sullivan, 2000).

Tolls on a later, public, scheme, the *FasTrak* HOT lanes on I-15 in San Diego, are determined dynamically, and can be adjusted every 6 minutes based on traffic conditions, with the intention of controlling access to maintain free flow (DoT, 2000). Another HOT lane scheme on the Katy (I-10) freeway in Houston, Texas, replaced overutilized HOV lanes for vehicles with two occupants with a requirement for three or more occupants for free use and tolls for vehicles with two occupants; single occupancy vehicles are not allowed to use the HOT lanes.

Another form of value pricing is variable tolls, with rates varying by time of day. These have been introduced for a number of facilities including Dulles Greenway in Virginia, Cape Coral and Midpoint Memorial Bridges in Lee County, Florida, and the George Washington, Goethals and Bayonne Bridges, the Lincoln and Holland Tunnels and the Outerbridge Crossing in New York (Value Pricing, 2004). In 2004, the Dulles Greenway has a directional peak surcharge of between 15 per cent and 20 per cent, applying between 6 am and 9 am eastbound, and 4 pm and 7 pm westbound.

With the underutilization of HOV lanes in many US urban areas, growing demand and limited funds for the construction of additional capacity, the concept of HOT lanes is likely to become a very much more widely used measure (FHWA, 2003). Schemes are planned in several states including Minnesota (I-394) and Virginia (I-95 and I-495).

### **Variable tolls, elsewhere**

Varying tolls by time of day and day of the week has also been used elsewhere to influence travel decisions. Examples include the A1 motorway north of Paris, the A14 west of Paris, Highway 407 in Toronto, and the UK's M6Toll. On the A1 in France, tolls are increased by 25 per cent on Sunday evenings between 4.30 and 8.30pm (when there is a peak in traffic returning to Paris at the end of the weekend), and a 25 per cent discount applies between 2.30 and 4.30pm and 8.30 and 11.30pm, whilst on the A14 the base 2004 toll of €6.50 is reduced

to €4.50 between 10am and 4pm, and from 8pm until 5am on weekdays. On Highway 407 the 2004 per km toll rate for cars was C\$0.1395 in the weekday morning and evening peaks, and C\$0.1310 off-peak. On the M6Toll, which provides a tolled alternative to the free M6 (which is heavily used throughout the day), the 2004 charge for cars during the day was £3 and £2 during the night.

### **Europe: trucks**

Concerns about the wear on German roads caused by international traffic that made no financial contribution to their costs led to a European Union agreement that countries could charge for the use of motorways by heavy trucks (EC, 1999), although under the rules of the Common Market any charge also had to apply to vehicles from the host nation. Some EU countries initially adopted a paper vignette, but both Germany and Austria decided to move to electronic distance-based charging, as has Switzerland. As described in Chapter 14, the UK is planning to introduce a distance-based lorry charge in 2008; Sweden also has plans for distance-based charging. Whilst the initial EU Directive only allowed for charging vehicles of at least 12 tonnes, it is proposed to extend the regulations to include vehicles in excess of 3.5 tonnes and to extend the network on which charges are permitted (EC, 2003).

The Swiss scheme, LSVa, started in January 2001, with all lorries over 3.5 gross tonnes weight (gtw) being charged for every kilometre driven, regardless of type of road, with the charge dependent on weight and emissions (LSVA, 2004). As a complement to the charge, the maximum vehicle weight was increased from 28 to 40 gtw. The initial base charge per tonne per km varied between 2.00 Swiss cents (€0.38) for a EURO 0 truck (i.e., with relatively high emissions) through 1.68 cents for a EURO I to 1.42 cents (€0.27) for a EURO II or III truck, increasing in steps until 2007, with the 2005 rates set at Swiss cents 2.88, 2.52 and 2.15 per tonne per km respectively for EURO 0, I and II and III engine trucks. The charges are designed to cover the full external costs of truck use, with the weight and emission based components proportional to their relative contributions to those costs.

Installation of an OBU is compulsory for all Swiss-registered trucks, and optional for foreign vehicles. The OBU, which is connected to the vehicle's tachograph, measures the distance driven, which is verified using satellite positioning, and is switched on and off by a microwave signal when the vehicle enters or leaves Switzerland. The distance



driven is recorded on a smartcard, which the operator either downloads or posts to Swiss Customs each month. Foreign vehicles without an OBU book their journey at terminals at the border, giving payment details and the weight and emissions class of the vehicle. On leaving Switzerland they must demonstrate that the correct charge has been paid, checked against their odometer: payment can be by credit or fuel card, or cash, with an extra charge for cash transactions.

The combination of the charge and increase in maximum weight led to a 4 per cent reduction in truck traffic in 2001, 3 per cent in 2002 and a steady state in 2003, compared with a previously steady 7 per cent annual increase. The cost of collecting the charge is some 7 per cent of gross revenues. One-third of the net revenues are allocated to the cantons, and the balance to financing rail modernization.

The Austrian system was introduced in January 2004, some 12 years after the initial feasibility study and a government decision, in principle, in 1995. Charges apply to all vehicles in excess of 3.5 gtw using the motorway system (extending the charge more generally would not accord with current EU legislation). The charge, which is in addition to existing tolls on some motorways, varies by the number of axles, from €0.13/km for 2 axled vehicles to €0.273/km for those with 4 or more axles. An OBU, which all lorries (Austrian and foreign) are required to fit at a cost of €5, captures journey details and transmits them to receivers located between motorway junctions, using DSRC technology. The OBU can be purchased at some 230 locations (many of which are automatic vending machines). Either they are pre-loaded with credits from which the charges are deducted or they allow for the direct debiting of charges from the vehicle operator's bank account. Charges are enforced through a combination of fixed and mobile stations, and 'floating' vehicles. A €220 penalty ('substitute toll') is incurred for each period of up to 5 hours (from the time of the first non-payment) for which an OBU is either not fitted or not functioning, and €110 if an OBU for the wrong vehicle type is in use (GoMAUT, 2004). In the first few months the violation rate was less than 2 per cent. Although there were some offsetting tax cuts, net truck operating costs have increased. Overall, there has been some diversion of international traffic around Austria and a small diversion from motorways to other (free) roads. The cost of collecting the charge is estimated to be between 10 per cent and 15 per cent of gross revenues. Net revenues contribute to financing the motorway system.

Germany had intended to introduce a distance-based lorry road user charge, *lkw-maut*, in August 2003, using GPS. However, after consider-

able technical difficulties (attributed, in part, to overcomplexity), the cancellation and the reinstatement of the contract with the Toll Collect consortium for the provision and operation of the system, charging commenced on 1 January 2005 with a reduced specification; with the full specification scheduled for 2006 (Toll Collect, 2004). The delays in implementation led to €4.5 billion of damage claims by the German Government against Toll Collect (*Financial Times*, 2005).

Charges are limited to motorways (with some sections excluded), and only apply to vehicles of 12 gtw and over. They vary from €0.09 to €0.14 per km, depending on emissions and the number of axles. Users have two basic payment options: to install an on-board unit (users have to pay the installation costs) which computes the charge, using GPS to record the distance travelled on the motorways, which is transmitted to the charging authority by cellular (GSM) telephone; or to book and pay for their motorway journey in advance, either through 3,500 terminals located near motorway access points and at service stations or, for registered users only, over the Internet. The system is enforced through 300 fixed points and 300 mobile teams on the highway and through visits to transport depots. If a fee has not been paid and the distance travelled cannot be determined, a charge equivalent to a 500 km trip is levied.

It is intended that introduction of the charge will be complemented by offsetting tax cuts, although these are unlikely to fully offset the new charge. The cost of collecting the charge is estimated to be about 20 per cent of gross revenues. Net revenues are to be used to fund transport infrastructure (mainly highway) improvements.

### **Australian parking place levies**

In both Sydney and Perth, levies are charged on non-residential parking spaces, with a number of exceptions and adjustments. The Sydney levy was introduced in 1992 to discourage car use in business districts, and is used to finance, develop and maintain infrastructure that facilitates access to and encourages the use of public transport to and from the business districts where the levy applies (OSR, 2004). The 2003/4 annual rate for the central areas was AU\$840 (£350) and for outlying business districts AU\$420; the rate became index linked in 2003/4. Owners of premises with parking spaces are required to register them, and to submit an annual return for those subject to the levy. The Perth levy, introduced in 1999, applies to non-residential properties within a defined Parking Management Area and the proceeds are

used '*primarily to operate and expand the popular Perth CAT bus system that provides a convenient, quality service for those who visit or work in the city*' (DPI, 2004). The 2004 annual levy for short-stay public parking was AU\$160 (£65) and that for long-stay public and tenant parking was AU\$185 (£75). Property owners are required to register parking spaces, and are sent an annual assessment.

## **Stockholm**

Following the publication of various plans for Stockholm, as well as Gothenburg and Malmö, in which road pricing was one element, in 1990 the Swedish Government appointed a negotiator for each city to seek a local consensus on transport policy. The negotiator for Stockholm was Bengt Dennis, Governor of the Bank of Sweden. Working with the political leaders in the city and county he drafted an initial plan, on which there was broad agreement. Continuing to develop the plan with the three major political parties, three key elements emerged on which he could not secure agreement, with one of each of the parties objecting to one element. Two were specific road schemes, while the third was road pricing, which the Social Democrats and Liberals accepted but the Moderates rejected.

After local elections, Dennis recommenced his negotiations and by September 1992 had reached agreement with all three parties on a package in which road pricing would be used to fund road construction as well as to constrain traffic within the inner city. Overall, the Dennis Agreement provided for the investment of SEK36 billion (£3.4 billion) in 1992 prices over the period 1992–2006; 45 per cent of this was for public transport and the remainder for roads, with road user charges funding almost all the investment in roads, using charges on a cordon within the Ring Road and on a new Outer Western Orbital (Gomez-Ibanez and Small, 1994; Johansson and Mattsson, 1995). However, this carefully negotiated agreement began to fall apart, and in 1997 the Government formally withdrew its support, due, in part, to growing opposition to the road plans as well as changing political priorities and balances (Peterson, 1999).

By 2003, however, charging was back on the political agenda. In June 2003, Stockholm City Council decided to introduce a pilot environmental charging scheme for one year, starting in 2005, and had obtained the necessary legislation from Parliament by June 2004 (Stockholm, 2004). However, implementation was delayed as a result of a legal challenge about the award of a key contract.

The objectives of the scheme are to:

- reduce traffic on the most heavily used routes by 10–15 per cent, and to increase average speeds
- reduce emissions in the inner city
- provide an improved street environment
- provide additional resources for public transport

The pilot scheme is single cordon, encompassing the inner city, with charges for both entry and exit on weekdays between 6.30am and 6.30pm, and a charge varying between SEK10 (€1.10) in the off-peak and SEK20 (€2.20) in the peak, with a shoulder charge of SEK15 (€1.65), and a maximum total charge of SEK60 (€6.50) per vehicle per day. Net revenues are to be invested in public transport and infrastructure associated with the pilot, with no reduction in government funding. Exemptions include motorcycles, taxis, buses on scheduled services, school buses, vehicles with disability permits, transport services for the disabled, tax-exempt vehicles, emergency vehicles and low emission vehicles. On completion of the pilot, there will be a referendum in 2006 to determine the future of charging in the city.

## **Hong Kong**

The main urban areas of Hong Kong, along the north shore of Hong Kong Island and on the Kowloon Peninsula, are tightly constrained by topography and the sea. Developers have responded by building up, intensifying the problems of providing good quality, uncongested transport. Accepting a need to restrain growth in traffic, and having concluded that a Singapore-style Area Licence was not appropriate to Hong Kong's particular circumstances, in 1982 the government doubled the First Registration Tax on new cars to between 70 per cent and 90 per cent of the import price depending on engine size; they also tripled annual licence fees and doubled fuel taxes. Helped by an economic downturn, car ownership fell by 42 per cent from 1981 to 1984, although car use fell by only 22 per cent, indicating that many of the cars disposed of had limited use.

Recognizing that these new taxes were blunt, and had a greater impact on those in the rural areas where incomes tended to be lower, with little congestion and a greater need for cars than within the urban areas, in 1983 the government initiated the Hong Kong Electronic Road Pricing (ERP) Pilot Project. This had two main components, the

technology of charging and the design and assessment of possible charging schemes (Dawson and Brown, 1985). For the technology element, a decision was taken to undertake proving trials with an 'electronic number plate' (ENP) very similar in concept to that demonstrated by Vickrey to the US Congress in 1959 (see Chapter 2), and a precursor of the modern DSRC tag. By current standards the device was large and fairly simple. Welded to the underside of a vehicle's chassis, the ENP had no internal power, being activated by low frequency radio waves generated by loops buried in the road surface and transmitting its identity to receivers, also buried in the road surface. The trials proved that the equipment could be expected to work satisfactorily (Catling and Harbord, 1985).

The technology required the charging schemes to be point based, and a wide variety of possibilities were examined, leading to the selection of a cellular structure, for which three options were studied in depth (Harrison, 1986). The most complex, with thirteen cells, 185 charge points and peak hour directional surcharges, had the greatest impact on traffic, with estimated reductions in car travel of 24 per cent during the peaks and 13 per cent over the whole day (Transpotech, 1985). Higher car ownership charges were found to have a similar overall effect on peak hour traffic, and a greater effect on total daily traffic, but the reductions were not focused on the congested urban areas. All the options considered would provide substantial net revenues.

Arguing that the intention was not to increase net revenues from motorists, the government presented ERP as *A Fair Way to Go*, with congestion charging complemented by reductions in vehicle taxation to give a revenue-neutral package. Car owners outside the urban areas who never drove within the urban areas and those within the urban areas who did not use their cars during the working day would benefit from reduced costs, while those driving to Hong Kong's Central District in the peak would incur a substantial increase in costs. However, the proposals were not well received, and were ultimately rejected (see, e.g., Dawson, 1986; Gomez-Ibanez and Small, 1994).

The reasons for rejection were complex; whilst privacy was one of the key issues, some were unrelated to the principles of congestion charging. In parallel with the ERP study, negotiations between Britain and China had led to the agreement under which the whole Territory would become Chinese in 1997. In preparation for the transfer, some of the members of the previously appointed District Boards were directly elected in 1982, becoming the first directly elected representatives within the government, which was also committed to increased

consultation with the District Boards. Accordingly, the government consulted on the ERP schemes with the District Boards before presenting the final report to them in June 1985. With ERP one of the first policy issues put to them some were determined to demonstrate their independence; 11 of the 19 Boards formally voted on the proposals, of which nine voted against and two voted for a delay in implementation, and none of the others was thought to support the proposals. In the light of these responses, and faced with an economic downturn whilst benefiting from the continuing effects of the increase in vehicle taxation as well as increases in capacity through expansion of both the Mass Transit Railway and highway networks, the government shelved the scheme.

The concept was revived a few years later as part of Hong Kong's Second Comprehensive Transport Study. Although the government decided that ERP should only be a longer-term option, by 1994 it was, once again, becoming increasingly concerned about traffic congestion, and published a discussion paper *Traffic Flow or Gridlock: The Choices We Face*, which outlined possible policies for the short, medium and longer term (Transport Branch, 1994). The only option put forward for the longer term was Electronic Road Pricing, and in 1997 the government commissioned a second ERP study, with the objective of '*examining the practicability of implementing an ERP system in Hong Kong and assessing the need for such a system to meet transport objectives*'. The study had three main foci; the design and assessment of possible schemes, identification and field evaluation of a preferred technology option, and management of scheme implementation and operation.

The technology studies identified two options, a DSRC tag-based system and a GPS-based system. Field trials proved both functioned satisfactorily, but there were concerns about the roadside equipment required for the DSCR tag, including possible difficulties in adapting the system to meet changing needs (such as integration with other ITS, Intelligent Transport Systems, applications) and installation difficulties due to the density of underground utilities. Although a GPS-based system was expected to be more expensive initially, it was likely to be more readily adapted to meet future needs, including integration with other ITS functions, and GPS equipment costs were expected to fall. The study concluded that GPS was the preferred option, with implementation taking about six years, compared with five for a DSRC tag-based system.

Although a GPS-based system would permit a distance-based charge, a cordon system was preferred, with a single zone covering the main

business area along the north shore of Hong Kong Island. Charging would be directional (inbound in the morning and outbound in the afternoon/evening), with higher charges during the peaks. However, it was thought unlikely that there would be a need for ERP on Hong Kong Island before 2006 and that the need thereafter would depend on public acceptability, the growth in vehicle ownership, and highway and public transport improvements, but that the need would diminish in 2010, when a major new road, the Central Wanchai Bypass, was due to be completed. No need for ERP in Kowloon was expected before 2011.

Having deferred a decision on implementing ERP for some years, the government decided to progress an ITS strategy, which includes driver information, parking, highway toll collection and public transport fares, with which a future congestion charging system would have to be compatible (Transport Department, 2001).

## The Netherlands

Proposals for the introduction of road pricing in the Netherlands were first developed in 1987, as part of a plan for the Randstad, the densely developed western part of the country, including Amsterdam, The Hague, Rotterdam and Utrecht. As a part of the proposals, in the development of which the Transport Minister had played a leading role, a target was set of limiting the growth in car use by 2010 to 35 per cent. Other objectives included reducing environmental impacts and raising finance for new infrastructure. A scheme, *Rekening Rijden*, was developed with a series of cordons across the Randstad, designed so that most trips longer than 7.5 km would be charged at up to Df13.00 (£0.90) in peak periods but as little as Df10.30 off-peak. The charges would be collected using a tag-based electronic charging system. To provide privacy, it was planned that a stored value smartcard, similar in concept to that applied later in Singapore, would be used (Stoelhorst and Zandbergen, 1990). Charges of Df12.50 in the peak and Df11.50 off-peak were expected to reduce peak traffic by 17 per cent and total traffic by 7 per cent (Gomez-Ibanez and Small, 1994; Pol, 1991).

The original *Rekening Rijden* scheme was abandoned in 1991 when it met strong opposition on various grounds, including paying for something that was seen as previously being 'free' and concerns about secondary effects, privacy and the technology, the last reflecting the failure of a major public sector computerization project. It was replaced with a simpler scheme, *Project Tollheffing*, with tolls charged for use of

major highways, and net revenues invested in roads, allowing the government to increase tax-based expenditure on public transport. Concerns about the land required for the toll plazas and diversion of traffic to untolled roads created strong resistance, and that proposal was dropped, to be followed in 1993 by a proposal for a supplementary peak period licence, the *Spitsvignet*. However, based on an annual charge, its impact would be limited, as there would be no change in the marginal cost for individual trips, and although it had been agreed by the government, a new coalition that took office after elections in May 1994 chose not to pursue it.

Despite all the setbacks, work on road pricing options continued, leading to the development of a new *Rekening Rijden* scheme, with toll cordons around all the major cities of the Randstad, preceded by a pilot for Amsterdam and/or Utrecht. The charges would be paid by either a tag with a stored value smartcard or retrospectively through the identification of vehicles using Automatic Number Plate Recognition, as later used for the London scheme. With extensive opposition led by the Dutch motoring organization, the ANWB, which launched a major *Stop Rekening Rijden*, and supported by a major newspaper, *De Telegraaf*, this became another failed endeavour to introduce road pricing (Boot, Boot and Verhoef, 1999).

In parallel with the toll cordons, proposals were also developed for a distance-based charge using the *Mobimeter*. The rationale for this was that the initial and annual car taxes were not related to use, and while fuel tax is, the ease of cross-border forays to refuel undermines the effectiveness of differentials between The Netherlands and its neighbours, Belgium and Germany. A distance-based charge, which could vary by time and location, would replace the fixed taxes and be an alternative to fuel taxes, in part at least. Research indicated that a charge of €0.062 per kilometre would reduce car use by 19.6 per cent (Boot, Boot and Verhoef, 1999). With plans advanced for the involvement of private sector operators in the provision of the in-car equipment and infrastructure, the scheme was abandoned following a general election, and the formation of a new coalition government.

After 15 years of plans and detailed technical studies covering a range of different road pricing mechanisms, and political agreement followed by political rejection, contributing to the collapse of some government coalitions, road pricing is very definitely off the political agenda in The Netherlands for the time being. Even though the Ministerial backing for charging has, at times, been strong, it has not yet been strong enough to obtain the necessary sustained backing of



the various ruling coalitions in the face of public opposition. But in a country that is particularly environmentally aware, which is the home of traffic calming and 'home zones' and which has a good public transport system, the possibility of charging is not completely dead.

### A commentary

Road pricing has been part of Singapore's comprehensive transport policy, designed to provide a high quality transport system, avoiding the inefficiencies and congestion endemic in the rest of the region, for three decades. It demonstrates what can be achieved with vision, strong leadership and political stability. The ERP system also demonstrates how road pricing can be used to manage flows across a network to conform with a network performance target. In the Norwegian cities, road pricing has been shown to be a powerful policy measure, linking charging with medium-term investment packages, and Austria and Switzerland have demonstrated the feasibility of distance-based charging schemes, at least for trucks. After a crucial setback, Stockholm has made the commitment to a pilot congestion charging scheme.

Elsewhere, despite detailed technical studies, the development of clear rationales and initial political support, changing political priorities and concerns about public opposition have eventually proved more pressing.

### References

- 407 ETR (2004). <http://www.407etr.com>.
- Boot, J., P. Boot and E. T. Verhoef (1999). 'The Long Road Towards the Implementation of Road Pricing: The Dutch Experience', paper presented at ECMT Workshop on Managing Car Use for Sustainable Urban Travel in Dublin, ECMT, Paris.
- Catling, I. and J. Harbord (1985). 'Electronic Road Pricing in Hong Kong: The Technology', *Traffic Engineering and Control*, Vol. 26, No. 12.
- CityLink (2004). 'CityLink Passes: terms and conditions', CityLink Melbourne, <http://www.citylink.com.au>.
- Dawson, J. (1986). 'Electronic Road Pricing in Hong Kong: Conclusion', *Traffic Engineering and Control*, Vol. 27, No. 2.
- Dawson, J. and F. Brown (1985). 'Electronic Road Pricing in Hong Kong: A Fair Way to Go?', *Traffic Engineering and Control*, Vol. 26, No. 11.
- DoT (2000). *Report on the Value Pricing Pilot Program*, Washington, DC: Federal Highway Administration, US Department of Transportation.
- DPI (2004). 'Licensed Parking in Perth', Department for Planning and Infrastructure, Government of Western Australia, <http://www.dpi.wa.gov.au/planning/parking/guide.html>.

- EC (1999). *Directive 1999/62/EC of the European Parliament and of the Council of 17 June 1999 on the Charging of Heavy Goods Vehicles for the Use of Certain Infrastructures*, Brussels: European Commission.
- EC (2003). *Proposal for a Directive of the European Parliament and of the Council Amending Directive 1999/62/EC on the charging of heavy goods vehicles for the use of certain infrastructures*, Brussels: European Commission.
- FHWA (2003). *A Guide to HOT Lane Development*, Washington, DC: Federal Highway Administration.
- Financial Times* (2005). 'Autobahn toll system under way 16 months late', 3 January.
- Go-MAUT (2004). [www.go-maut.at](http://www.go-maut.at).
- Gomez-Ibanez, J. A. and Small, K. A. (1994). *Road Pricing for Congestion Management: A Survey of International Practice*, Washington, DC: National Cooperative Highway Research Program, Synthesis of Highway Practice 210, Transportation Research Board.
- Harrison, B. (1986). 'Electronic Road Pricing in Hong Kong: Estimating and Evaluating the Effects', *Traffic Engineering and Control*, Vol. 27, No. 1.
- Johansson, B. and L. -G. Mattsson (1995). 'From Theory and Practice Analysis to the Implementation of Road Pricing: The Stockholm Region in the 1990s in Road Pricing', in B. Johansson and L. -G. Mattsson (eds), *Theory, Empirical Assessment and Policy*, Boston, MA: Kluwer Academic.
- Larsen, O. I. (1988). 'The Toll Ring in Bergen, Norway – the First Year of Operation', *Traffic Engineering and Control*, Vol. 29, No. 4.
- LSVA (2004). [www.lsva.ch](http://www.lsva.ch).
- Menon, G. (2000). 'ERP in Singapore – a Perspective One Year on', *Traffic Engineering and Control*, Vol. 41, No. 2.
- Menon, G. and K. K. Chin (1998). 'The Making of Singapore's Electronic Road Pricing System', in *Proceedings of the International Conference on Transportation into the Next Millennium, September 1998*, Singapore: Nanyang Technological University.
- Norwegian Government (2002). Improving the urban environment, *State Report No. 23 (2001–2002)*.
- Olszewski, P. and D. J. Turner (1993). 'New Methods of Controlling Vehicle Ownership and Usage in Singapore', *Transportation*, Vol. 20, No. 4.
- OSR (2004). *Parking Space Levy*, Office of State Revenue, New South Wales Treasury, <http://www.osr.nsw.gov.au>.
- Peterson, B. (1999). 'Eliminating Institutional and Organisational Barriers to Implementing Integrated Transport Strategies', paper presented at ECMT Workshop on Implementing Strategies to Improve Public Transport for Sustainable Urban Travel in Athens, ECMT, Paris.
- Pol, H. D. P. (1991). *Road Pricing: The Investigation of the Dutch Rekening Rijden System*, The Hague: Netherlands Ministry of Transport and Public Works (for a summary, see Gomez-Ibanez and Small, 1994).
- Progress (2003). [www.progress-project.org/Progress/rome.html](http://www.progress-project.org/Progress/rome.html).
- Ramjerdi, F. (1994). 'The Norwegian Experience with Electronic Toll Rings', in *Proceedings of the International Conference on Transportation into the Next Millennium, September 1998*, Singapore: Nanyang Technological University.
- Santos, G, W. W. Li and T. H. Koh (2004). 'The Case of Singapore', in G. Santos (ed.), *Road Pricing: Theory and Evidence*, Oxford: Elsevier.

- Skogsholm, T. (1998). 'Evaluating International Policy Objectives and Regulatory Approaches to Urban Traffic Control', address to Urban Transport Development and Financing Conference, Berlin, 10 December 1998.
- Stockholm (2004). [www.stockholm.se/miljoavgifter](http://www.stockholm.se/miljoavgifter).
- Stoelhorst, H. J. and A. J. Zandbergen (1990). 'The Development of a Road Pricing System in the Netherlands', *Traffic Engineering and Control*, Vol. 31, No. 2.
- Sullivan, E. (2000). *Continuation Study to Evaluate the Impacts of the SR91 Value-Priced Express Lanes, Final Report*, San Luis Obispo: CalPoly State University.
- Toll Collect (2004). [www.toll-collect.de](http://www.toll-collect.de).
- Transport Branch (1994). *Traffic Flow or Gridlock: The Choices We Face, and Report of the Working Party on Measures to Address Traffic Congestion*, Hong Kong: The Government Printer.
- Transport Department (2001). *A Smart Way to Travel and A Smart Way for Transport Safety and Efficiency: Final Report of the Intelligent Transport Systems Strategy Review*, Hong Kong: Government of Hong Kong.
- Transpotech (1985). *Electronic Road Pricing Pilot Scheme: Main Report prepared for Hong Kong Government* (for a summary see Gomez-Ibanez and Small, 1994).
- Tretvik, T. (2003). 'Traffic Impacts and Acceptability of the Bergen, Oslo and Trondheim Toll Rings', paper presented at the Theory and Practice of Congestion Charging: An International Symposium, Imperial College London, August 2003.
- Value Pricing (2004). <http://www.hhh.umn.edu/centers/slp/projects/conpric/index.htm>.
- Watson, P. and E. Holland (1978). *Relieving Traffic Congestion: The Singapore Area License Scheme*, World Bank Staff Working Paper 281, Washington, DC: The World Bank.
- Willoughby, C. (2000). *Singapore's Experience in Managing Motorization and its Relevance to Other Countries*, TWU Series 43, Washington, DC: Transport Division, The World Bank.

# 6

## A New Beginning: the Blair Government, Congestion Charging and a Mayor for London

### Introduction

For nearly 100 years, until 1986, London had a directly elected regional government: first the London County Council and from 1965 the Greater London Council (GLC). Ken Livingstone, a Labour left-winger, led the GLC after 1981. Accused of using the GLC *'as part of a political campaign both against the Government and in defence of socialists policies'* (*The Times*, 1983), Livingstone infuriated the Prime Minister, Margaret Thatcher, often stressing his point through large banners on County Hall, across the Thames from the Houses of Parliament. Driven by frustration with his policies, and those of other Metropolitan authorities, her government abolished the GLC and the other six English Metropolitan Councils in 1986.

Explaining that *'London is the only Western capital without an elected city government'*, Labour's 1997 general election manifesto, the first prepared under Tony Blair's leadership, promised *'a new deal for London, with a strategic authority and a mayor, each directly elected'* (Labour Party, 1997). Within three months of being elected, the new Blair Government published a Green Paper, *New Leadership for London*, promising a referendum on its proposals (DETR, 1997b). Although only 34 per cent of London voters took part in that referendum, held in May 1998, of those 72 per cent supported the government's proposals.

The Labour Party manifesto for 1997 also included a commitment to *'develop an integrated transport policy to fight congestion and pollution'* (Labour Party, 1997). By August 1997, the new government had published a transport Green Paper, *Developing an Integrated Transport Policy*, that sought responses to the question, among others; *'Is there . . . a role for making greater use of economic instruments to influence how people*

*choose to travel . . . possibly . . . charging for the use of roads?*' (DETR, 1997a).

## The Ten-Year Plan for Transport

The transport Green Paper was followed, a year later, by a White Paper, *A New Deal for Transport: Better for Everyone* (DETR, 1998c), which emphasized the need for behavioural change, encouraged by a combination of sticks and carrots, as *'experience has shown that improving public transport and related traffic management measures whilst necessary are not sufficient in many cases'*. Following up the question on charging posed in the Green Paper, proposals were included for local road user charges, with two options, direct congestion charges and levies on workplace parking, and a commitment to enacting the necessary legislation.

These ideas were developed in more detail in a consultation paper, *Breaking the Logjam*, published to complement the White Paper (DETR, 1998a). In his foreword, John Prescott, Deputy Prime Minister and Secretary of State, explained: *'workplace car parking charges can counter the effective subsidy of free parking space given to . . . commuter car traffic. Road user charges can be pinpointed to tackle specific congestion hotspots in different areas at different times of day.'* Addressing London, the document stated that *'a central London scheme or a scheme over a wider area would be of most importance in tackling London's congestion'*.

These plans were accompanied by a breakthrough from the Treasury, whose doctrine had long been that revenues from taxes or levies should be treated as part of national income, to be spent in accordance with government priorities, rather than being earmarked for the sector from which they had been raised. Accordingly, revenues from vehicular taxes and excise duties are totally independent of government expenditure on roads, or even transport as a whole. However, responses to the Green Paper had made it clear that support for road user charges was highly dependent on the use of the funds raised: *'people told us that, faced with congestion, they will accept these measures provided the money is recycled'*. The Treasury had been persuaded to accept the principle of hypothecation of the net revenues raised from any local road user charges, at least for first ten years of charging. Indeed, it may well be that road user charging was seen as an opportunity, in that the charges created an additional source of revenue and, with the Treasury's effective control of local government expenditure and its ability to claw back a part of such revenues simply by reducing

central funding, there was little downside risk. Indeed, in evidence to the London Assembly on Livingstone's plans to extend the central London scheme westwards, the Confederation of British Industry explained: *'our disappointment is with . . . the extent to which parallel funding from central government appears to have been reduced, almost to the exact amount of revenue raised from the congestion charge'* (London Assembly, 2003).

However, the London White Paper had stated: *'these measures will therefore provide an income stream to support major improvements in public transport and traffic management to combat traffic jams. In other words, they will both tackle the problem and help provide the solution'* (DETR, 1998b).

Having started out well, with the transport Green and White Papers published within 15 months of coming into office, developing the Ten-Year Plan took longer than expected. This was due, in part, to concerns about the political impacts of some of the measures being considered, causing John Prescott to complain about *'the faceless wonders of Downing Street'* (*The Times*, 1999) and with Rawnsley, in his account of New Labour, suggesting that *'Prescott was . . . a victim of New Labour's abiding tendency to think no further than the next headline, an approach especially ill-suited to transport'* (Rawnsley, 2000). In Downing Street, the overriding concern was not to risk the loss of support from *'Mondeo Man'*, and thus to avoid radical transport policies that might be seen as anti-car. (The Mondeo is Ford's middle range car; Mondeo Man typifies middle England, whose votes New Labour saw as being critical to its future election success.) Yet with his advisers strongly advocating the use of charges, Prescott became increasingly frustrated with the interference of Downing Street's transport adviser until, Rawnsley reports, Blair finally had to agree with Prescott's demands that he be moved.

The Ten-Year Plan, finally published in July 2000, had a strong commitment to the implementation of road user charges, but with the decisions on such policies left to local authorities (DETR, 2000). Perhaps reflecting the political concerns of Downing Street, the government was standing aside from the key policy decisions of when, where, who and how much to charge, with the Transport Act 2000 only providing powers for the introduction of local schemes, and not enabling the government, in its role as highway authority, to introduce them for trunk roads and motorways (Transport Act, 2000). Whilst leaving charging to local authorities (although any local schemes outside London would require government approval), the Ten-Year Plan assumed that, over the ten years to 2010, eight congestion charging schemes would be intro-

duced in *'our largest towns and cities'*, and there would be 12 workplace parking schemes, generating a total of £1.2 billion for English local authorities outside London and £1.5 billion for London. Overall, the Plan set a target of reducing congestion below its current level, *'particularly in large urban areas'*, thereby emphasizing the expected responsibilities of local authorities. Although the Ten-Year Plan recognized that responsibility for transport in London was the newly elected Mayor's, apart from the Underground and National Rail, it was not short of possible policies, plans and projects for London, if only to help it achieve its national targets, identifying *'overcrowding and congestion'* as one of the key challenges for London.

### **The Mayor of London, the Greater London Authority and the London Assembly**

Following the London Green Paper, but before the referendum on a directly elected Mayor, the government published a White Paper, *A Mayor and Assembly for London*, in which it set out its detailed proposals (DETR, 1998b). Four of the key elements were:

- (a) a directly elected Mayor, with executive powers;
- (b) the creation of a Greater London Authority (GLA), which would include a new executive agency, Transport for London;
- (c) the creation of a Metropolitan Police Authority, and the transfer of responsibility for 'Scotland Yard' from the Home Secretary to the Authority on the model of other parts of the England;
- (d) a directly elected London Assembly.

These proposals were brought into effect through the Greater London Authority Act 1999 (GLA Act, 1999). Although John Prescott, in introducing the second reading, said the GLA would restore power to the people of London, there were real concerns that the government had watered down its original ideas by retaining a number of powers (Pimlott and Rao, 2002). Whilst Prescott denied this, there was a suspicion that fears that Ken Livingstone might become Mayor had caused the government to retain ultimate authority in key areas, through the use of reserve powers.

The GLA, which the Mayor directs, has responsibilities for transport, planning, economic development and regeneration, the environment, police, fire and emergency planning, culture, media and sport, and public health. Of these, transport was seen to be one of the most

important. The Mayor is responsible for appointing the Chair and Board of Transport for London (TfL) which incorporates most of those transport functions previously held by the government, including London Transport (but initially excluding the Underground, until the government's Public Private Partnership scheme was in place), Docklands Light Railway, the trunk roads managed by the Highways Agency (but not the M1, M4, M11 and M25 motorways), the responsibilities of the Traffic Director of London (i.e., the Red Routes), the Public Carriage Office (responsible for taxi, minicab and taxi driver licensing), and river passenger services. The 550 km (340 mile) strategic road network brought under TfL formed the Greater London Authority Road Network (later renamed the TfL Road Network), over which the Mayor, through TfL, has full authority. Apart from the motorways, the other 13,000 km of London's road network are the responsibility of the 32 London boroughs and the City of London Corporation, for which they remained both the highway and the traffic authority.

In addition to the Underground, National Rail was another notable exclusion from the Mayor's transport authority, with his powers limited to '*instruction or guidance to the Franchising Director*' (GLA Act, 1999), later replaced by the Strategic Rail Authority (SRA). However, the SRA was not required to implement any instruction or guidance issued by the Mayor if it prevented compliance with the requirements of the Secretary of State, had an adverse effect on passengers outside London or increased payments which the SRA had to make. Thus, in reality, at best, the Mayor had a moral authority supported by persuasion. However, the government has since proposed extending the Mayor's authority for National Rail services within the GLA area, as well as abolishing the SRA (DfT, 2004; Railways Bill, 2004). Although both Heathrow and London City Airports are within Greater London, the Mayor has no responsibility for airports and aviation, other than surface access.

The GLA Act also brought the Metropolitan Police under the control of the Metropolitan Police Authority, whose budget is set by the Mayor, subject to the Assembly's approval. Although the Act did not give the Mayor direct control of the police, he and the Assembly have some influence over policing priorities, including traffic and security on buses. However, policing of London Underground and Docklands Light Rail remains the responsibility of the British Transport Police, a specialist force statutorily responsible for policing all railways in England, Scotland and Wales.



The principal role of the London Assembly is to *'keep under review the exercise by the Mayor of the statutory functions exercisable by him'* (GLA Act, 1999) or, as set out in the White Paper, *'to hold the Mayor to account on London's behalf'*, scrutinizing the Mayor and those executive agencies for which he is responsible (DETR, 1998b). Whilst the Assembly can call the Mayor to account and make suggestions, they cannot issue directions. Their only real power is approval of the Mayor's budget, which requires a two-thirds majority.

The Assembly has 25 members, with 14 elected on a traditional 'first past the post' constituency basis, and 11 on a 'list' basis for which electors cast their vote for a political party or an independent candidate, with the number of seats won by each party (or other candidate) being in direct proportion to the votes cast. Each party has a list of candidates with the one at the top winning the first seat allocated, and so on.

One particular responsibility of the Mayor is to prepare and publish a Transport Strategy, setting out his policies for *'the promotion and encouragement of safe, integrated, efficient and economic transport facilities and services to, from and within Greater London'* (GLA Act, 1999). However, whatever the intentions of Parliament, with his limited role with National Rail and the control of the motorway network retained by the government, the primary focus of the Mayor's Transport Strategy is inevitably on facilities and services within London.

Provisions to enable the introduction of both road user charges and workplace parking levies were included in the GLA Act, which became law nearly two years before the 2000 Transport Act, providing similar powers for the rest of England and Wales (under devolution, Northern Ireland and Scotland have their own authority). TfL or any of the boroughs and the City Corporation can introduce charges or levies so long as it *'appears desirable or expedient for the purpose of directly or indirectly facilitating the achievement of any policies or proposals set out in the Mayor's transport strategy'*, and any charging scheme *'must be in conformity with the Mayor's transport strategy'* (GLA Act, 1999). Whilst the Act includes the principle of hypothecation, there are some key conditions. First, only the net proceeds of a scheme that comes into force within ten years of the establishment of the GLA can be hypothecated, and that right to hypothecation only endures for a period of ten years from the start of the scheme, although the Secretary of State can extend this. Second, the net proceeds have to be used for a *'relevant transport purpose'* with the Secretary of State having to be satisfied that they *'provide value for money'*, and being empowered to issue guidance on *'the appraisal of whether any application . . . provides value for money'*.

The Act also requires the GLA to provide a 10-year plan and a 4-year programme for the use of the share of the net revenues they retain as well as for any share they allocate to another party, all of which are subject to the Secretary of State's approval. This, therefore, is one of the instances of the government retaining a key power. It might be argued that this provision reflected concerns about possible policies should Livingstone be elected Mayor, given his Fares Fair policy during his period as Leader of the GLC, when he reduced bus and Underground fares by 25 per cent, which was to be financed by a supplementary rate – property tax – only for it to be overturned by the House of Lords on the grounds that London Transport was required to be run *economically* (Travers, 2004). Indeed, it is noticeable that the explicit provision requiring '*value for money*' is not included in the 2000 Transport Act for authorities outside London, for which the funds are '*available only for . . . application . . . for the purpose of directly or indirectly facilitating the achievement of the policies in the authority's local transport plan*', a document required under the Transport Act (Transport Act, 2000). However, it might be argued that, since the Secretary of State approves Local Transport Plans but not the Mayor's Transport Strategy, that the approval process is an adequate test of value for money outside London. Further, the Transport Act also provides that the Secretary of State '*may issue guidance with respect to the appraisal of whether any application . . . provides value for money*'.

Another provision under the GLA Act requiring the Secretary of State's approval concerns equipment used for charging. If any equipment is '*incompatible with a national standard . . . and that incompatibility is detrimental to the interests of persons resident in Great Britain outside Greater London . . . the non-standard equipment may no longer be used . . . except with the authorisation of the Secretary of State*'.

For London, the Secretary of State has no direct say in the procedures for making the Scheme Order, the legal measure required to enable the introduction of a charging scheme. Indeed, the Mayor has much freedom in that, having consulted, he '*may*' decide whether or not to hold a (*public*) inquiry (a formal public hearing), and if he so chooses, he appoints the person(s) to hold the inquiry and decides what modifications to make to the scheme. This contrasts strongly with schemes elsewhere in England, which have to be '*submitted to and confirmed by*' the Secretary of State. While charging authorities elsewhere may call an inquiry and decide who will conduct that inquiry, the Secretary of State can also call an inquiry.

## Road Charging Options for London, ROCOL

Recognizing the possible importance of the road user charging powers included in the GLA Act to the policies that might be included by Mayoral candidates in their election manifestos, Genie Turton, the Director of the Government Office for London and described by Travers (2004) as '*a talented high flyer*', had the creative idea of establishing a group of experts to identify ways in which the Mayor might use those powers. The Road Charging Options for London Working Group first met in August 1998, and published its final report in March 2000 (ROCOL, 2000). The Working Group was composed of individuals drawn from a broad set of interests, including motoring, public transport and environmental organizations (including the AA, the RAC and Transport 2000), academics, the public sector (Association of London Government, GOL, Department of the Environment, Transport and the Regions, the Highways Agency, London Development Partnership, London Planning Advisory Committee, London Transport, Strategic Rail Authority and the Traffic Director for London), the London lobby group London First, and consultants. The Working Group was supported by a technical secretariat that managed consultants appointed to undertake studies required by the Working Group. The Working Group's purpose was to provide an objective assessment, independent of government, of the key issues relating to the use of the Mayor's road user charging powers. Whilst it provided some illustrative options, it was quite clear that it did not make any recommendations.

The Working Group rapidly agreed that it had to focus on schemes that could either be implemented within the Mayor's first term of office, and reasonably well in advance of the second Mayoral elections due in May 2004, or be prepared in the first term and implemented early in the second term. It considered both congestion charges and workplace parking levies, with schemes covering just central London and the whole of Greater London. For congestion charges, paper licences, area licences with Automatic Number Plate Recognition and electronic road pricing were considered.

There were real concerns about the enforcement of a paper licence scheme, since it was concluded that manual inspection would be required. Because of the high proportions of both private off-street parking and through traffic within central London, enforcement could not rely on only checking vehicles parked on-street. It would therefore be necessary to inspect licences by stopping a sufficiently high propor-

tion of vehicles to ensure adequate compliance. Achieving a 20 per cent chance of detection was estimated to require 400 enforcement staff, who (if they were not to be police) would need to be empowered to stop vehicles. However, even this level of enforcement would increase congestion and would have to be complemented by relatively high penalties. Thus, although a paper licence-based scheme could be implemented within about two years, the Working Group decided not to pursue this possibility in greater depth.

Electronic Road Pricing would provide a flexible charging system, allowing charges to vary by direction, time of day and type of vehicle. However, given estimates of the time required to implement an ERP scheme, conditioned by the desirability (if not need) for compatibility with national standards and reasonable assumptions about the time it would take government to finalize these, the Working Group concluded that it was unlikely that an ERP scheme could be introduced within the Mayor's first term of office.

The conclusions on paper licences and ERP left one option for road user charges, a virtual area licensing scheme with ANPR. The Working Group concluded that an ANPR-based scheme for central London

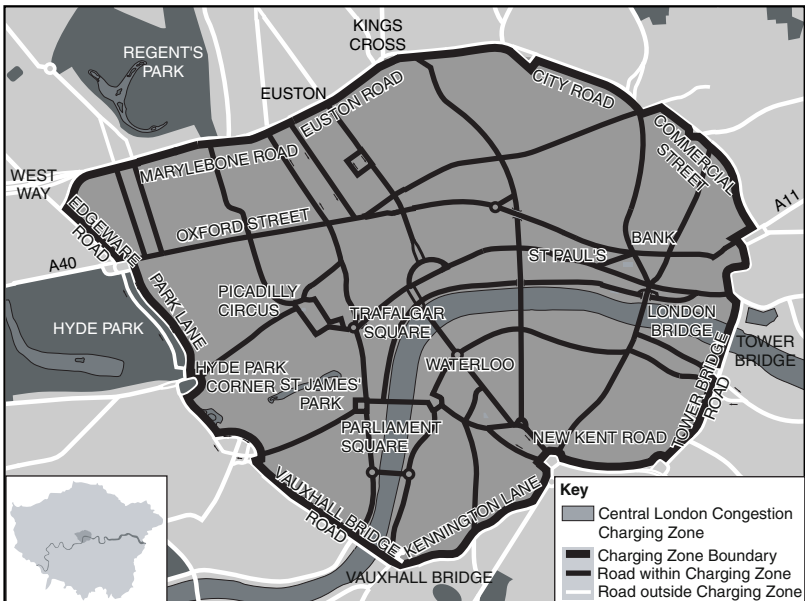


Figure 6.1 The proposed charged area

could be implemented by Autumn 2003, reasonably well ahead of the 2004 Mayoral elections (then scheduled for May), and developed it as the core illustrative scheme. The basic concept was to charge vehicles for being on the public highway within the charged area, during the charged period. The charged area was defined as central London, within the Inner Ring Road (Figure 6.1). Implementation of a scheme for a larger area was thought infeasible within the Mayor's first term of office, in part because of its scale, but also because it would almost certainly require the use of ERP.

One of the benefits of defining the charged area by the Inner Ring Road was that it provided an immediate alternative route around the boundary for traffic choosing to travel around rather than through the charged area, so that on reaching the charged area they could turn to avoid it. In addition, the roads comprising the Inner Ring Road would be part of the GLA Road Network, and thus under the control of the Mayor.

The area within the Inner Ring Road includes the West End, the City and the government area in Westminster. Although the area south of the Thames is not usually seen as central London, the Working Group concluded that limiting the charged area to north of the Thames would complicate implementation and operation, as the alternative routes around the southern periphery were not all part of the GLA Road Network, and would be directly affected by the proposed World Squares schemes for Trafalgar and Parliament Squares.

In addition to the area licence, the Working Party considered an entry licence. Whilst this had the possible advantage of allowing residents of the charged area to use their cars within the charged area without charge, it could have encouraged others to arrive before the charged period and then use their vehicle within the charged area during it. More importantly, enforcement would be very much more difficult, since proving that a vehicle had *entered* the charged area without having paid would constrain enforcement to a short length of road just inside the boundary. This compares with the ability to enforce an area licence anywhere on the charged area network, at any time during the charged period.

In addition to the ANPR-based virtual area licence, the Working Group considered a number of other possibilities. One was a paper licence with a database of licensed vehicles' registration numbers, supported by manual enforcement based on registration numbers. However, this would require the establishment of a database similar to that necessary for a virtual licence whilst involving drivers in obtaining a

physical licence; it would need an extensive enforcement team and secure distribution for the high value licences. Thus, it was seen to have significant disadvantages relative to a virtual licence. Another alternative, a simple electronic tag and beacon system, which could be the first step towards a full ERP scheme, was not seen as a practicable proposition for implementation within the Mayor's first term due to the time required for procurement and installation, and because it might be premature relative to the government's plans for national standards.

The core illustrative, virtual area licence scheme was based on charging between 7am and 7pm, Monday to Friday. Whilst it was recognized that the entertainment sector would prefer an earlier end to charging, the Working Group was concerned that finishing earlier could reduce the impact on evening peak congestion. Although congestion can also be bad during the evening and at weekends, the Working Group concluded that public transport provided a less acceptable alternative to the car outside the normal working day.

Noting that *'the economic efficiency of road user charging is greatest when the level of charging directly reflects the costs imposed on other traffic by the marginal user'*, the Working Group concluded that an 'efficient charge' is not only difficult to establish accurately but could not be achieved with an area licence. However, what would be possible was a differentiation between heavy goods vehicles (HGVs) and others, on the basis of their impact on congestion. The Working Group considered three basic charge levels, £2.50, £5.00 and £10.00, and HGV charges of £7.50, £15.00 and £30.00, with £5.00 for cars and £15.00 for HGVs used as the base for the core illustrative scheme.

A £5 charge (£15 for HGVs) was estimated to give a 10 per cent reduction in traffic (vehicle kms) within the charged area during the morning peak, and a 12 per cent reduction over the 14 hours between 6am and 8pm. Average journey speeds in the morning peak would increase by 3kph to 18kph, and by 2kph to 18kph on average over the 14-hour day. On average, traffic within inner London would decrease by 3 per cent, although there would be increases on some roads.

While the provision of season tickets for a week, month or year would be convenient to the user and efficient for the operator, the Working Group concluded that their availability *'would weaken the link between charging and the use of the vehicle'*, and that should they be made available there should be no price discount. They also concluded that the economic case for exemptions, concessions or discounts was very weak, and that all road users should therefore pay the charge,

unless payment were to be a transfer payment with no effect on travel behaviour. Only two groups, emergency vehicles and scheduled bus services, were identified for which there was a clear case for exemption.

Although the case for other exemptions was considered weak, the Working Group examined two possible groups, residents and the mobility impaired. As the charge would apply to all vehicles on the public highway, residents' vehicles parked on-street for the whole day would be subject to it, even if the vehicle was not being used. However, although full exemption for residents of central London was estimated to have a relatively limited effect on traffic levels, the Working Group was concerned about the principle, should congestion charging be extended to other parts of London. Since residents' on-street parking schemes existed for the whole of the area, the proposed solution was to exempt those users displaying a resident's parking permit when parked within a residents' parking space.

Although the government had suggested that the mobility impaired might be exempt from road user charges, the Working Group was concerned that, given the then current arrangements for the issue of Orange Badges (now Blue Badges), exemptions (or discounts) might be open to abuse. However, it was thought feasible to exempt those who, because of their disability, are exempt from vehicle excise duty for their personal vehicle.

Anyone intending to drive within the charged area on any particular day would have to register the licence plate of their vehicle, which would be held in a database. Registration would be possible through retail outlets, over the telephone and Internet, and by post. Cameras placed at the boundary of the charged area and at points within it would record the licence plates of all passing vehicles. The images would be interpreted using Automatic Number Plate Recognition technology, and compared with those held on the database. Those which matched would be immediately discarded, so addressing any privacy issues, whilst those without a match would be retained for manual examination and possible enforcement action. The registered keepers of vehicles for which the charge had not been paid would be traced through the national Driver and Vehicle Licensing Agency's (DVLA) records, and sent a penalty notice. It was suggested that drivers should have until midnight on the day of travel to register their vehicle, so allowing those who had not originally planned to enter the charged area, or had forgotten to pre-register, time to pay without committing an offence. A penalty of £40 was assumed for the illustrative scheme.

Enforcement would require two images, one of the licence plate for use in the ANPR process and one recording the vehicle and its street context, to help enforcement staff identify the vehicle when there were any doubts about the interpretation of the licence plate, and to provide evidence in any dispute over a penalty notice. As with any system relying on licence plates for enforcement, whether congestion charging, speeding or red light running, there is a problem with vehicles that cannot be traced, either because the information held by DVLA is out of date or erroneous, or because the licence plate is invalid. This problem applies to any ERP scheme as well as the illustrative ANPR scheme. The Working Group had concerns that the introduction of a congestion charge might provide an incentive for more drivers to use invalid plates. However, the GLA Act provides for the clamping or impoundment of the vehicles of persistent evaders, and this was thought to provide a measure of deterrence.

It was estimated that it would cost between £30 million and £50 million to implement the licence issue and enforcement elements of the illustrative scheme, and that annual revenues would be between £30 million and £50 million. With estimated annual charge revenues of between £250 million and £280 million, and £30 million to £40 million from penalty payments, the net annual revenues were estimated to be in the range of £230 million to £270 million. However, this excluded any amortization of the set-up costs as well as the costs of any complementary traffic management, public transport and other measures. Reducing the charge to £2.50 (£7.50 for HGVs) was estimated to reduce the net annual revenues to between £120 million and £150 million, while increasing the charge to £10 (£30 for HGVs) would increase net revenues to between £450 million and £500 million.

The Working Group also examined the use of workplace parking levies, as authorized under the GLA Act, which requires employers to apply for a licence for each property, or site, for parking spaces used by their employees and visitors; no licence would be required for spaces used by their customers. Employers would have the option of reducing the number of spaces in use, and thus for which a levy would have to be paid. The Working Group concluded that enforcement at mixed-use sites would be difficult, due to the need to determine which cars belonged to employees and business visitors, and customers and residents. It would also be difficult to enforce at sites under multi-ownership, because of the need to determine who was responsible for any infringement. The Working Group concluded that, to avoid displacement to on-street parking, the levy could only be applied in areas



where on-street parking was controlled, (i.e., within Controlled Parking Zones, or CPZs, and with the CPZ extending to a 15-minute walk beyond the boundary).

Two possible areas were considered as illustrations, both of which satisfied the CPZ requirement: one was central London within the Inner Ring Road, and the other an 'extended central zone' that included all of Westminster, Kensington and Chelsea, and Hammersmith and Fulham. The extended area formed the basis for the core illustrative scheme.

With off-street parking in central London costing about £3,000 a year (£12 to £25 a day), increasing the annual levy above £3,000 could be expected to lead to the transfer of parking to public off-street spaces, with decreasing revenues and traffic impacts, while the operating and enforcement costs would remain fairly constant. It was estimated that an annual workplace parking levy of £3,000 would reduce traffic (vehicle kms) in the morning peak within the charged area by 4 per cent, and by 3 per cent over the whole of the 14-hour day (6am to 8pm). The impact on traffic within Inner London would be a reduction, on average, of between 1 per cent and 2 per cent.

The set-up costs were estimated at some £5 million, and annual operating costs at £5 million. With annual revenues of between £90 million and £110 million, the levy could be expected to provide net annual revenues of the order of £100 million. The Working Group did not estimate revenue from penalties for non-compliance.

The Working Group was supported by a wide range of research studies. These included social research and the further development of the London Congestion Charging APRIL model (DTp, 1995) to accommodate an area licence (AREAL), as well as studies on the charge collection and enforcement systems, and the costing and programming of the illustrative options.

## The Mayoral election

There was little doubt, from the first notions of London having a directly elected Mayor, that Ken Livingstone, who had become Labour MP for Brent East since the demise of the GLC, would stand. The question was whether he would be the official Labour candidate, since, as Rawnsley put it, Livingstone represented *'everything that Blair reviled about the schismatic, self-destructive, unelectable Labour Party of the past'*, and *'it was against logic that Blair, the architect of New Labour, could possibly be responsible for resurrecting a politician he detested so profoundly'* (Rawnsley, 2000).

Although Livingstone did seek selection as the official Labour candidate, as Pimlott and Rao explain, '*New Labour's instinct was to look for a reliable placeman*' (Pimlott and Rao, 2002). However, '*the more desperate the leadership became to find one, the more reluctant particular individuals became to take, what, in the face of Livingstone's challenge increasingly looked like a poisoned chalice*'. In the end, an electoral college, which Christian Woolmar, in his study of the PPP, described as having been gerrymandered specifically to prevent Livingstone being selected, chose Frank Dobson, the Secretary for Health, as the official Labour candidate (Woolmar, 2002), even though Travers describes Dobson as '*a clear sceptic on the issue of elected mayors*' (Travers, 2004). Despite the gerrymandering, and pressures on members of the electoral college not to support Livingstone, Dobson's margin over Livingstone was just 3 per cent.

However, with opinion polls showing Livingstone to be the more popular candidate, he decided to stand as an Independent, recognizing that it would mean expulsion from the Labour Party. Having made that decision, and having been expelled by his party, the harder the Labour Party sought to nobble him, the more Londoners supported him, helped by the view that Dobson was '*the Prime Minister's poodle*' (Pimlott and Rao, 2002). With support from across the political spectrum, particularly normal Labour voters, he won 39 per cent of the votes in the first count, well ahead of Dobson's 13 per cent, leaving him in a run-off in the second round (the election was based on a single transferable vote) against Steve Norris, the Conservative candidate, who was a former Minister of Transport with responsibility for London. That resulted in Livingstone being elected Mayor of London, with 58 per cent of the votes. London had made it clear that it wanted a Mayor who would serve London, and not be a government stooge, despite Blair's forecast that he would be a disaster for London.

The Assembly elections also proved a surprise in that the Conservatives won the most votes, and the Green Party won three seats. The outcome was that the Conservatives and Labour each had nine members, the Liberal Democrats had four and the Greens three.

### **A commentary**

By 2000, two key policies of the Blair Government, elected in 1997, were in place. London had a regional government with a directly elected executive Mayor, subject to scrutiny by a directly elected London Assembly, and the Mayor had the powers to introduce road

user charges. The work of the ROCOL Working Group had indicated that a congestion charging scheme for central London could be introduced within the Mayor's first four-year term of office, which would be effective in reducing traffic congestion within the charged area and would generate net revenues.

What had not been in the government's plans, however, was that Ken Livingstone would be elected as Mayor, with the Labour candidate trailing with only 13 per cent of the votes, or that the Assembly would be 'hung' with Labour not in overall control.

## References

- DETR (1997a). *Developing an Integrated Transport Policy*, London: Department of the Environment, Transport and the Regions.
- DETR (1997b). *New Leadership for London*, London: Department of the Environment, Transport and the Regions.
- DETR (1998a). *Breaking the Logjam*, London: Department of the Environment, Transport and the Regions.
- DETR (1998b). *A Mayor and Assembly for London*, London: Department of the Environment, Transport and the Regions.
- DETR (1998c). *A New Deal for Transport: Better for Everyone*, London: Department of the Environment, Transport and the Regions.
- DETR (2000). *Transport 2010, The 10-Year Plan*, London: Department of the Environment, Transport and the Regions.
- DFT (2004). *The Future of Rail*, London: Department for Transport.
- DTp (1995). *London Congestion Charging Research Programme*, London: Department of Transport. (Note: a report of the principal findings is also available from HMSO, and a summary of the Final Report is available in a series of six papers published in *Traffic Engineering and Control*: see Richards *et al.*, 1996.)
- GLA Act (1999). *Greater London Authority Act 1999*, London: Her Majesty's Stationery Office.
- Labour Party (1997). *New Labour because Britain deserves better*, The Labour Party manifesto, London: Labour Party.
- London Assembly (2003). *Transport Committee*, 26 November 2003, Transcript of Evidentiary Hearing, London.
- Pimlott, B. and N. Rao (2002). *Governing London*, Oxford: Oxford University Press.
- Railways Bill (2004). House of Commons.
- Rawnsley, A. (2000). *Servants of the People, The Inside Story of New Labour*, Harmondsworth: Penguin.
- Richards, M. G. *et al.* (1996). 'The London Congestion Charging Research Programme', a series of six papers in *Traffic Engineering and Control*, Vol. 37, Nos 2 to 7.
- ROCOL (2000). *Road Charging Options for London: A Technical Assessment*, London: The Stationery Office.
- The Times* (1983). 6 May.
- The Times* (1999). 8 July.
- Transport Act (2000). London: Her Majesty's Stationery Office.

Travers, T. (2004). *The Politics of London: Governing an Ungovernable City*, Basingstoke: Palgrave Macmillan.

Woolmar, C. (2002). *Down the Tube: The Battle for London's Underground*, London: Aurum Press.

# 7

## The Formalities: The Mayor's Transport Strategy for London and his Congestion Charging Scheme

### Introduction

*Getting London Moving* was one of the central planks of Livingstone's election campaign. He saw improving the state of the capital's transport system as key to retaining London's position as a 'world city', and with that the economic prosperity needed to support his social and environmental policies. He also saw it as the one area in which he had real power and thus the opportunity to make a difference, and perhaps even secure his future as Mayor of London.

As well as stating his position on the government's PPP scheme for the Underground and public transport fares, he identified congestion as a serious problem and, unlike either the Labour or Conservative candidates, Dobson and Norris, he decided to accept the principle of congestion charging. In his election manifesto (Livingstone, 2000) he stated:

*'Congestion has now got so bad that not only is it poisoning the environment and wasting millions of hours of people's time . . . but half the capital's directors now say congested roads are the main disadvantage of London for businesses. The most important lesson I learned as leader of the GLC is that it is much easier to make public transport more attractive than it is to simply make car usage more difficult . . . overall my aim will be to reduce traffic across London by 5 per cent by 2010 . . . as part of the strategy to achieve this, I will . . . consult widely about the best possible congestion charge scheme to discourage unnecessary car journeys in a small zone of central London, to commence during the middle of my term of office, with all monies devoted to improving transport.'*

Since most of the funding for the GLA would come from the Treasury, with the Mayor's primary local funding option a precept on the

Council Tax levied by the London boroughs on residential properties, it has been argued that Livingstone was also greatly interested in the stream of net revenues, estimated by the ROCOL Working Group to be £250 million a year (ROCOL, 2000).

It has also been suggested that a charge on car users was simply a left-wing, tax-the-rich policy. But, as he pursued the development of the policy, Livingstone was very clear on the need to address concerns from the business community about the impacts of congestion in central London, in order to help ensure London's prosperity. He was intent on building an alliance with London's business community, not alienating it, with *The Times* reporting that '*big business has forged an unlikely alliance with Ken Livingstone to make London the first capital in the world to charge motorists for city centre driving*', noting that '*the new camaraderie will be a far cry from when 'Red Ken' denounced the malign forces of capitalism*' (*The Times*, 2001). According to the *Evening Standard*, Livingstone saw himself as '*pro public transport, anti-congestion and not anti-car*' (*Evening Standard*, 2001a). He was also probably comforted by the earlier decision of LPAC in support of charging (see Chapter 4), and by opinion polls showing a balance of support, in principle, among Londoners. However, according to David Begg, Chair of the Commission for Integrated Transport, Livingstone had seven political advisers who were against the congestion charge, and so '*he had to go for Kennedy's maxim that "policy should come before politics"*' (Woolmar, 2003).

### **The formal enabling process**

The ROCOL report had suggested that an election manifesto commitment to the introduction of a congestion charging scheme would facilitate the passage of the proposed scheme through the formal enabling processes (ROCOL, 2000). However, evidence presented to a London Assembly Scrutiny Panel investigating the Mayor's proposals made it clear that a political commitment did not avoid the need to complete procedures required under the law (London Assembly, 2000a). Nevertheless, the strong commitment made by Livingstone in his election manifesto, and more generally prior to his election, provided him with real authority in progressing congestion charging once he was elected.

Under the GLA Act, acting through TfL, the Mayor is empowered to '*establish and operate schemes for imposing charges in respect of the keeping or use of motor vehicles on roads in its area*' (GLA Act, 1999). However, the procedures under which such a scheme is introduced are not prescribed in any detail. Thus, although a Scheme Order is required, it can

be *'in such form as the Authority may determine'*. Further, the Act states that the Authority *'may consult'* and *'may hold an inquiry'*, and the Mayor (rather than the Secretary of State) appoints the person to hold any inquiry. Thus, in theory, there is no need, under the GLA Act, for either consultation or an inquiry, although case law requires the procedures adopted to be fair (London Assembly, 2000a).

It was suggested to the Assembly's Scrutiny that, provided the Mayor's draft Transport Strategy contained a detailed description of the proposed congestion charging scheme, the draft had been subject to proper public consultation, and due note had been taken of representations received on the draft in preparing the final Strategy, a legal challenge to the congestion charging scheme would be difficult to pursue. The argument was that any legal challenge would need to be based on the failure of the Strategy to satisfy the statutory requirements, which include the promotion of safe, integrated, efficient and economic transport facilities and services. It was also suggested that any consultation, or inquiry, on the congestion charging Scheme Order need not consider those features set out in the Mayor's Transport Strategy.

Crucial to this whole process was that it was to be almost entirely within the Mayor's control. Unlike similar schemes elsewhere in England, the Secretary of State for Transport's involvement is very limited: he has to approve proposals for, and can provide guidance on, the use of net proceeds: he may approve any charging equipment to ensure compatibility with national standards or with equipment used outside London; he has to approve any charges to be levied on trunk roads; and he can make regulations relating to exemptions, discounts and the maximum charge (GLA Act, 1999).

Committed through his election manifesto to consulting widely, Livingstone chose to consult in three stages: first, on the key principles with stakeholders, including the London boroughs; second, as part of his consultation on his draft Transport Strategy; and third, on the formal Scheme Order. However, given the responses to the various stages of the consultation process he adopted, he chose not to hold any inquiry. Had he decided an inquiry should be held, implementation of the scheme would have been delayed, most probably by several months.

### **The first step, *Hearing London's Views***

Immediately following his election Livingstone was briefed on the ROCOL report, and decided that the Working Group's central London

area licensing scheme using Automatic Number Plate Recognition provided a good basis for the pursuit of his commitment to congestion charging. Within four weeks of formally taking up office as Mayor, on 28 July 2000 Livingstone issued a consultation paper, *Hearing London's Views*, which was sent, initially, to a variety of stakeholders, including the London boroughs and business groups (GLA, 2000a). However, when the Mayor reported on the consultation to the Assembly in October 2000, nearly half the 229 responses received were from organizations not included in the original list of nearly 300 stakeholders (GLA, 2000a).

In his introduction to *Hearing London's Views*, Livingstone stated that: *'tackling the transport crisis facing our city is my top priority. The only way to ease traffic congestion is to encourage motorists to switch from their cars to public transport.'* Having outlined the need for improvements to public transport, he explained that he *'intended to consult on using congestion charging to discourage unnecessary journeys by cars, vans and lorries in . . . central London'*, that he wanted to *'engage Londoners in a comprehensive consultation on all aspects of congestion charging'*, and that he was starting by *'seeking the views of key stakeholder groups'* (GLA, 2000b). The document outlined the legal framework provided by the GLA Act and the key features of the ROCOL area licensing scheme, and explained that Livingstone was *'minded to proceed with the ROCOL report's option of an area licensing system based on vehicle registration numbers'*. Six key areas were identified on which he sought views: the boundary of the charging area; the level and structure of the charge; the hours of operation; exemptions and discounts; penalty charges; and possible spending priorities for the net proceeds.

An indication of Livingstone's determination to make progress quickly is Travers' description of the preparation of *Hearing London's Views*, undertaken by *'a small number of GLA and TfL staff closely controlled by the Mayor's closest advisors'*, with the document being published before being seen by the TfL Board (Travers, 2004).

Although the Association of London Government favoured the scheme in principle, three Conservative-controlled boroughs (the City of Westminster, Kensington and Chelsea, and Wandsworth) opposed it, as did motoring organizations. Support, at least in principle, also came from some business groups, including the London Chamber of Commerce and Industry and London First. The main objections of the three London boroughs were that the charge would lead to an increase in traffic outside the charged area and the necessary public transport improvements could not be in place by 2002, when Livingstone planned to introduce the charge.



Having been advised by TfL that time could be saved on the ROCOL programme, and that they (TfL) were '*confident that a significant programme of improvements in public transport . . . can be implemented within this time scale*' (NCE, 2000), Livingstone was satisfied that a workable scheme could be introduced by late 2002.

In response to representations, Livingstone made a number of key modifications to the ROCOL scheme. He reduced the proposed charge for heavy goods vehicles (HGVs) from £15 to £5, the same as for cars, vans and light goods vehicles, explaining that as, unlike commuters, they could not switch to other modes the higher charge was illogical. Whether a differential between HGVs and other vehicles is quite as illogical as Livingstone suggested, decreasing the charge was an astute political move, reducing opposition from that sector. In another move to reduce opposition, he announced that he proposed a 100 per cent discount for Blue Badge holders, a concession which the ALG thought would be hard to enforce effectively, and a 90 per cent discount on the charge for charged area residents. Evidently, Livingstone was more sensitive to *The Economist's* view that charged area residents '*will be furious if they have to pay the full charge every time they have to move their cars*' (*The Economist*, 2000) than the ROCOL advice that the economic case for discounts was very weak and that, in principle, all road users should pay the charge (ROCOL, 2000). Yet, as the *Evening Standard* noted following a later decision on further concessions, '*with each concession Mr Livingstone invites another*' (*Evening Standard*, 2001b). Livingstone later justified these concessions as making the '*scheme as fair as possible*' and ensuring that it was '*perceived to be fair*', which he saw as being '*important to its continued acceptability*', concluding that whilst the concessions reduced the revenues it was '*a price worth paying to make the scheme more socially inclusive in its impacts and as fair as possible*' (Livingstone, 2004). Yet Bannister reported that the net effect has been that only 45 per cent of vehicles entering the charged area pay the full charge, with 29 per cent enjoying discounts and 26 per cent being exempt, and he questioned whether Livingstone's decisions were consistent with his objective of fairness (Bannister, 2004).

### The Mayor's draft Transport Strategy

Under the GLA Act, the Mayor is required to '*prepare and publish a document . . . containing his policies . . . for the promotion and encouragement of safe, integrated, efficient and economic transport facilities and services to, from and within Greater London*' (GLA Act, 1999). With transport his top priority, Livingstone lost no time in progressing the development of

his Transport Strategy, which was also essential to progressing his congestion charging scheme, since the GLA Act requires any charging scheme to facilitate the achievement of the Transport Strategy and be in conformity with it.

The first draft, for consultation with the London Assembly and other functional bodies (London Development Agency, Metropolitan Police Authority, etc.), was published within four months of taking up office. However, the speed with which this initial version had been prepared was reflected by the Assembly's disappointment '*with the lack of vision, timetables, targets, objectives, strategy or implementation plan*' (London Assembly, 2000b). The draft for public consultation published in January 2001 (GLA, 2001b) was seen by the Assembly to be '*much improved, more coherent and consistent*' (London Assembly, 2001). However, the Assembly still saw many weaknesses, including a lack of a clear transport vision for London, a focus on central London, and a '*one size fits all approach*' that failed to recognize and foster the great diversity within London.

With one of eleven key proposals of this draft being '*to introduce congestion charging in central London . . . in early 2003*', implementation had moved from late 2002 to early 2003, which thereafter remained the target. Nine benefits were set out for the proposed congestion charging scheme. It would:

- *'reduce congestion, not only within, but also beyond the charging area*
- *be more effective in reducing through traffic than other measures*
- *take advantage of the extensive public transport serving central London*
- *improve bus operations*
- *produce substantial net revenues*
- *benefit business efficiency*
- *be integral to other initiatives to reduce congestion and improve public transport*
- *be relatively quick to introduce.'*

The draft Strategy also provided a detailed description of how the scheme would operate, the area subject to the charge, and proposals for exemptions and discounts, together with the expected traffic and transport, financial, environmental and distributional impacts.

### **Consultation on the draft Transport Strategy**

Consultation on the draft Strategy provided opportunity to comment on both the principle of a central London congestion charging scheme

and its general operational configuration. However, it was explained that if, having considered representations, the Mayor decided to progress the scheme, there would be consultation on the draft Scheme Order, and on any Traffic Orders required for associated traffic management schemes.

The draft Strategy, a 300-page document, was sent to nearly 3,000 organizations as well as all London MPs and MEPs, and was available on the GLA web site. A 24-page *Highlights* summary, with a 4-page pull-out response form, was also available, and a leaflet was delivered to every household in London, inviting them to request a copy of the *Highlights*.

Despite Livingstone's belief that transport in London was in crisis, only 6,700 residents responded using the *Highlights* response form, with a further 600 submitting responses in 'free form' (GLA, 2001c). Whilst the responses from such a small proportion of Londoners cannot be interpreted as representative of Londoners' views, they probably represented the views of those most likely to be vocal in any ensuing debate.

The *Highlights* structured response form listed eleven *key priorities* and sought a ranking of both the importance of each priority and the relative rankings of all eleven. One of the priorities was '*reducing traffic congestion across London, and particularly in central London*', 88 per cent of those responding through the form rated this *important*, with 63 per cent rating it *very important* and 35 per cent placing it in their top three, the third highest score for a key priority. Responses were also sought on the importance of each of eleven *key elements*, one of which was the approach to tackling congestion, including the congestion charging scheme. Whilst 69 per cent of respondents rated that approach *important* (*very*: 44 per cent, *fairly*: 25 per cent), this was equal lowest of the listed elements; it also recorded the highest *unimportant* rating, 12 per cent. The difference between these views on tackling congestion, and the higher ranking of *reducing congestion* as a priority, suggests doubts among respondents as to whether Livingstone had selected the best approaches.

Support for the Strategy's approach to tackling congestion, including congestion charging, was strongest among residents of inner London (72 per cent), those with no access to a vehicle (80 per cent) and those who never used a car (79 per cent). However, there may well have been considerable overlap between these, as car ownership is relatively low in inner London. Although those who do not use public transport were less likely to rate reduced congestion important, at least half did; curiously, although bus users were most likely to benefit from reduced congestion, fewer rated it *important* (50 per cent) than

either Underground users (55 per cent) or National Rail users (57 per cent). Of the very small number of individuals responding in *free form*, half mentioned congestion charging, with 67 opposed and 39 in support (21 with caveats). Respondents were concerned about whether the scheme would actually work, its impact on outer London and the ability of public transport to accommodate the increased demand.

As part of the consultation process, a telephone survey of 2,000 Londoners was completed (GLA, 2001c), possibly reflecting Livingstone's view that scientifically-based public opinion polling is the best way of consulting the public (London Assembly, 2000a). Over half of all respondents supported the congestion charging scheme (23 per cent *strongly support*, 26 per cent *support*). Although support was reasonably even across the capital, it was highest (57 per cent) among residents of central London (inner London: 50 per cent, outer London: 47 per cent.) However, 40 per cent were opposed to the scheme, with 22 per cent strongly opposing it (26 per cent in central London). Of central London residents, 50 per cent rated *tackling traffic congestion* as the first or second *most important area to improve*, placing it second to *improving the Underground* (53 per cent), and well ahead of their third highest priority, *improving bus services* (34 per cent). Despite Livingstone's focus on congestion in central London, *tackling traffic congestion* was rated the *most important area to improve* by residents of inner London (52 per cent) and outer London (53 per cent), well ahead of their second priority, *improving the Underground* (45 per cent and 40 per cent respectively).

Of the limited number of organizations responding to the consultation, more (84) supported the congestion charging scheme than opposed it (the opposition numbered 12, of whom seven rejected the principle, and five opposed the scheme as proposed). Particular points were raised by a small number of respondents, including charges for commercial vehicles (with environmentalists arguing for higher charges and some businesses arguing for a 100 per cent discount). Other groups also sought various exemptions or discounts. Suggestions were made for changes to the charged area (making it either smaller or larger), for lowering or raising the proposed charges, and changing the proposed hours of operation. However, the number of respondents was very small, and no strong consensus emerged.

## **The final Transport Strategy**

Having received, and considered, the views of Londoners and interested parties, Livingstone published the final version of his Transport Strategy on 10 July 2001, just over a year after formally taking up

office, and after two sets of consultation (GLA, 2001a). In the final version, Livingstone reiterated his commitment to *'tackling the transport crisis facing our city'*, with *'reducing traffic congestion'* as the first of a list of his transport priorities; he also confirmed his intention to introduce the congestion charging scheme, stating that TfL would *'make an order to introduce a congestion charging scheme in central London'*, with a target date of January 2003.

## The Scheme Order

TfL published the draft Scheme Order on 23 July 2001 (TfL, 2001). This provided a detailed description of the scheme, including the roads covered by it, the charged period and vehicles, the charge levels and penalties, exemptions and discounts, and the operation of the scheme. Associated with the Scheme Order was the formal notice, which was published in the *Evening Standard*, *The London Gazette* (the official newspapers of record in which it is required by law or is customary to publish official notices) and on roads in places affected by the Order. The notice provided a summary description of the formal background to the scheme and of the scheme itself, set out where the Scheme Order documents could be viewed, announced that an exhibition would be held and provided information on the making of representations. Although the draft Order stated that the scheme would *'come into force the day immediately following the day on which the Mayor confirms it'*, the formal notice stated *'the earliest date the scheme would start is January 2003'*.

The draft Order was accompanied by a map and a number of other documents. Whilst not all of these might have been essential, given the detail provided in the draft and final Transport Strategies, they were probably viewed by Livingstone, TfL and their legal advisers as reducing the possible case for any formal challenge to the scheme. Avoiding the need for an inquiry or legal challenge was central to the Mayor's target of starting the charge in January 2003.

The Draft Scheme Order was accompanied by a public consultation leaflet, public information exhibitions and two public meetings, as well as information on TfL's web site and via a telephone hotline, and the full set of draft Scheme Order documents were sent to 500 stakeholder organizations. Whilst three months had been allowed for the submission of representations, the period was extended by one month in response to protests from Westminster City Council and others about the timely availability of supporting information; late submissions were also considered.

Whilst over 2,000 representations on the draft Scheme Order were received, it was, again, a relatively small number; 149 were from stakeholders, 232 from other organizations and 1,893 from individual members of the public (TfL, 2002a). Some 56 per cent of stakeholders responding, 25 per cent of other organizations and 36 per cent of individuals making representations supported the proposed scheme, while 13 per cent, 39 per cent and 47 per cent (respectively) opposed it. Although TfL reported that the consultation had provided '*an opportunity for those with concerns to register their point of view*', it stated that as there were a number of orchestrated campaigns of response the results should not be interpreted as a poll of Londoners' opinions.

An analysis of representations on particular points showed that the majority were concerned with the following aspects:

- 1 The need for improvements to public transport before the proposed scheme was introduced (39 from stakeholders, 53 from other organizations, 747 from individual members of the public).
- 2 Possible increased traffic congestion near the charged area boundary (27 from stakeholders, 54 from other organizations, 500 from individuals).
- 3 Various discounts and exemptions (totalling, across the particular exemptions and discounts, 90 from stakeholders, 135 from other organizations, 493 from individuals). Proposals for a 100 per cent discount for Blue Badge (mobility impaired) users generated the largest number of representations from stakeholders (38), and charges for commercial (delivery) vehicles generated the largest number of representations from other organizations (43), while suggestions to extend the 90 per cent discount for residents to residents living outside but near the charged area generated the most from individuals (159), closely followed by a variety of views on the 90 per cent discount itself (152).

One of the more significant objectors to the scheme was the Corporation of the City of London. Although originally a supporter, the Corporation had a number of concerns, including the effect of increased traffic on Tower Bridge, which forms part of the Inner Ring Road and which has a 17 ton weight limit; consequently, it decided to make '*a qualified objection . . . on the basis of the limited information available to assess the scheme*' (Corporation of London, 2001; NCE, 2001).

Having considered all the representations, TfL recommended to the Mayor that a number of changes be made to the draft Scheme Order.

One was to reduce the operating hours by 30 minutes in the evening, so the charge would finish at 6.30pm, to benefit the West End theatre and restaurant trade as well as some shift workers. A number of changes to discounts and exemptions were also recommended. Most of these had the effect of extending their availability, although not for large numbers of people (or vehicles). In particular, the consultation process had identified serious objections to the (possibly unlawful) proposals to restrict the proposed 100 per cent discount for Blue Badge holders to London residents and for breakdown and recovery vehicles to those registered and operated within London. TfL recommended that the Scheme Order be revised to provide 100 per cent discounts for all EU citizens with Blue Badges, and for any breakdown and recovery vehicle. TfL also recommended that the earliest start date should be February 2003, rather than January, as given in the draft Scheme Order.

With the changes to the draft Scheme Order recommended by TfL, a revised draft Scheme Order was published on 10 December 2001, with a further one month period of consultation. Most of the representations received in this second period were concerned with the basic scheme rather than the modifications (TfL, 2002a). Of those addressing the modifications, the balance of comment was generally in favour of the changes, although in no case were the total numbers large. Having considered all the representations, TfL recommended that the Mayor should confirm the modified Scheme Order.

### **A public inquiry?**

From very early on there had been calls for a public inquiry into the proposed scheme, with three Conservative-controlled Boroughs (Westminster, Kensington and Chelsea, and Wandsworth) among those making the case. However, Livingstone was keen to avoid one, not least because of the time it would take, almost certainly requiring a substantial postponement of his target date for the start of charging. But he also had concerns about the principles. In evidence to the Assembly's Congestion Charging Scrutiny Panel, he had said that whilst he would consider a public inquiry to address particular concerns, he felt that some public inquiries had discredited the concept, and questioned whether inquiries, such as that for Heathrow's Terminal 5, were the best way of consulting people (London Assembly, 2000a). Despite these views, Livingstone and TfL took extensive legal advice in managing the consultation and related decision-making process in order to avoid the need for an inquiry as well as a legal chal-

lenge to a decision not to hold one as, even if a decision was made in the Mayor's favour, that could cause at least as much delay as an inquiry.

In announcing his decision to confirm the Scheme Order, Livingstone recognized that there had been pressure for an inquiry (GLA, 2002a). However, he explained that whilst he acknowledged '*that there is a perfectly respectable case for holding a public inquiry*', he had to '*focus on whether I now have sufficient information to be able to balance fairly the arguments for and against TfL's Order, and come to a decision in relation to it*'. He stated he was satisfied '*that the issues raised are sufficiently clear to me, that I have sufficient information about the scheme and its impacts, and that I am able fairly and properly to assess the information and weigh conflicting views without holding a public inquiry*', and announced that '*a decision to confirm the Order now does not appear to me to be premature or unfair to objectors*'.

## **Confirmation of the Scheme Order**

On 26 February 2002, Livingstone (GLA, 2002a) announced that:

*'I have today reached important decisions concerning Congestion Charging for Central London . . . a key proposal in the Transport Strategy which I adopted – after extensive public consultation – last July. TfL's proposed Order has been the subject of two rounds of public consultation . . . I have decided to confirm TfL's Order, subject to the modifications they have recommended me to make and some other relatively small changes, one of which is to set the 'go-live' date as Monday 17 February 2003. This will be the start of half-term week when morning peak hour traffic is less than otherwise, which should ease adjustment to the new charging regime.'*

Livingstone's commitment to implement the central London congestion charging scheme had been confirmed. However, a final hurdle had yet to be cleared, and that was the legal challenges.

## **The legal challenges**

Following confirmation of the Scheme Order, two legal challenges to the proposed scheme were mounted, one by the City of Westminster, the other by a group of residents in Kennington, an area south of the Thames affected by the scheme.



Westminster City's request for a judicial review was made on four grounds.

- 1 The Mayor had failed to obtain all the necessary information to permit him to confirm the Scheme Order.
- 2 The Scheme Order was made in breach of the requirement to obtain and consider an Environmental Impact Assessment.
- 3 The Mayor's decision not to hold a public inquiry was unlawful.
- 4 The Mayor failed to act lawfully in accordance with his obligations under the Human Rights Act 1998.

The objections of the 300-member Kennington Association concerned the division of a community by the scheme boundary, the Inner Ring Road, where it follows Kennington Lane. Their case for a judicial review was based on the expectation that the extra traffic using Kennington Lane would severely affect the lives of local residents and that under the European Convention on Human Rights they had a right to enjoy their homes.

Having heard the two challenges together, on 31 July 2002 Mr Justice Maurice Kay announced his decision to dismiss the City of Westminster's application for a judicial review and refuse the application of the Kennington Association, giving the following reasons:

- 1 TfL was entitled to conclude that congestion charging would not have a significant impact on air quality issues.
- 2 TfL and the Mayor had consulted fully and effectively before the Mayor decided to confirm the Scheme Order.
- 3 There was no failure in providing information to the Mayor on air quality or other issues and it was appropriate for officers to make judgements since *'we are here dealing with highly qualified and experienced officials. There would be little point in employing them if they were to be mere conduits.'*
- 4 There was no obligation under English or European law to conduct a formal Environmental Impact Assessment (EIA) into the scheme and the Mayor was entitled to conclude that, in the circumstances of this case, no EIA was required by the Directive.
- 5 It was not 'irrational or otherwise unlawful' for the Mayor to decide not to conduct a public inquiry.
- 6 Whilst the Court was in no position to make precise findings in relation to disputed evidence as to the impact of congestion charging on property values, the 'alarmist opinions on property values' could be viewed 'with deep scepticism'.

- 7 Evidence for the application of Article 8 of the European Convention on Human Rights (providing for the right to respect for the citizen's home) was 'extremely thin' and fell short of being 'reasonable and convincing' (GLA, 2002b).

Following the High Court decision, agreement was reached between TfL and Westminster, under which Westminster undertook not to pursue its objections further, enabling TfL to progress aspects of implementation which had been held back pending the outcome of the challenges. In addition, Westminster entered into a number of obligations under which they agreed to cooperate in the timely implementation of measures to support the scheme (TfL, 2002b).

All formalities had now been cleared, and the final go-ahead was given.

### **A commentary**

Committed in his election manifesto to the reduction of congestion, and to the consideration of a congestion charging scheme for central London, Livingstone moved quickly to progress the policy, using the powers available to him under the GLA Act. He also moved quickly with the preparation of his Transport Strategy, which had to be finalized before he could formally confirm the congestion charging scheme.

Although the GLA Act provides the Mayor with considerable autonomy in introducing a charging scheme, he chose to implement the central London scheme only after extensive consultation, and consideration of the views of those who made representations. However, the number of representations received was very small relative to the total number of people and organizations that might be affected by, or have an interest in, the scheme. His decision, upheld by the High Court, that a public inquiry was not necessary, was crucial to ensuring the scheme was operating, and bedded down, well before the 2004 Mayoral election.

### **References**

- Bannister, D. (2004). 'Implementing the possible?', *Interface, Planning Theory and Practice*, Vol. 5, No. 4 (December), London: Taylor & Francis.
- Corporation of London (2001). *Minutes of the Planning and Transportation Committee*, 7 September.
- Evening Standard* (2001a). 'Motorists, This is Your Nightmare', 6 September.
- Evening Standard* (2001b). 'London's Traffic has Defeated the Mayor', 11 November.

- GLA (2000a). *Fifth Report of the Mayor of London to the London Assembly*, 9 October.
- GLA (2000b). *Hearing London's Views*, London: Greater London Authority.
- GLA (2001a). *The Mayor's Transport Strategy*, London: Greater London Authority.
- GLA (2001b). *The Mayor's Transport Strategy Draft for Public Consultation*, London: Greater London Authority.
- GLA (2001c). *Mayor's Transport Strategy: Report on Public Consultation on the Draft Transport Strategy: Summary Report and Appendices*, London: MORI and GLA, Greater London Authority.
- GLA (2002a). *Statement by the Mayor Concerning his Decision to Confirm the Central London Congestion Charging Scheme Order with Modifications*, London: Greater London Authority.
- GLA (2002b). *Twenty-fourth Mayor's Report to the Assembly*, 18 September London: Greater London Authority.
- GLA Act (1999). *Greater London Authority Act 1999*, London: Her Majesty's Stationery Office.
- Livingstone, K. (2000). *Ken Livingstone's Manifesto for London: Getting London Moving*, <http://www.london.gov.uk/mayor/manifesto/manifesto3.jsp>.
- Livingstone, K. (2004). 'The challenge of driving through change: introducing congestion charging in central London', *Interface, Planning Theory and Practice*, Vol. 5, No. 4 (December) London: Taylor & Francis.
- London Assembly (2000a). *Congestion Charging: London Assembly Scrutiny Report*, London: Greater London Authority.
- London Assembly (2000b). *Minutes of the Extraordinary Meeting of the Transport Policy and Spatial Development Policy Committee*, 5 December, London: Greater London Authority.
- London Assembly (2001). *Agenda Paper, Report on the Mayor's Draft Transport Strategy, Transport & Spatial Development Policy Committee*, 3 April, London: Greater London Authority.
- NCE (2000). 'Debate: Can a workable congestion charging scheme be introduced in London by late 2002?', *New Civil Engineer*, 14 September.
- NCE (2001). 'City of London Rejects Congestion Charging', *New Civil Engineer*, 18 October.
- ROCOL (2000). *Road Charging Options for London: A Technical Assessment*, London: The Stationery Office.
- TfL (2001). *Central London's Problem: Our Solution – the Central London Congestion Charging Scheme Proposals*, London: Transport For London.
- TfL (2002a). *The Greater London (Central Zone) Congestion Charging Order 2001, Report to the Mayor, February 2002*, London: Transport For London.
- TfL (2002b). *Report to the GLA Transport Committee, 27 September 2002*, London: Transport For London.
- The Economist* (2000). 'Road Pricing: Brave Ken', 29 July.
- The Times* (2001). 'Congestion Tolls Wait for Green Light', 9 June.
- Travers, T. (2004). *The Politics of London: Governing an Ungovernable City*, Basingstoke: Palgrave Macmillan.
- Woolmar, C. (2003). 'The road less travelled', *Public Finance*, 4 July.

# 8

## The Mayor's Congestion Charging Scheme

### Introduction

The key principles of the scheme confirmed by Livingstone and implemented by TfL are essentially those of the ROCOL area licensing scheme (ROCOL, 2000). Indeed, in his decision to confirm the Scheme Order, in February 2002, Livingstone stated '*the ROCOL working party, reporting in 2000, concluded that a system such as I am now proposing would be effective*' (GLA, 2002). Much of the detail of the scheme is defined in the Scheme Order (TfL, 2001), and changes to those elements can only be made after formal consultation.

### The charged area and period

The charged area covers 21 square km, just 1.3 per cent of the area under the Mayor's jurisdiction. It includes the West End (London's shopping and entertainment district) and the City (the financial district, and historic centre of London), as well as an area south of the Thames including London Bridge, Waterloo and the Elephant and Castle (Figure 8.1). It includes the City of London, and parts of the London Boroughs of Camden, Hackney, Islington, Lambeth, Southwark, Tower Hamlets and the City of Westminster.

The area is encircled by a series of roads that constitute the Inner Ring Road (IRR), including Vauxhall Bridge Road, Park Lane, Edgware Road, Marylebone and Euston Roads, City Road, Commercial Street, Aldgate, Tower Bridge and Tower Bridge Road, New Kent Road, Kennington Lane and Vauxhall Bridge. However, certain short sections of road within the IRR are excluded, where they form part of, or are enclosed by, an alternative route for banned (right) turns on to or off the IRR.

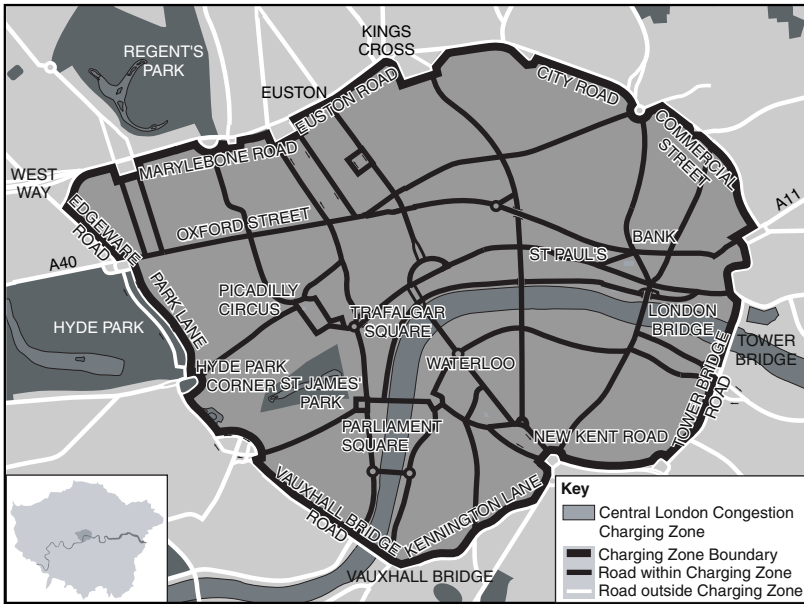


Figure 8.1 The charged area



Figure 8.2 The 'C' sign

The charged area is marked by signs at the approaches at the road-side and on the carriageway featuring a very distinct white C against a red circular background (Figure 8.2). The charge applies from 7 am to 6.30 pm Monday to Friday excluding public holidays.

### The charge and paying it

Paying the £5 daily charge involves registering the vehicle's registration (licence) number with TfL. The charge can be paid up to midnight on the day of use. However, to encourage timely payment, it increases

to £10 after 10.00pm. While, initially, there was no discount for block payments (TfL initiated a consultation in November 2004 on providing a 15 per cent discount for monthly and annual payments), the charge can be paid in advance for a specific day, week, month or year.

Registration is possible by a number of different media:

- telephone, either to a manned call centre or using 'Interactive Voice Response' (IVR), which allows registered users to enter all the necessary information over the keypad
- the Internet, including BT Internet kiosks.
- mobile phone using SMS text messaging
- payment machines
- retail outlets
- post

Payment by IVR and SMS text messaging requires pre-registration, when the user is given a code to be used whenever a payment is registered. By the end of the first year, 255,000 users had registered. It is also possible to fast track payment by other means (call centre, web, post) to limit the amount of information that has to be provided for each transaction, and by the end of the first year 395,000 users had registered for FastTrack (TfL, 2004). Payment can be by cash, cheque or credit card, depending on the payment method chosen. Over the first three months of 2004, some 35 per cent of payments were made at retail locations, 26 per cent over the Internet, 20 per cent by SMS text messaging, 13 per cent through the manual call centre and 6 per cent using IVR (TfL, 2004).

Operators of commercial vehicles and lease and hire vehicles with at least 10 vehicles (originally 25, but reduced following consultation in 2004) may register for one of two schemes, the *Notification Scheme* and the *Automated Scheme*. The Automated Scheme, which does not apply to cars, requires pre-registration of all vehicles to be included. (In November 2004, TfL initiated a consultation on amending the Automated Scheme to include cars and abolishing the fleet scheme; see Chapter 14.) However, no further action is required for registered vehicles, for which charges are automatically deducted for those observed (by the ANPR cameras) within the charged area and time. Registered operators have secure access for entry and updating of registered fleet details, and registration of vehicles on an ad hoc basis without incurring the £5 surcharge for payment after 10.00pm. Under the Notification Scheme, which is primarily designed for car fleet operators and also

requires pre-registration of vehicles, the operator has to submit a monthly list of the vehicles that are used within the charged area, by day. This scheme also allows for the addition of vehicles, on an ad hoc basis, by midnight on the day of travel. Under either scheme, operators pay an annual £10 charge per vehicle registered, and are required to enter into a direct debit bank mandate, paying the estimated total charges for the first ensuing month, in advance. The pre-payment for subsequent months is based on charges incurred in the previous month, after allowing for any outstanding credit or debit. The congestion charge for the users of the fleet schemes is £5.50 (instead of £5.00), to cover those vehicles not identified through the ANPR system.

In his 2004 election manifesto, Livingstone announced that he would consider automated payment for all users (Labour Party, 2004), although it was reported that this could not be introduced before 2006 (*The Times*, 2004).

## **Exemptions and discounts**

A number of vehicle types and persons are eligible for either exemption from, or a discount on, the charge. The following vehicle types are exempt:

- motorcycles, mopeds and bicycles
- taxis and mini-cabs licensed with the Public Carriage Office
- emergency services vehicles exempt from Vehicle Excise Duty (VED)
- National Health Service (NHS) vehicles exempt from VED
- vehicles used by disabled persons exempt from VED
- disabled passenger-carrying vehicles (e.g., Dial-A-Ride) exempt from VED
- licensed buses with 9 or more seats registered with TfL

Those eligible for a 100 per cent discount, provided they have been registered with TfL (for which there is a one-off registration payment of £10), are:

- vehicles used by disabled persons or organizations with a Blue (or Orange) Badge
- electrically propelled vehicles
- certain alternative fuel vehicles meeting strict emissions standards (e.g., gas, electric and fuel cell vehicles, including bi/dual fuel)
- specially adapted recovery vehicles

- breakdown vehicles providing roadside assistance or recovery services operated by accredited organizations such as AA, RAC or Green Flag

In addition, the following are eligible for a 100 per cent discount on the charge, provided they have been registered with TfL, for which there is no charge:

- vehicles with 9 or more seats, not licensed as buses
- certain operational vehicles used by emergency services
- certain operational vehicles used by the London boroughs covered by the charged area, the City of London and the Royal Parks
- vehicles used for lifeboat haulage, and HM Coastguard and certain Port of London Authority vehicles used to attend emergencies on the River Thames
- certain operational military vehicles

A 100 per cent reimbursement applies for certain journeys undertaken by fire-fighters, NHS staff, and certain NHS patients, as outlined below:

- 1 Vehicles used by fire-fighters for operational journeys between fire stations.
- 2 Vehicles used by NHS staff on certain operational journeys when carrying bulky, heavy or fragile equipment, confidential patient notes, controlled drugs, etc., or responding to emergencies.
- 3 Vehicles used by certain patients attending NHS appointments in the charged area. To be eligible patients must:
  - (a) receive assistance from the NHS to enable them to attend appointments using private transport (by reimbursement of travel/parking costs or by provision of free parking); and
  - (b) have a compromised immune system, require regular therapy or assessment, or require recurrent surgery; and
  - (c) be clinically assessed as too ill, weak or disabled to travel to an appointment on public transport.

The congestion charge has to be paid for these vehicles and claimed back from their employer or the relevant NHS body, which is then refunded by TfL. Following consultation in 2004, Livingstone decided to delete the first of the three requirements NHS patients have to satisfy.



Residents of the charged area were, in principle, eligible for a 90 per cent discount from the congestion charge, for one vehicle for each resident, for which the resident is the registered keeper, or which the resident hires or leases, or for a car provided by the resident's company. However, following consultations in 2004, the name and address on the vehicle registration documents must match the resident's details, and an authorization letter stating that the vehicle is for the sole use of the registered resident is required for employer-provided vehicles.

In evidence to the Commons Transport Committee, Livingstone said that he would have been willing to exempt commercial vehicles, but that would have led to Londoners buying vans instead of cars (House of Commons, 2003). There had also been a move to exempt lower paid workers in the public sector, including education and health. However, it soon became evident that any such exemption would be likely to lead to requests for others which, if not granted, could lead to a successful legal challenge.

### **Automatic Number Plate Recognition**

The charge is enforced using 203 camera sites around the boundary, covering all entry and exit points (other than culs-de-sac) and within the charged area (see Figure 8.3). There are also ten mobile units, operating within the charged area. The cameras are discreetly mounted on poles at the side of the road, or on islands within the carriageway. At each camera site, there are two camera types. One, black and white, records an image of the front number plate of all passing vehicles. There is one of these for each lane, giving a total of 434 at the 203 sites. The second is a colour camera, of which there are 254. These take a contextual picture to complement the image of the number plate, to help identify vehicles when the number plate cannot be interpreted with confidence, and to provide evidence in the event that a Penalty Charge Notice (PCN) is challenged. Control systems ensure the black-and-white and colour images are captured simultaneously, and both camera types are designed to record usable images under poor light and weather conditions (Addaway, 2004).

The cameras are linked to a control centre by networks provided by two operators, with key sites served by both operators to minimize data losses in the event of a network failure. The images are transmitted, encrypted and digitally signed. At the control centre, the black-and-white images are analysed using ANPR.



Figure 8.3 A typical camera installation

Although research prior to implementation found that some 10 per cent of the licence plates of vehicles passing a camera could not be successfully read, the density of camera coverage is such that almost any vehicle entering or being used within the charged area will be successfully observed at at least one site, and just a single observation is sufficient for enforcement.

The number plate records are compared with those of vehicles for which the charge has been paid, with images that cannot be interpreted by ANPR with certainty flagged for manual review. For that, staff have access to the contextual image and vehicle information held by the (national) DVLA. All images for which there is a match are discarded, usually within 24 hours of the image being recorded. For those vehicles for which no payment has been made, details of the vehicle and the name and address of the registered keeper are obtained from DVLA, a manual check is undertaken to ensure the vehicle's details match the images and an evidential record is created, before a PCN is issued. TfL stores the evidential records on a 'Write Once, Read Many' drive (to prevent modification of the evidence) until 13 months after the penalty has been paid. Under specific circumstances, the police can request a copy of an image, but they do not have general access rights to the TfL records.

## **Penalties, representations and appeals**

The registered keepers of vehicles not registered for payment by midnight are issued with a PCN. Initially, the basic penalty charge was set at £80, the same as penalties for on-street parking offences in inner and central London, with the charge reduced to £40 if paid within 14 days and increased to £120 if not paid within 28 days. However, the parking penalty was increased to £100 on 1 April 2003, and in July 2004 TfL increased the basic congestion charge penalty in line with the parking penalty to £100, with a reduction to £50 for payment within 14 days and an increase to £150 for payment after 28 days.

Users of fleet schemes who hire vehicles out on a short-term basis and are issued with a PCN can request that the PCN be reissued to the vehicle's hirer, with the start date reset to zero, allowing the full 28 days for payment by the hirer.

The keeper of a vehicle receiving a PCN may make representation to TfL if they consider the grounds for the PCN to be invalid, or they can plead mitigating circumstances. TfL has an obligation to consider pleas of mitigation, and can use their discretion to cancel the PCN if the mitigation is accepted. Those receiving a PCN can request a copy of the evidential record that forms its basis. Although there was initially a £10 charge for this, the charge was dispensed with following protests. Indeed, should TfL have wished to use the evidential record as evidence in an appeal they would have to provide a copy to the appellant free of charge. Initially, a significant proportion of PCNs issued were due to errors in the registration process, some due to confusion between the letters I and O and the numbers 1 and 0.

If TfL reject the representation, the vehicle's keeper has a right to appeal on one of the following grounds:

- (a) they were not the person liable for the charge at the time of the contravention;
- (b) the charge had been paid;
- (c) no penalty charge was payable under the charging scheme;
- (d) the vehicle was used without the registered keeper's consent;
- (e) the penalty charge exceeded the amount applicable;
- (f) the recipient was a vehicle hire firm (PATAS, 2004a).

Appeals are heard by the Parking and Traffic Appeals Service (PATAS), an agency established to adjudicate in appeals against parking penalty notices issued by London boroughs, and operated under the auspices

of the Association of London Government (ALG). Although PATAS staff are employed by ALG and ALG provides PATAS's accommodation and administrative support, the Lord Chancellor (the senior government law officer) appoints its Adjudicators, who constitute a tribunal and exercise their judicial powers independently of ALG (ALG, 2004). To accommodate the additional congestion charging adjudication service, a barrister with experience of tribunals was appointed to head an initial team of 12 adjudicators; however, the volume of appeals has been such that PATAS concluded it needed 35 (PATAS, 2004b). PATAS considers appeals presented in either writing or in person, with a target of a 56-day turnaround. Appellants are allowed access to the evidential record provided by TfL.

If there are three or more unpaid PCNs for which no representations have been made, a vehicle can be clamped or removed to a pound. Once clamped, a vehicle can only be released when all outstanding PCNs have been paid, together with a release fee of £65 (originally £45). Thus, the minimum total cost for release is £515: three maximum PCN charges of £150 each, plus £65. The release fee for a vehicle that has been removed is £150 (originally £125), plus a daily storage charge of £25 (originally £15), giving a minimum total release charge of £625. If the release fees are not paid, TfL can dispose of the vehicle either by scrapping or sale by auction. However, the registered keeper remains liable for all outstanding charges and fees plus a disposal charge of £60.

Representations can be made to TfL about vehicle clamping or removal, once the fee has been paid and the vehicle released. If TfL rejects the representation then the keeper has the right to appeal to PATAS (within 28 days of TfL's rejection) if:

- (a) the clamping, removal or disposal of the vehicle was not properly authorized;
- (b) the penalty charge paid to secure the release or recovery of the vehicle exceeded the amount applicable;
- (c) the outstanding penalty charges were incurred before the keeper became liable for the vehicle, or the number of penalty charges incurred after the keeper had become liable for the vehicle is fewer than that specified;
- (d) the recipient is a vehicle hire firm;
- (e) the vehicle was being used or kept by a person who was in control of the vehicle without the consent of the person liable (PATAS, 2004a).

However, it has been argued that this approach is contrary to human rights legislation as being disproportionate if the motorist successfully appeals.

Having appealed to PATAS, appellants do not have recourse to the courts, except under very limited circumstances, including errors on the part of PATAS which are of a nature that would compromise the appellant's right to a fair hearing, or an incorrect interpretation of the law by the Adjudicator. There is also a review procedure available to the adjudicators in cases of errors or where demanded by natural justice. If no representation is made to TfL, or the representation and any subsequent appeal to PATAS are rejected, and the fees due remain unpaid, TfL can apply to the County Court to have the debt registered, which may ultimately be collected by bailiffs authorized by the Court.

TfL also operates a complaints system to address concerns about the quality of service received in relation to the charge itself or when a vehicle has been clamped or removed, with the Local Government Ombudsman as the ultimate authority (TfL, 2003).

## A commentary

Although the scheme is essentially that recommended by ROCOL, in moving from the principles set out by ROCOL to an actual scheme, a very considerable amount of work was required to develop the essential details of scheme design and operation, so that Livingstone could have reasonable confidence in the scheme's likely success before making the final commitment to implementation.

The devil is in the detail, not only in the design of the charge system itself but also in the development of all the procedures, such as exemptions, penalties and appeals. Whilst the camera-based enforcement technology was proven, it had not been used in the very specific context of a major urban charging scheme, and many of the associated procedures had to be developed from scratch.

## References

- Addaway, B. (2004). 'Fraud Focus', *Traffic Technology International*, August/September.
- ALG (2004). 'The Role of ALG TEC Parking and Traffic Appeals Service in Relation to the Parking Adjudications'. Report by Charlotte Axelson, Head of PATAS, 23 March.
- GLA (2002). *Statement by the Mayor Concerning his Decision to Confirm the Central London Congestion Charging Scheme Order with Modifications*, London: Greater London Authority.

- House of Commons (2003). *Urban Charging Schemes, First Report of Session 2002–03*, House of Commons Transport Committee, London: The Stationery Office.
- Labour Party (2004). *A Manifesto 4 London: London Mayoral and London Assembly Elections 2004*, London: Labour Party.
- PATAS (2004a). <http://www.parkingandtrafficappeals.gov.uk>.
- PATAS (2004b). *PATAS Newsletter*, March, London.
- ROCOL (2000). *Road Charging Options for London: A Technical Assessment*, London: The Stationery Office.
- TfL (2001). *Central London's Problem: Our Solution – the Central London Congestion Charging Scheme Proposals*, London: Transport For London.
- TfL (2003). *How to Complain about Congestion Charging*, London: Transport for London.
- TfL (2004). *Impacts Monitoring Second Annual Report*, London: Transport for London.
- The Times* (2004). 'Livingstone Aids Forgetful Drivers', 11 May.

# 9

## Implementing the Mayor's Congestion Charging Scheme

### Introduction

While Livingstone and TfL were progressing the formal procedures to enable the introduction of the congestion charging scheme, TfL was also busy progressing the design of the scheme. Although much could be done in advance of the confirmation of the Scheme Order, some contracts could not be finalized until that confirmation was in place, and implementation could only get fully under way once the legal challenges were decided.

### Building the congestion charging team

TfL had operated in transition mode for some months prior to the election of the Mayor, with key positions filled on an interim basis by GOL appointees. Livingstone quickly replaced the interim Roads Director with Derek Turner and renamed the directorate *Street Management* to emphasize his determination to focus on improving movement. Turner was Traffic Director for London, responsible for implementing London's Red Route network (see Chapter 4), and had been a ROCOL Working Group member. Although his staff were to be transferred to TfL, Turner's own position, reporting directly to the Transport Minister responsible for London, was about to be abolished. Seen by Livingstone as a man he could trust to deliver his plans, Travers explains that Livingstone appointed Turner directly, bypassing the TfL Board (Travers, 2004).

Livingstone also inherited two staff who had been involved with ROCOL. One was Keith Gardner, who had led the LPAC work on charging (see Chapter 4) and had also been a member of the ROCOL Working Group. When LPAC was absorbed in the GLA, Gardner

became the GLA Transport Strategy Manager. The second was Tony Doherty, who had headed GOL's ROCOL Technical Secretariat, and had transferred to TfL on its formation. Following Turner's appointment, early in June 2000, TfL advertised for an Assistant Director of Congestion Charging under the byline '*developing a dramatically different traffic management programme for London*', to be responsible, under Turner, for delivering Livingstone's scheme. The advertisement called for someone who would quickly understand the main issues, be able to manage them effectively and build relationships with stakeholders. In the end, Livingstone decided to appoint two Assistant Directors on a job-share basis, choosing people with ROCOL experience, Michelle Dix and Malcolm Murray-Clark. Dix had been the Project Manager for the studies undertaken for ROCOL by the consultants, Halcrow, of which she was a Director. Murray-Clark, who had 25 years of experience in transport and traffic with the GLC and Westminster City Council, was Head of Transport Policy and Projects with Westminster, and had been a member of a ROCOL sub-group. Already working part time, they had made a joint application on a job-share basis, and chose to divide primary responsibilities along largely functional lines, enabling each to focus on particular aspects of this large and fast moving project.

Reporting to them was a Project Manager, provided by consultants Deloitte, to whom a set of Team Leaders reported (TfL, 2000). The Systems Integration Team Leader was also provided by Deloitte, as well as the Integration and the project Support Services Systems teams. Another set of consultants, Fishburn Hedges, provided the Team Leader and team for Communications and Media Relations. Four other Team Leaders (Scheme Integration, Operations, Enforcement and Traffic Management) were filled by staff appointed by TfL. Lawyers DLA were retained, together with a Queen's Counsel, for legal advice. There was no public transport team, as responsibility for the provision of the public transport measures to complement the scheme lay with London Buses, under the control of Peter Hendy; formerly with London Transport, Hendy had moved into the private sector when London bus operations were privatized, and he was appointed by Livingstone to replace the interim Director. By late Autumn 2000, Livingstone had assembled an experienced and able team of TfL staff and consultants with the potential to enable him to deliver his policy. The team continued to grow, reaching a total of 70 by July 2001 (NCE, 2001).

Just as Livingstone was not happy with the GOL-appointed interim Directors, he replaced the acting TfL Chief Executive, appointing Robert (Bob) Kiley in October 2000, following an international head-hunt, to the much aggrandized title of Commissioner of Transport (Travers, 2004). Kiley, who took up his position early in 2001, came to



London from the USA, where he was credited with turning the New York Metro from a run-down, crime-ridden system to a modern, much safer, air-conditioned metro. He brought with him an entourage of American colleagues, 'Kiley's People' (or the New York mafia, as they also became known), to fill other key roles. According to Steve Norris (former TfL Board Member and Conservative Mayoral candidate) this group ran TfL (*Evening Standard*, 2001). But while the congestion charging scheme was being developed, Kiley's main concern was very much on fighting Livingstone's battle with the government over its PPP plans for the Underground (Woolmar, 2002). Indeed, whether because of other priorities or a lack of conviction that the scheme would work, he was reputed to have kept his distance from congestion charging. But he also appears to have had an uneasy relationship with Turner, and when Turner left TfL shortly after the scheme went live, *The Times* asserted that Kiley had forced Turner to resign, as he did not get on with 'Kiley's People' (*The Times*, 2004). Whilst the *Financial Times* suggested that Turner's 'forthright manner' had been a problem (*Financial Times*, 2003), the *Evening Standard* reported Livingstone's staff as saying 'Mr Turner jumped – he was not pushed' (*Evening Standard*, 2003), and Livingstone told the Assembly 'Derek and I never had a cross word in the nearly three years we have worked together' (London Assembly, 2003a). However, in the same meeting Kiley alluded to a rather different relationship between Turner and Jay Walder (TfL's head of finance and one of 'Kiley's people' from New York), which was reputed to be 'difficult'. Yet *The Times* has suggested that, having failed to block the Underground PPP, Kiley wants to be remembered as 'the pioneer who introduced the world's biggest congestion charging system', although 'historians will find little evidence to suggest that Kiley was the driving force . . . indeed, it was Kiley who helped oust its true architect Derek Turner' (*The Times*, 2005). Whatever the tensions, there can be no doubt that Turner had met Livingstone's target to have congestion charging in place by early 2003, operating successfully.

Following Turner's departure, his Street Management directorate was combined with Buses to create a Surface Transport directorate under Hendy.

## Managing the project

TfL appointed PricewaterhouseCoopers to prepare an initial project plan and management structure, which was ready by late September 2000. This sought to achieve implementation by the end of December 2002, allowing only 30 months compared with ROCOL's 39 months (ROCOL, 2000). TfL explained that this could be achieved by:

- (a) establishing the principles of the scheme through consultation on the Mayor's Transport Strategy, enabling the draft Scheme Order and Traffic Order consultations to focus on the details, thereby allowing an overlap between consultation and scheme design;
- (b) commencing procurement in parallel with both consultation and scheme design, but without requiring award of implementation contracts before formal approval of the Transport Strategy;
- (c) reducing the time required to implement the main traffic management measures;
- (d) making an early start on complementary transport measures, such as the London Bus Initiative (London Assembly, 2000).

However, TfL hedged this accelerated programme with a number of key assumptions, including:

- the scheme receiving support at the consultation stages
- maintaining the programme for the consultation on the Transport Strategy, and Scheme and Traffic Orders
- no public inquiry or judicial review
- no development of new technologies
- key decisions being taken on time
- only limited traffic management and complementary transport measures having to be in place by the Go-Live date
- application of sufficient resources (TfL, 2000)

TfL concluded that, on these assumptions, the programme was challenging but achievable. While the caveats appeared to provide opportunity to explain future delays, the programme proved to be robust, despite legal challenge and the implementation of extensive traffic management and bus improvement measures.

Following the appointment of Deloitte as Project Manager, the work programme was developed further, with the Go-Live date slipping into early January 2003, *'the best achievable date'*, subject to similar caveats to the initial programme (TfL, 2001b).

### **The procurement strategy**

TfL had originally planned to let a series of supply contracts, managing the interfaces between contracts themselves (London Assembly, 2000). However, by January 2001, they had decided to create a series of work packages designed to minimize the integration risk they would have to carry, whilst seeking to avoid *'unnecessary consortia'* and *'the potential for*

*risk to be abdicated rather than managed'* (TfL, 2001b). TfL wanted to be able to select the best supplier for each strategic element of the system, avoiding having sub-optimal individual components of large packages of systems or services awarded to consortia (a real risk when the number of suppliers for particular elements is small). Accordingly, work packages were structured to keep strategic elements with limited suppliers discrete, whilst ensuring clearly defined interfaces.

Other elements of the procurement strategy included:

- a focus on existing technologies, avoiding the use of new technologies
- proving any custom development early in the procurement process
- the use of using existing infrastructure, such as call centres, wherever possible
- combining initial provision with operation

TfL was also keen to retain ownership of key assets, such as the cameras and the data network linking them to the control centre, which could be used for other TfL purposes.

Underlying the procurement strategy was a risk management policy that included:

- defining systems' boundaries and interfaces early
- pre-production testing of business processes
- shortlisting two bidders for each key supply contract, who then demonstrated their proposed systems

The systems and services to be procured were divided into six groups:

- (a) *Core Services*, including processing of registration of charge payments, and enforcement tracking;
- (b) *Image Management*, including the ANPR system and image storage;
- (c) *Support Services*, including manual checking of images, access to the DVLA records, on-street enforcement and the appeals procedures;
- (d) *Asset Procurement*, including the cameras and fibre-optic networks;
- (e) *Project Services*, including research, monitoring, advertising and information;
- (f) *Traffic Management*.

Having awarded contracts for individual components of the total system, TfL transferred a number of the contracts to Capita, a facilities management company, which had won the Core Services contract. Thus, having secured key suppliers, TfL transferred responsibility for

integration and operations to a single entity. However, in choosing this route, TfL had to commit resources to the detailed technical specifications of systems and interfaces, rather than concentrate on the services to be provided, and the failure of Capita to provide totally satisfactory customer services proved to be a weakness (see Chapters 10 and 12).

Capita also took responsibility for much of the capital investment, to be reimbursed by TfL on a transaction and performance basis once the system was operating. Thus, in classic Treasury style, some of the capital costs were taken off TfL's balance sheet. However, there was some criticism of the appointment of Capita, given problems with other high-profile public sector projects in which the company had been involved. Whilst TfL sought to reduce these risks by managing the Capita contract very closely, as described in Chapters 10 and 12, the contract was not without problems, possibly due to an insufficiently strong focus on the services to be provided in establishing the initial contract.

With limits to the extent to which public funds could be committed until appropriate authorizations were in place, crucial implementation milestones were the publication of the Mayor's Transport Strategy in July 2001, which confirmed the principles of the scheme, the approval of the Scheme Order in February 2002, and the court decision on the legal challenges in July 2002.

## **Enforcement**

Since enforcement of the charge depended on obtaining the identity of the owners, or keepers, of vehicles for which no charge has been paid, there were two critical hurdles to overcome. The first was ensuring that the technology would provide readable licence plate images under virtually all weather and lighting conditions. Preliminary trials satisfied TfL that this could be done. The second was setting up an arrangement with the DVLA to provide TfL (and its agents) with on-line access to the DVLA database (although local authorities have a statutory right to DVLA data, free of charge when a traffic offence has been committed, the DVLA had previously resisted the provision of on-line access), which was also achieved, despite reported efforts by a Transport Minister to frustrate these arrangements (see Chapter 11).

The completeness and accuracy of DVLA records, which had not been as good as required for effective enforcement, had been a concern. However, with increased use of licence plates for a series of enforcement

activities, DVLA had already initiated action to improve the currency and quality of its records, and that was also expected to help address the problem of the use of unlicensed (and uninsured) vehicles which accounted for up to 20 per cent of vehicles kept in parts of inner London. Although evasion caused a 4.8 per cent loss of licence revenue in 2002–3, nationally new DVLA procedures had reduced this to 3.4 per cent in 2003–4, and the DVLA has a target to reduce unregistered vehicles by half, to 425,000, by 2007 (NAO, 2005). Despite unregistered vehicles and errors in the records of those registered, the National Audit Office concluded that the data held would allow the police to trace the keeper of some 90 per cent of all vehicles in 2004.

It was also expected that TfL's powers to impound, and ultimately dispose of, vehicles with unpaid charge penalty notices would encourage compliance (see Chapter 8). However, there remains a problem of dealing with foreign registered vehicles, and although an EC initiative (VERA) is seeking to address cross-border enforcement, it is likely to be some years before the UK participates in the evolving arrangements (Brosnan and Jordi, 2003).

Whilst privacy was expected to be a controversial aspect of the enforcement arrangements, it proved to be of limited concern.

## **Assessing the impacts**

TfL inherited the transport modelling system developed by ROCOL (Chapter 6), which had been derived from that used for the LCCRP: (see Chapter 4). Whilst the two earlier studies had been focused on developing and assessing policies, TfL was concerned with the detailed design of a scheme, and thus with detailed traffic data. The LCCRP had used an existing traffic model, using SATURN software, to assess local traffic impacts, but this only covered the area to the west of the charged area, and a comparable model had not been developed for ROCOL. TfL therefore had to develop a local traffic model for central and inner London, SALT, which represented the full road network in central London and much of inner London. As with the LCCRP model, the basic demand inputs were derived from APRIL/AREAL via LTS (which is used to assign flows derived from APRIL/AREAL, the congestion charging model.) However, calibrating SALT to give traffic flows that satisfactorily matched those observed proved difficult and, reporting to the Assembly at the end of September 2002, less than five months before the scheduled Go-Live date, TfL stated: *'while interim versions of the model have been used for some time, a definitive version*

*sufficiently robust across all aspects of the validation and predictive requirements has not yet been finalised'* (TfL, 2002b). TfL's Dix later told the Assembly that the modelling had been '*strategic*', that whilst TfL was able to identify areas where there would be an increase, it was not possible to say how much extra traffic there would be in a particular road (London Assembly, 2003b).

Yet one of the major concerns of both the London Assembly and the boroughs affected by the scheme had been the impacts of the charge on roads around the periphery of the charged area, and to understand those they needed local traffic forecasts. The failure to provide these forecasts contributed to tense relations on scheme implementation between TfL and some boroughs.

Another area of concern to many was that of the possible economic impacts. However, TfL concluded that it was not feasible to seek to forecast these, given the limitations of the available analysis techniques.

## **Traffic management**

The scheme was accompanied by a range of traffic management measures, for which a budget of £102 million had initially been allocated. Since some of the works related to roads under the jurisdiction of London boroughs, £50 million was allocated to the affected boroughs and, as not all needs would be identified until charging had started, £37 million (including £20 million for the boroughs) was allocated for use in financial year 2003/4.

TfL's own traffic management work was focused on the IRR and the approach radials, which formed part of the network it controlled. Schemes were designed to improve flow as a result of expected changes in turning movements on and off the IRR, with less traffic going into and leaving the charged area, and more turning on and off the IRR to avoid the charged area. These schemes were complemented by enhancements to the central traffic control system, in particular to provide greater flexibility in accommodating changes in turning movements, and by the recruitment of additional London Traffic Control Centre staff. In addition, planned highway maintenance was advanced to minimize disruption in the early months of the scheme.

Most of the traffic management schemes implemented on borough roads were either Controlled Parking Zones or for environmental traffic management, to control any additional on-street parking and to manage traffic diverting along residential and other local roads outside the charged area. Other schemes were for cycling, pedestrians and bus

priorities, most of the last being an integral part of the established London Bus Initiative, or Bus Plus, which had become part of the complementary public transport improvement programme. TfL operated a three-stage process, inviting initial bids for funding preliminary design and consultation, followed by bids from boroughs for funding detailed design and then for implementation. As a result of TfL's perceived willingness to keep boroughs on-side, some boroughs saw the availability of funding as an opportunity to progress a variety of schemes, some of which had tenuous links with the impacts of charging.

Although the boroughs were crucial to the implementation of many of the traffic management schemes, whilst acknowledging that Westminster's legal challenge made it more difficult for TfL to be as open as some thought desirable, many were not happy with TfL's approach to their involvement. Their relationship with Livingstone had been difficult since an early decision by Livingstone not to attend ALG meetings because of criticisms from the boroughs, and criticism by him of their unwillingness to accept the reality of the new London government structure. In summing up an evidence session with the Assembly, in which it had been suggested that, having been set an unrealistic timetable, TfL had to bulldoze the scheme through (London Assembly, 2001c), the ALG concluded that TfL had '*failed to understand the role and responsibilities of the Boroughs*' and '*failed to consult properly*' (ALG, 2001). Having heard from both TfL and ALG, the Assembly concluded that there was '*a dysfunctional relationship*' between ALG and TfL (London Assembly, 2001c). The problem was not just in the relationship between ALG, as a body, and TfL, but also between individual boroughs and TfL, as illustrated in Chapter 11.

However, in September 2002, the ALG's Nick Lester told the Assembly that relationships between the boroughs and TfL were improving, and by the time the scheme was up and running Kiley reported that he thought the relationship had improved markedly, helped by TfL's creation of a Borough Partnerships Office (London Assembly, 2002).

## **Public transport**

Livingstone's congestion charging policy complemented, and was complemented by, his strategy for buses, to make them '*reliable, quick, convenient, accessible, comfortable, clean, easy and safe to use, and affordable*' (GLA, 2001). Unlike the rest of the UK, buses in London are regulated, with services provided by contractors to TfL specifications, and TfL retaining fare revenues. To help make buses affordable, Livingstone

introduced a flat 70p fare in 2001, which was intended to be frozen. However, this was increased to £1.00 in 2004 for cash fares, while remaining 70p for users of the stored fare Oyster Card, a key step in encouraging the use of off-vehicle ticketing to reduce dwell time at stops caused by passengers paying cash fares to the driver. Fares were increased again in 2005 (see Chapter 14).

To improve bus service quality, Livingstone introduced Quality Incentive Contracts for the service contractors, which provided for improvements in bus crew pay and conditions to overcome high turnover and staff shortages. He also made commitments to accelerate the introduction of low floor accessible buses, to the provision of Countdown displays at 4,000 stops by 2005, with 2,000 in place by the start of congestion charging, to improve passenger information, and to the established (and related) plan to provide Automatic Vehicle Location (AVL) systems for London's buses. In addition, he reaffirmed his commitment to the London Bus Initiative, LBI, which had five key objectives:

- reducing the variability of passenger waiting times
- reducing the variability of bus journey times
- reducing whole route journey times
- improving passenger satisfaction
- increasing patronage (GLA, 2001)

The LBI included increased use of bus lanes and bus priorities and their effective enforcement through more use of CCTV, both along routes and on buses. LBI Stage 2 was focused on bus routes serving central London, to complement the congestion charge.

In addition, capacity was increased on routes serving central London, by the introduction of seven new routes, and increased frequency and larger vehicles on existing routes, providing 350 additional buses and the equivalent of 11,000 extra spaces during the peak hour, a 23 per cent increase (which compares to an estimated increase in demand of 7,000 passengers: TfL, 2003a).

While it was feasible to increase the capacity and quality of bus services in the run-up to congestion charging – and after its introduction – there was no real opportunity to make significant changes in rail services, both because of the much longer lead times involved and because National Rail was outside the Mayor's effective jurisdiction; even the Underground did not come under his control until July 2003, following completion of the PPP arrangement. However, in evidence to



the Assembly, TfL had suggested that there would be little net impact on rail, as there would be a cascade effect, with some car users switching to rail, and rail users switching to the improved bus services (London Assembly, 2000).

## Communications

Essentially, congestion charging is about persuading people to change their behaviour. To do that they need to know what their options are and what actions they, as individuals, need to take. Thus the success of the London scheme was as dependent on getting information across to the vehicle owners and users as on ensuring the charging technology was working effectively. TfL recognized this from the early stages of developing the project, having made public relations (PR) one of the six teams responsible for implementation.

Although the consultants Fishburn-Hedges provided this function, working with Livingstone's Head of Media Relations and TfL's Head of Group Media Relations, they were required to work as an in-house team, keeping closely in touch with all those responsible for scheme design and implementation. The team's responsibilities covered all aspects of communications and marketing, including stakeholder and media relations. Getting the *Evening Standard* on-side, which was a key element of the media strategy, suffered a setback when the Editor changed in February 2002, and media-savvy Livingstone managed to fall out with the new Editor, Veronica Wadley (BBC, 2003a; *The Guardian*, 2002). From her appointment, Wadley seemed to seek to identify possible shortcomings with the scheme and its implementation, and to give any weaknesses, or suspected weaknesses, full exposure. The media team sought to overcome this by seeking to respond to misunderstandings and errors in reports, and helping the media understand the scheme's rationale, and how it would work (LTT, 2003). However, an analysis of media reports undertaken for the Mayor concluded that there was extensive hostile reporting (Gaber, 2004).

One of the PR team's greatest challenges was to ensure that virtually all those likely to drive into central London, from anywhere in the UK, were aware of the charge. This involved the development of an extensive advertising campaign using a variety of media but with a strong focus on radio. Most advertisements concentrated on presenting factual information, avoiding advocacy, and focused on just one element of the scheme at a time: where the charge applied, the operating hours, the £5 charge itself. Fishburn Hedges reported there was a very high

level of awareness by 17 February 2003 (LTT, 2003). However, criticism of the release of information that the charge could be paid at Post Offices, when there was no agreement, and no agreement was reached (BBC, 2003b), served to demonstrate the care needed to ensure the accuracy of all public documentation on the scheme.

## Finances

Having initially used the ROCOL estimates, providing a preliminary expenditure budget of £250 million for the three years 2001 to 2004 (TfL, 2000), TfL provided a new budget in January 2001, with total set-up costs of £182 million (TfL, 2001b), built up as shown in Table 9.1.

*Table 9.1* Cost estimates, 2001

|   |              |
|---|--------------|
| Scheme integration, policy, legislation, modelling and monitoring | £9 million   |
| Enforcement infrastructure  | £3 million   |
| Operations and systems set-up                                     | £28 million  |
| Traffic management  | £102 million |
| Communications and advertising                                    | £20 million  |
| Project management and project office                             | £5 million   |
| Contingency   | £15 million  |
| Total   | £182 million |

This budget (and subsequent published budgets) excluded costs associated with public transport, predominantly bus, improvements, which were part of the wider Mayoral commitment to improve bus services, and lower fares, across London. However, some of the costs of improvements to services serving central London logically form part of the true total costs of the Mayor's scheme, contributing to London Buses' increasing funding gap, estimated at £560 million for 2003/4 (TfL, 2003d), up from some £200 million in 2001/2 (DfT, 2002), and expected to reach £1 billion by 2008/9 (TfL, 2003c). In a cost benefit analysis after the first six months of the scheme, TfL set the net costs at £20 million (TfL, 2003b). However, there have been suggestions that, given the substantial net costs of operating London's buses, this is an underestimate, possibly by a factor of two (Corporation of London, 2004).

TfL's first estimate of the operating costs and revenues (which excluded net revenues from penalty charges) differentiated between the first two six-month periods and steady state operations thereafter;

Table 9.2 Initial cost and revenue forecasts

|   | First six months | Second six months | Steady state |
|---|------------------|-------------------|--------------|
| Operating costs                               | £50 million      | £35 million       | £69 million  |
| Licence revenues                              | £118 million     | £118 million      | £237 million |
| Net operating revenue<br>(excluding net PCNs) | £68 million      | £83 million       | £168 million |

see Table 9.2 (TfL, 2001b). Whilst anticipating higher costs in the early stages, as users registered and became familiar with the scheme, revenues were expected to achieve 'steady state' from the outset. The £168 million steady state net revenues estimated were significantly lower than the £200–£220 million ROCOL estimate (ROCOL, 2000).

The Assembly found TfL's early monitoring of implementation costs weak, with the January 2001 information being less detailed *'than might have been expected'* (London Assembly, 2001a). When provided with incomplete historic data, in July 2001, the Assembly resolved to ask TfL for *'budget and cost reports including all costs incurred in 2000/1 so as to provide a true total [budgeted] cost of the scheme'* (London Assembly, 2001b).

However, once Jay Walder, TfL's Managing Director Finance and Planning, became involved, project finance control was put on a sounder footing. Given the streams of costs and revenues, he decided that scheme finances should be assessed over an eight-year period to July 2008, discounted back to 2000, leading to a redefinition of costs (TfL, 2001a).

By September 2002, the total implementation costs had risen to £205 million, with a Net Present Value (NPV) of £180 million, excluding the elements provided by Capita, costed at £208 million in NPV (TfL, 2002b). Excluding start-up costs incurred directly by TfL, and net revenues from PCNs, the estimate of the steady state of net revenues had been reduced to some £100 million, to which £30 million from PCNs was added, for the first time, to give some £130 million. Taking account of start-up costs, the NPV of the scheme over the eight years to 2007/8 was estimated at £300 million (see Table 9.3).

The reduction in charge revenues was based on a worst-case approach. Counts of traffic crossing the charge cordon in spring 2002 gave flows significantly lower than had been used previously. Whilst there was no clear reason for the reduction, TfL decided to revise their forecasts to reflect it (TfL, 2002b).

Table 9.3 NPV-based financial estimate, 2002 (£m)

|  | Total NPV @ 6% real<br>£m | Total real<br>£m |
|--|---------------------------|------------------|
| <b>Annual running costs</b>  |                           |                  |
| Operating costs, including DVLA, adjudication, enforcement         | 44.7                      | 58.8             |
| Core services, image management, retail (Capita)                   | 208.3                     | 273.8            |
| Telecommunications   | 21.2                      | 26.9             |
| Cameras maintenance  | 1.9                       | 2.5              |
| Monitoring   | 2.0                       | 2.5              |
| TfL management and support services                                | 18.7                      | 24.4             |
| Traffic management   | 12.1                      | 16.0             |
| Scheme integration, strategy inspection legislation, modelling etc | 10.8                      | 13.9             |
| Sub-total  | 319.7                     | 418.8            |
| <b>Start-up costs</b>  |                           |                  |
| Scheme integration, strategy inspection legislation, modelling etc | 4.3                       | 4.7              |
| Operations and systems   | 26.7                      | 30.7             |
| Cameras supply and installation                                    | 3.6                       | 3.9              |
| Monitoring and market research                                     | 1.6                       | 1.8              |
| Enforcement infrastructure   | 2.4                       | 2.6              |
| Traffic management   | 85.8                      | 97.8             |
| Project management and support services                            | 17.8                      | 19.1             |
| Communications and public information                              | 15.6                      | 17.3             |
| TfL management and support services                                | 11.1                      | 11.8             |
| Contingency  | 11.4                      | 15.0             |
| Sub-total  | 180.4                     | 204.7            |
| <b>Total costs including overhead revenues</b>                     |                           |                  |
| Charge revenues  | 693.9                     | 917.2            |
| PCN net revenues   | 110.6                     | 146.0            |
| Total revenues   | 804.5                     | 1,063.2          |
| Net operating surplus  | 304.3                     | 439.7            |

The estimated total annual running and start-up costs had remained constant since the NPV costing process was first reported to the Assembly in August 2001 (TfL, 2001a). However, the steady state annual net revenues (excluding PCNs) had been reduced progressively over the two years from the first Project Overview, giving an overall reduction of over £50 million.

## The application of net revenues

Under the GLA Act, the Mayor is required to specify the use to which net revenues will be put over the first ten years of operation of a charging scheme (GLA Act, 1999). Although Livingstone was not prepared to be specific by, for instance, stating that the introduction of the charge would enable a particular policy or project to be pursued which would not otherwise have been possible, he complied with the Act by relating the use of the net revenues to elements of his Transport Strategy, stating in the Scheme Order that:

*Over the early part of the ten year horizon of the Transport Strategy, it is envisaged that the net revenues from the proposed central London congestion charging scheme would help fund or bring forward improvements across Greater London with particular emphasis on the following areas:*

- *bus network improvements*
- *accelerating or extending accessibility*
- *interchange improvements*
- *contributing to the costs of developing possible tram or high quality segregated bus schemes*
- *safety and security improvement schemes*
- *accelerating road and bridge maintenance programmes*
- *increasing late night public transport*
- *additional funding for borough transport initiatives*
- *restructuring fares on public transport*
- *improvements to the walking and cycling environment*
- *improvements to the street environment.* (TfL, 2002a)

Projects that would benefit from the net revenue stream in the latter part of the Transport Strategy's ten-year horizon included:

- expanded Underground and National Rail capacity
- Thames Gateway river crossings
- improved access to London's town centres
- possible tram or high quality segregated bus schemes
- selected improvements to London's road system

Whilst the net revenues would not be sufficient to meet the full costs of any one of most of these plans, the fact that Livingstone was intending to use them to support the implementation of his Strategy was sufficient to satisfy the Secretary of State, whose approval is required on this particular aspect of a London charging scheme (see Chapter 6).

## **The Audit Commission**

In 2004 the Audit Commission, an independent public body responsible for ensuring the sound use of public money in local government, undertook an *Initial Performance Assessment* of TfL, as part of its *Comprehensive Performance Assessment* of English local authorities (Audit Commission, 2004). TfL's delivery of the congestion charging scheme was seen as an illustration of TfL's focus and project management competence: *'a number of large-scale, high profile projects . . . have contributed to delivering key aspects of the Mayor's Transport Strategy and TfL's business plan . . . these include the implementation of congestion charging . . . TfL's ability to focus has contributed to its significant achievements in the delivery of its ambition.'*

### **A commentary**

With his determination to introduce a congestion charging scheme for central London within his first term of office, Livingstone rapidly built a team of TfL staff and consultants that he believed would enable him to achieve his objective. Although details evolved as design progressed, the basic scheme remained much as developed by RCOL and adopted by Livingstone soon after taking up office.

Implementing the scheme on time was a major achievement. Although it had been designed to use existing technology, that technology was applied on a considerably larger scale than before, and in a different context. Moreover, it included a major information technology (IT) component and there is a long list of public sector IT projects that have previously failed, if not to work then at least to be completed on time and/or within budget. However, as time went by, so the net financial benefits expected of the scheme (before allowing for its net impacts on the growing London Buses funding gap), were eroded.

Rightly, from the outset, the scheme was not seen as just a technical project. It was recognized that 'selling' it to a wide community – much wider than just London – was essential if it was to be effective, and that would require a dedicated, expert, team.

It was also recognized that the tight programme required strong and effective project management, and TfL was not afraid to bring in outside expertise to both develop a robust programme and then keep it firmly on track. It has been suggested that the Congestion Charging team had a 'can do, will do' approach, seeing difficulties as challenges to be overcome rather than reasons for delay or increased budgets, and that this accounted for much of the success.

Whilst it might not be surprising that, in the drive to achieve completion of a highly challenging project to a very public deadline, TfL was seen by some as being high-handed, it is also possible that a more inclusive approach might have eased some of their work.

## References

- ALG (2001). 'ALG/TfL Relationships', Circular to Borough Transportation Officers, 6 November, Association of London Government.
- Audit Commission (2004). *International Performance Assessment: Transport for London*, London: Audit Commission.
- BBC (2003a). 'Mayor cleared over party claims', 23 July, <http://news.bbc.co.uk/1/hi/england/london/3090579.stm>.
- BBC (2003b). 'Post Office row over congestion charge', 7 January.
- Brosnan, M. and P. Jordi (2003). VERA 2:Video Enforcement for Road Authorities, [www.rapp.ch/documents/papers/Budapest\\_VERA\\_2\\_paper.pdf](http://www.rapp.ch/documents/papers/Budapest_VERA_2_paper.pdf).
- Corporation of London (2004). *Congestion Charging – One Year On*, report to the Planning & Transportation Committee, 16 March.
- DfT (2002) *Review of Bus Subsidies*, London: Department for Transport.
- Evening Standard* (2001). 'Time is Running Out for Citizen Ken', by Steve Norris, 22 November.
- Evening Standard* (2003). 'Congestion guru resigns', 25 March.
- Financial Times* (2003). 'Architect of congestion charge quits amid rumours of rift with mayor's management', 26 March.
- Gaber, I. (2004). *Driven to Distraction* London: Goldsmiths College.
- GLA (2001). *The Mayor's Transport Strategy*, London: Greater London Authority.
- GLA Act (1999). *Greater London Authority Act 1999*, London: Her Majesty's Stationery Office.
- London Assembly (2000). *Congestion Charging: London Assembly Scrutiny Report*, London: Greater London Authority.
- London Assembly (2001a). *Report to the Transport Policy and Spatial Development Policy Committee*, 19 June.
- London Assembly (2001b). *Minutes of a Meeting of the Transport Policy and Spatial Development Policy Committee*, 24 July.
- London Assembly (2001c). *Minutes of a Meeting of the Transport Policy and Spatial Development Policy Committee*, 30 October.
- London Assembly (2002). *Minutes of a Meeting of the Transport Committee*, 10 September.
- London Assembly (2003a). *Minutes of a Meeting of the Transport Committee*, 3 April 2003.
- London Assembly (2003b). *Minutes of a Meeting of the Transport Committee*, 26 November.
- LTT (2003). 'How communications prepared the ground for congestion charge', *Local Transport Today*, 12 June.
- NAO (2005). *Home Office: Reducing Vehicle Crime*, London: National Audit Office.
- NCE (2001). 'How Realistic is the Congestion Charging Plan?', *New Civil Engineer*, 26 July.
- ROCOL (2000). *Road Charging Options for London: A Technical Assessment*, London: The Stationery Office.

- TfL (2000). *Project Overview 26 September 2000*, London: Transport For London (reproduced in London Assembly, 2000).
- TfL (2001a). *Congestion Charge Update Report to the Transport Policy and Spatial Development Committee, London Assembly, 31 August*, London: Transport For London.
- TfL (2001b). *Project Overview 31 January 2001*, London: Transport For London.
- TfL (2002a). *The Greater London (Central Zone) Congestion Charging Order 2001, Report to the Mayor, February 2002*, London: Transport for London.
- TfL (2002b). *Report to the GLA Transport Committee 27 September*, London: Transport for London.
- TfL (2003a). *Buses on Track to Deliver Improvements before Congestion Charging*, TfL Press Release, 3 January, London: Transport for London.
- TfL (2003b). *Congestion Charging: 6 Months On*, London: Transport for London.
- TfL (2003c). *London Buses Strategic Review*, London: Transport for London.
- TfL (2003d). *Transport for London 2003/04 Budget*, London: Transport for London.
- The Guardian* (2002). 'No Ken Do', Saturday 6 July.
- The Times* (2004). 'Norris Will Sack Transport Chief if Elected Mayor', 14 April.
- The Times* (2005). 'An American leads the charge', *Public Agenda*, 25 January.
- Travers, T. (2004). *The Politics of London: Governing an Ungovernable City*, Basingstoke: Palgrave Macmillan.
- Woolmar C. (2002). *Down the Tube: The Battle for London's Underground*, London: Aurum Press.



# 10

## The London Assembly: Scrutinizing the Scheme

### Introduction

The principal role of the London Assembly is to hold the Mayor to account on London's behalf, with scrutiny of the Mayor's policies and plans, and of the work of the GLA's functional bodies (including TfL), forming one of the Assembly's primary tasks.

Assembly members chose to manage this work through functional committees, two of which were concerned with transport, one with strategy and one with operations: Transport Policy and Spatial Development Policy, and Transport Operations. However, after the first two years, the structure was changed to create a single Transport Committee, with planning covered by a new Planning and Spatial Development Committee.

In a study of the Assembly, Travers found that by 2003 it had '*not found an effective role,*' and that '*for most politicians being a scrutineer . . . is not attractive*' (Travers, 2004). However, he also reported that '*scrutiny committees that concentrated on published mayoral policy such as congestion charging and the draft transport policy found it easier to challenge the Mayor and his functional bodies than those that undertook more general inquiries*'.

### The Assembly's congestion charging scrutiny, 2000

With Livingstone pushing ahead with congestion charging on coming into office, the Assembly decided that his proposed scheme should be the focus of one of their first scrutinies, under a Panel chaired by Lynne Featherstone (Liberal Democrat). Other Panel members were to be John Biggs and Samantha Heath (Labour), Angie Bray and Bob Neil, with Roger Evans as alternate (Conservative) and Jenny Jones (a Green)

broadly reflecting the political profile of the Transport Policy and Spatial Development Policy Committee, and the whole Assembly (London Assembly, 2000c).

With the GLA not yet fully staffed, the Assembly appointed Tony Travers, a local government expert and Director of the London School of Economics' Greater London Group, and Martin Richards, who had just retired as Chairman of transport planning consultants MVA, and who had directed the London Congestion Charging Research Programme and had also been a member of the ROCOL Working Group, to manage the scrutiny. The scrutiny's objective was an initial technical review of Livingstone's congestion charging proposals, to be completed by 1 November 2000, when Livingstone was scheduled to present the first draft of his Transport Strategy to the Assembly (London Assembly, 2000d). It was charged with identifying the objectives Livingstone was seeking to satisfy through congestion charging, and assess:

- (a) whether any of the scheme objectives could reasonably be achieved by other means;
- (b) the possibility of implementing the proposed scheme successfully, within the proposed time scale and budget;
- (c) the likely extent of the impacts of the proposed scheme on London and its people;
- (d) the financial viability and overall effectiveness of the proposed scheme relative to Livingstone's objective.

Building on Travers' experience with Parliamentary Select Committees and Richards' knowledge of congestion charging, they put together a programme of eight evidentiary sessions, with a variety of invited experts as well as GLA and TfL officers, the Association of London Government (the association of London boroughs) and Livingstone. As the focus was on technical aspects of the scheme, and not wishing to duplicate the consultations initiated by Livingstone, the Panel only received and heard evidence from those invited.

Under the GLA Act, the Assembly can require employees of the GLA and its functional bodies (such as TfL), members of the functional bodies (such as the TfL Board), and contractors to the GLA and the functional bodies to give evidence or provide documents within two weeks of being called (GLA Act, 1999). However, they cannot be required to disclose advice given to the Mayor unless that advice has already been disclosed in a meeting or a document to which the public

has access. However, the Panel felt that TfL had been unwilling to respond to a number of questions as fully as the Panel considered necessary to the scrutiny, leading them to query the proper interpretation of this provision of the Act (London Assembly, 2000a).

The Assembly can also invite, but cannot compel, others to provide evidence. The Panel had invited a charging expert from the Department of the Environment, Transport and the Regions involved in drafting the charging elements of the GLA Act to give evidence. However, the Department and the Government Office for London chose not to permit this, on the grounds that:

- (a) as the Mayor's congestion charging proposals were a matter for the GLA, government should stand back from them;
- (b) it was not appropriate for officials to give views on the merits on the scheme, given the Secretary of State's statutory powers.

The Panel found this approach less than satisfactory, since they considered those in government with jurisdiction over the operation of the GLA and the Assembly should be able to give evidence, to enable the Assembly to be properly informed (London Assembly, 2000a).

The Panel heard first from GLA and TfL officials in order to obtain an understanding of Livingstone's proposed scheme and the capacity of his officials to implement it. It then had five sessions with experts, independent of the GLA and its functional bodies. The second session was concerned with process; the enabling procedures and managing the type of project envisaged. The third addressed the likely transport, traffic and environmental impacts, and was followed by one on social impacts, which was complemented by a paper provided by the Institute of Fiscal Studies. Attention was then switched to the technology, compliance and enforcement in one session, and the likely costs and revenues in another, before hearing evidence from the ALG. Finally, drawing on the evidence heard during the first seven sessions, the Panel took evidence from Livingstone (London Assembly, 2000a).

The Panel accepted that, if there was to be a charge, the basics of the proposed scheme, including the proposed technology, the charged area and a £5 charge were reasonable, but they stressed the need for flexibility, and a willingness to amend the scheme in the light of experience. They also accepted that the RCOL estimate of a 10–15 per cent reduction in vehicle km in central London was the best then available. However, they were concerned about the effects of the scheme on traffic immediately outside the charged area, and the environmental and

safety consequences, as well as the social impacts and the effects on the urban economy; they called on TfL to undertake a number of studies, and to implement measures designed to alleviate adverse impacts.

The Panel was particularly concerned about the timeliness of the implementation of complementary traffic management and public transport measures, as well as measures to improve conditions for pedestrians and cyclists. They concluded that there had to be a substantial and rapid increase in the level of bus priority enforcement, calling for the decriminalization of the basic offences, so that enforcement was not affected by other police priorities. They were frustrated by Livingstone's unwillingness to set targets for the bus service improvements to be achieved before sanctioning introduction of the charge, with Livingstone stating, simply, that they had to be such that *'Joseph and Josephine Public must notice'*.

Evidence from the ALG, which manages the London parking appeals and adjudication service, that the DVLA did not have valid keeper information for about 20 per cent of vehicles in parts of inner London caused concern about the potential effectiveness of the enforcement regime. The ALG evidence also emphasized the need for an effective public information campaign, to ensure drivers and vehicle operators fully understood the scheme before charging commenced, to help secure acceptance of the policy.

The Panel concluded that, to help achieve acceptance, the scheme should be presented as part of a package of measures, in the context of the Mayor's Transport Strategy, rather than as an isolated policy, and stressed the importance of progressing other Strategy measures in parallel with congestion charging.

Having heard evidence from Livingstone about ideas for exemptions or discounts for various groups, and from other witnesses about the possible impacts of such arrangements on compliance and enforcement as well as the net effectiveness of the scheme, the Panel concluded:

*'we recognise the need to balance what might be considered fair treatment of specific groups of individuals with the need to have a scheme which is effective in meeting the objectives of the charging policy, and which is seen to be fair by all users, and which will not have an adverse effect on compliance. We therefore see benefits in restricting the extent to which exemptions and discounts are provided.'*

As described in Chapter 7, the Panel heard evidence on the procedures that had to be completed to enable operation of the scheme, with suggestions about how Livingstone could reduce the risk of legal challenge

by including full details of the scheme in the consultation draft of his Transport Strategy. They also heard from Livingstone that he had clear reservations about the adversarial style of normal public inquiries, preferring public opinion polls to gauge views.

The Panel had particular concerns about TfL's plans for managing the implementation of the charge, and worried that TfL saw it primarily as an engineering project. Whilst recognizing that traffic management and bus service improvements represented the larger part of the start-up costs, they noted *'the core of the total scheme is essentially an IT project with a value of between £30 and £50 million'*; 'a major IT project' in government terminology. They were not convinced that TfL was providing *'adequate appropriately skilled and experienced management'* for this part of the proposed scheme, and recommended that TfL's management structure made a clear distinction between the transport and traffic elements, and those *'relating to the design, procurement and implementation of the IT components'*.

Evidence from the independent expert witnesses was unequivocal in advising that the charge collection and enforcement system should be procured from a single contractor, on the basis of a performance specification. The advice was that the risks associated with achieving reliable and timely integration of the different system components would best be managed if responsibility lay with a single contractor, rather than if TfL was to procure separate components and take responsibility for managing the interfaces, which was reported to be the approach favoured by TfL. Whilst recognizing that Livingstone, and TfL, had confidence in their approach, the Panel could not ignore the independent advice they had received and felt *'obliged to record our very serious reservations about the current intentions of TfL for managing the supply of the system with a series of separate contractors'*.

They were also concerned about differences between the advice they had received on the time required to design and implement such a scheme and Livingstone's determination to implement it by the end of 2002, concluding:

*'if congestion charging is to be implemented, it must be done in a way which secures the confidence of all those affected by it . . . we are convinced that this is such a critical policy that, if it is to be introduced, it is better to introduce it later than currently planned . . . with a very high probability of a fully successful implementation, than to keep to the published timetable and risk either that the system and/or the necessary associated and complementary measures are not ready, or that the system proves unreliable.'*

By focusing on technical issues, it was possible to minimize political differences, and the Scrutiny report was agreed by the full Assembly, meeting on 1 November 2000, with the support of all Labour, Liberal Democrat and Conservative members, but with the Greens abstaining (London Assembly, 2000b).

In undertaking the Scrutiny a number of weaknesses in the structure of the GLA had been revealed. One of these was that in creating the Authority, the government and its advisers had assumed that one team of technical officers could serve both the Mayor and the Assembly. However, since the role of the Mayor is to prepare and promote strategies and policies, and the role of the Assembly is to scrutinize them, it rapidly became clear that the same staff could not sensibly serve both the Mayor and the Assembly. A similar problem was found with the Press Office.

### **The Mayor's response**

The GLA Act requires the Mayor, in a report to the next meeting of the Assembly, to respond to all 'Proposals' put to him. The Assembly decided to designate highlighted sections of the Congestion Charging Scrutiny Report as 'Proposals', and Livingstone's response was duly received by the Assembly for its 6 December 2000 meeting.

However, the Transport Policy and Spatial Development Policy Committee described the response as '*disappointing*', concluding that Livingstone had '*chosen not to address the concerns . . . raised and . . . whilst he had fulfilled his statutory responsibilities he had not taken account of the . . . scrutiny in a substantial way*' (London Assembly, 2000e). Considering his response further, the Committee endorsed a report that identified a number of topics on which the TfL report was considered less than satisfactory (London Assembly, 2001a). Whilst there was particular concern with the response on the project management arrangements, the Committee report concluded that:

*'it is now for him, together with his Board and officers of TfL and consultants, to deliver the project on time, within budget and to the standards properly required, and expected by Londoners. Should they fail to satisfy these very necessary requirements, their decision not to heed the Assembly will be a matter of public record.'*

Although, with the scheme delivered on schedule, Livingstone and TfL were vindicated, as time went by it became apparent that there were real problems in the provision of the 'Core Services' for which Capita

was contracted, with the Capita contract becoming a matter of serious contention, as discussed later.

With Livingstone and TfL not responding to their first scrutiny report in the manner hoped for, the Committee was determined to continue to pursue their scrutiny and decided to require six-monthly progress reports, addressing topics they had identified.

### **The project budget and plan**

In undertaking the initial scrutiny, the Panel accepted it was too early for a detailed project budget and plan, and called for these to be provided by the end of January 2001. However, TfL did not respond until 5 March 2001, when they refused to provide information, on grounds of commercial sensitivity and confidentiality. Instead, they submitted a summary, Project Overview, document (TfL, 2001). The Committee found this unsatisfactory and resolved to *'re-state that the information provided to date by TfL does not satisfy the Assembly's requirements'*, and that if the documents required were not provided to *'authorise the Chair of the Committee to . . . request the Executive Director of the Secretariat to serve notice on the Mayor requiring production of the documents'* in accordance with the GLA Act (London Assembly, 2001b).

A concern of the Assembly was, given Livingstone's evidence to the Scrutiny panel that delay in implementing the scheme would have real costs in terms of both the economic benefits and net revenues forgone, he and TfL might not pay due regard to cost control in a drive to achieve rapid implementation (London Assembly, 2000a).

When TfL provided fuller information, it was still deemed deficient (London Assembly, 2001d), strengthening concern that cost control might not be a priority. However, the eventual involvement of Jay Walder (see Chapter 9) improved confidence in TfL's cost management regime.

### **The on-going scrutiny**

Whilst the first of the six-monthly progress reports, delivered in August 2001, addressed each topic specified by the Assembly, not all the information provided satisfied the Assembly's requirements, with two notable instances. The first was targets for improvements in bus service reliability and speeds to be achieved prior to the commencement of charging, as identified in the Assembly's Scrutiny report. The second was quantification of expected traffic flows just outside the charged area

(see Chapter 9). Both issues were to run throughout the implementation period without resolution. In an evidentiary session on the first progress report, TfL's Turner denied the need for bus service improvement targets (London Assembly, 2001e). He also explained that not only was it hard to make information on traffic forecasts available to members but he had reservations about the potential for misinterpretation and misrepresentation of the information. Yet, in evidence in the same session given by ALG representatives, the Committee was told the City Corporation had decided to oppose the scheme, principally because they had not been able to form a judgement based on the information provided by TfL; it was not just the Assembly that was concerned about the lack of key items of information.

The second, March 2002, progress report was considered even less satisfactory, with responses on a number of points viewed as inadequate, and bus service improvements and local traffic forecasts continuing to be key issues (London Assembly, 2002b). The Assembly's concerns about bus service improvements had been heightened by difficulties experienced in the delivery of the first stage of the London Bus Initiative, the second stage of which was to provide many of the improvements to complement the congestion charge.

The frustration with TfL's responses is apparent through the Committee's decision to resolve:

*'whilst the majority of our members cautiously support the Mayor's proposals, the Committee remains concerned about a number of issues, these include: traffic management outside of the zone; delays in implementing the London Bus Initiative; and an inadequate understanding of the rat running and displacement effects of the Charge. These are real concerns on which the Committee needs further information and satisfaction on behalf of Londoners'.* (London Assembly, 2002b)

Dissatisfied that TfL had still not provided local traffic flow forecasts, John Biggs, Committee Chair, suggested to Turner that TfL appeared to have a strategy of controlling the flow of information, a charge that Turner strongly refuted (London Assembly, 2002d).

In one evidentiary hearing with TfL, against the background of a reported comment by Livingstone that if the scheme was clearly not working within two months he would scrap it, there was an inconclusive debate between members and TfL's Turner about criteria that would define the 'success' of the scheme. This served to highlight the crucial difference in approach between the Assembly, which wanted clear cri-



teria, and a TfL (no doubt reflecting Livingstone's position) that was not prepared to be tied down by quantitative measures (London Assembly, 2002c). This came through very clearly in TfL's third progress report, September 2002, in which TfL stated that they considered it neither possible nor desirable to determine the effectiveness – or failure – of the scheme by reducing the assessment criteria to a simple figure or 'score'. TfL also explained that, whilst it considered a period of at least six months would be required to assess the effect on traffic levels, it recognized that the Mayor would consider stopping the Scheme after eight weeks if it was clearly failing. This might be due to an irrecoverable systems failure or it being obvious that congestion charging was fundamentally flawed and could never lead to a reduction in congestion (London Assembly, 2002d).

### Monitoring the charge impacts

The Scrutiny Panel had concluded that '*a comprehensive, and independent, monitoring*' programme on '*the impacts of congestion charging on London, its people, its economy, its environment and its transport*' should be in place before charging started (London Assembly, 2000a).

A major monitoring programme with a £12 million budget, covering a base period and the first five years of charging that TfL proposed to undertake, satisfied the call for comprehensiveness. However, satisfying the call for independence proved difficult. The Assembly's scrutiny budget would not extend to meeting the costs of an independent programme, and even a thorough audit of TfL's work by the Assembly would have significant costs over the total of six years covered by TfL's own programme. Although the Assembly decided to continue to monitor the scheme, the strength of that commitment may well vary, depending on political interests at the time. Indeed, a paper on the work programme for the new Transport Committee, following the 2004 elections, made no reference to on-going monitoring (London Assembly, 2004).

Even if TfL had been willing to grant fund an independent audit, its true independence would have been open to question. However, a measure of independence was assured when TfL agreed to an Assembly request that that monitoring data be made available to *bona fide* researchers for independent analysis (London Assembly, 2001d), and the ALG decided to initiate its own monitoring programme, using its limited resources to focus on issues of primary concern to the London boroughs (ALG, 2004).

## **The public concerns behind the politics**

The relationship between TfL, mainly represented by Turner, and the Assembly had not been easy throughout the build-up to going live, and in December 2002 the Transport Committee published a report, *Congestion Charging: The Public Concerns Behind the Politics*, in which it summarized its scrutiny of the scheme over the previous two years (London Assembly, 2002a). This emphasized one of the Assembly's underlying concerns:

*'as a Committee, we have been astonished that the Mayor has spent £200 million of public money on setting up the Congestion Charging Scheme but has given little indication of his expectations of its broader impacts nor how much Londoners will have to pay if the Scheme should fail. We believe this is unacceptable and will be pursuing this information on behalf of Londoners.'*

Given Livingstone's failure to provide the 'success' criteria which the Committee considered necessary, they set out eight criteria against which they would assess the success; the scheme:

- (a) must be shown to deliver a real and sustained reduction in congestion, after allowing for the completion of major roadworks and changes to traffic control before implementation of the scheme;
- (b) must be shown to deliver a real improvement in bus journeys;
- (c) must not disadvantage Londoners (particularly low-income groups);
- (d) must not have an adverse impact on the areas outside of the charging zone;
- (e) should not have an adverse effect on London's economy or services;
- (f) should not have an adverse effect on London's environment;
- (g) should deliver net revenues to fund transport initiatives;
- (h) should not penalize innocent drivers (London Assembly, 2002a).

## **The Capita contract**

Having been awarded the Core Services contract, Capita was central to the operation of the scheme, but there were increasing concerns about the terms of its contract with TfL. One of these related to the liabilities that TfL would incur should the scheme be terminated early. Another related to Capita's ability to perform, given high profile problems with other Capita contracts, one of which (for the Criminal

Records Bureau) was given extensive publicity in September 2002, causing the Assembly to want an understanding of the key performance indicators to be used in determining payments due to Capita, as well as the possibility that TfL might find it necessary to make additional payments to ensure continued, effective, operation of the systems.

The Transport Committee Chair wrote to TfL in September 2002, requesting information on the compensation payable to contractors in the event of early termination of their contract. Meeting the Committee the following month, Turner stated that Capita's contract prevented TfL releasing information without Capita's consent, and that Capita did not want it disclosed (London Assembly, 2002c). As the Committee considered the contract terms to be a matter of public interest, and thus appropriate for scrutiny by the Assembly, it made it clear to the Commissioner for Transport that it was not satisfied and would write to Capita's Chief Executive and also obtain legal advice.

That advice was that the Assembly could use the powers granted under the GLA Act to require TfL to provide a copy of the Capita contract, and associated documents. In March 2003 the Transport Committee reaffirmed that *'obtaining a copy of the . . . Agreement . . . including details of the exit costs payments due to Capita on scheme withdrawal and Capita's key performance indicators'* was necessary to the proper scrutiny of the scheme, and empowered the Committee Chair *'to take all available and necessary measures to obtain that information'* (London Assembly, 2003c). However, the request failed again, and the quest was taken over by the Assembly's Budget Committee.

Eventually, in August 2003, Livingstone complied with the Assembly's request, and a copy of the Agreement, together with a recently completed Supplemental Agreement, was delivered to the Budget Committee Chair and not, curiously, to the Transport Committee Chair who had made the original request.

Although Livingstone had been highly critical of the government for refusing to disclose the Underground PPP contracts to him, Assembly members noted that he had persistently refused to disclose the Capita contract to the Assembly, an inconsistency he acknowledged when he eventually disclosed the contract (London Assembly, 2003b). He suggested that this was because of concerns on the part of Capita of the impact of revealing the terms of the contract on its share price. Livingstone also attributed the delay in disclosure to a TfL decision to renegotiate the contract, *'because the Congestion Charge turned out to be operating differently to the way we had anticipated'*. He also suggested that had the initial Agreement been in the public domain, TfL's negotiating

position would have been weakened. However, when the negotiations had been completed, Capita had been persuaded to agree to the release of both the main and supplemental agreements, with the exclusion of a section that disclosed the basis of its costings. But Sally Hamwee, the Budget Committee Chair, noted that as the renegotiations appeared to have led to an improvement in Capita's terms, it might have been in TfL's interests had the original terms been in the public domain. Another reason given by Livingstone for not disclosing the contract earlier was that to do so might have exposed the scheme to safety and security risks. Indeed, in evidence to the Transport Committee, Turner had said that if TfL released the performance indicators, '*opponents to congestion charging would be able to frustrate and completely destroy the system*' (London Assembly, 2002d).

Whilst Turner had stated that the Agreement was between TfL and Capita, and each could be called to account, Sally Hamwee responded that there was also public interest, with the balance more in favour of the public than TfL and Capita (London Assembly, 2002d). With the value of the Capita contract representing 70 per cent of the total scheme operating costs, and with Capita responsible for the key operating functions of the scheme, by which it would succeed or fail, the Assembly's argument that disclosure of this contract was in the public interest appeared compelling, especially when set against some of Livingstone's and Turner's reasons.

In finally agreeing to disclose the agreements, Livingstone made it clear that '*the release of this contract into the public domain should not be interpreted as a precedent*'. He also suggested that whilst contracts might not be published before they come into force, they '*should be published as soon as possible afterwards*' (London Assembly, 2003b). Thus, although the Assembly had eventually succeeded in obtaining disclosure of this particular agreement, they had not secured Livingstone's unequivocal agreement to allow them to scrutinize contracts deemed to be in the public interest, until it could be too late for the scrutiny to provide anything more than a lesson for the future, as was the case with the Capita contract.

Indeed, Livingstone's position appeared to be contrary to Treasury's Taskforce guidance on PFI (Private Finance Initiative) projects (such as the Capita contract) that '*Parliament must always be fully informed of the extent of the estimated commitments . . . Parliament is entitled to know the sensitivities which may affect the actual payments made . . . the payment mechanisms . . . and the termination arrangements*' (OGC, 2004). If such openness is necessary for Parliament to do its duty, then it seems reas-

unable to conclude that similar principles should apply to the Assembly, as implied by an Institute for Public Policy Research (IPPR) report on PFI projects which stressed the need for access to information *'to demonstrate that value for money has been achieved and allow public monitoring of the contract throughout its working life'*, explaining that *'openness is important in PFI projects in order for projects to be accountable'*, and concluding that *'the public sector needs to be tougher in negotiating with the private sector about the types of information that are confidential and also resist the temptation to use blanket confidentiality clauses'* (IPPR, 2004).

Having received and examined the Capita contracts, the Budget Committee published a scrutiny report, *Public Interest, Private Profit* (London Assembly, 2003d). Apparently, Livingstone had come close to terminating the contract, in part due to deficiencies in the initial contract, which he told the Assembly had inadequate quality-related performance indicators, making it difficult for TfL to deal with deficiencies in Capita's customer service. The Committee expressed surprise that it was customer service failures, rather than failures in the scheme's technology, that were the source of difficulties, given TfL's budget of £30 million for management and support staff, and they were not impressed when, at Mayor's Question Time on 17 September 2003, Livingstone stated that, *'with hindsight it would have been better if the contract had not been drafted as it now stands'* (London Assembly, 2003a).

The Budget Committee was highly critical that, under the renegotiation, TfL had agreed to pay Capita £3.5 million for IT systems that Capita should have provided, and to increase Capita's share of the income from Penalty Charge Notices. The Committee also disputed a claim by Livingstone that the Supplemental Agreement *'will not impose any additional burden on taxpayers'*, were sceptical about a claim by Livingstone that the Supplemental Agreement involves Capita offering greater risk transferral, and were concerned that TfL only had a non-exclusive licence for software developed by Capita with public money (London Assembly, 2003d).

Noting a statement made by Livingstone at Mayor's Question Time on 26 February 2003 that *'I never quite shared the worries that other people had about Capita because I took the view that this was a contract Capita could not afford to have go wrong. Given the problems in the past they had to get this one right'*, the Committee concluded: *'events have proved otherwise. We dispute the Mayor's frequently made claim that TfL's contract with Capita represents "best value" for Londoners . . . it has not proved to be a good deal for taxpayers'* (London Assembly, 2003d).

Yet, despite Livingstone's explanations and the Assembly's conclusions, TfL's Surface Transport Director, Peter Hendy, refuted failings in the contract terms, claiming that '*in drawing up the contracts TfL rightly anticipated that changes would be necessary at some point due to the very unique nature of the scheme*', and denied that TfL had agreed a contract that '*failed to protect the public interest*' (LTT, 2004).

### **A commentary**

Whilst Travers concluded that being a scrutineer was not attractive for most politicians (Travers, 2004), the evidence from the congestion charging scheme suggests that both Livingstone and TfL, mainly personified through Derek Turner, found being scrutinized unattractive. Their responses to proper requests for information were often slow and not as helpful as they should and could have been. It suggests that they saw the role assigned to the Assembly by Parliament as a nuisance: a hindrance rather than a benefit. In assessing Livingstone's four years as Mayor, *The Guardian* cited Lynne Featherstone, Congestion Charging Scrutiny Panel chair, as saying that '*he is not a man who takes criticism easily*' (*The Guardian*, 2004). Having spent several years implementing London's Red Routes, reporting only to the Minister of Transport with responsibility for London, Turner might also have found the need to be accountable to the Assembly, as well the TfL Board and the Mayor, irksome. Judging from the Board's published reports and minutes, there can be little doubt that accountability to the Assembly was very much more demanding and entailed a very much higher level of detail and thoroughness than that of the TfL Board, at least.

Livingstone and Turner might also claim that many of the concerns raised by the Assembly's Scrutiny were not justified; the management structure put in place to deliver the scheme achieved its targets, with the notable exception of Capita's customer service failings; bus service improvements were substantial and timely; and any adverse effects of the scheme were very limited. That may well be so, but the fact that they were called to account in public almost certainly caused them to reflect on the views of the Assembly, and to be reasonably sure they were making sound decisions. Indeed, anecdotal evidence suggests the Assembly's scrutiny was seen as helpful by members of TfL's congestion charging team. However, the effectiveness of the public accountability provided by the Assembly's scrutiny role was contained by the persistent failure of Livingstone and TfL to accede to some of its proper

requests. The best illustration of this has to be the Capita contract. It is difficult to avoid the conclusion that TfL allowed itself to enter into an agreement that, to quote the Assembly's Budget Committee, was not a good deal for Londoners. Whilst TfL and Livingstone may have been embarrassed had the contract been in the public domain prior to the renegotiations, public pressure may have resulted in a supplemental agreement that was seen to be less beneficial to Capita and more beneficial to Londoners.

Scrutiny is central to the accountability of an executive Mayor, which London now has. The Mayor, the functional bodies and the London Assembly owe it to London to make sure it is effective and respected.

## References

- ALG (2004). *Congestion Charging, Report to Transport and Environment Committee*, 23 March, London: The Association of London Government.
- GLA Act (1999). *Greater London Authority Act 1999*, London: Her Majesty's Stationery Office.
- IPPR (2004). *Openness Survey Paper*, London: Institute for Public Policy Research.
- London Assembly (2000a). *Congestion Charging: London Assembly Scrutiny Report*, London: Greater London Authority.
- London Assembly (2000b). *Minutes of a Meeting of the London Assembly*, 1 November, London: Greater London Authority.
- London Assembly (2000c). *Minutes of a Meeting of the Transport Policy and Spatial Development Policy Committee*, 18 July.
- London Assembly (2000d). *Minutes of a Meeting of the Transport Policy and Spatial Development Policy Committee*, 5 September.
- London Assembly (2000e). *Minutes of a Meeting of the Transport Policy and Spatial Development Policy Committee*, 5 December.
- London Assembly (2001a). *Minutes of a Meeting of the Transport Policy and Spatial Development Policy Committee*, 6 February.
- London Assembly (2001b). *Minutes of a Meeting of the Transport Policy and Spatial Development Policy Committee*, 6 March.
- London Assembly (2001c). *Minutes of a Meeting of the Transport Policy and Spatial Development Policy Committee*, 24 July.
- London Assembly (2001d). *Report to a Meeting of the Transport Policy and Spatial Development Policy Committee*, 30 October.
- London Assembly (2001e). *Minutes of a Meeting of the Transport Policy and Spatial Development Policy Committee*, 30 October.
- London Assembly (2002a). *Congestion Charging: The Public Concerns Behind the Politics*, London: Transport Committee Scrutiny Report.
- London Assembly (2002b). *Minutes of a Meeting of the Transport Committee*, 2 July 2002.
- London Assembly (2002c). *Minutes of a Meeting of the Transport Committee*, 10 September.
- London Assembly (2002d). *Minutes of a Meeting of the Transport Committee*, 17 October.
- London Assembly (2003a). *Mayor's Question Time*, 17 September.

- London Assembly (2003b). *Minutes of a Meeting of the Budget Committee*, 11 September.
- London Assembly (2003c). *Minutes of a Meeting of the Transport Committee*, 6 March.
- London Assembly (2003d). 'Public Interest, Private Profit', Budget Committee Scrutiny Report, October.
- London Assembly (2004). *Report Number 9*, Transport Committee Agenda papers, 22 July.
- LTT (2004). 'Setting the record straight on the London congestion charge', Letter to the Editor, *Local Transport Today*, 25 March.
- OGC (2004). 'Treasury Taskforce Guidance, Section 2 Policy Statements, Provision of Information to Parliament', [http://www.ogc.gov.uk/sdtoolkit/reference/ogc\\_library/pdf/series\\_2/doct\\_05/doct5\\_contents.htm](http://www.ogc.gov.uk/sdtoolkit/reference/ogc_library/pdf/series_2/doct_05/doct5_contents.htm), London: Office of Government Commerce.
- TfL, 2001. *Project Overview*, 31 January, London: Transport for London.
- The Guardian* (2004). 'Blair and Thatcher tried to Crush me. Both Failed', Part 2, by Hugh Muir, 31 May.
- Travers, T. (2004). *The Politics of London: Governing an Ungovernable City*, Basingstoke: Palgrave Macmillan.



# 11

## The Critics, Doubters, Fence Sitters and Supporters

### Introduction

Whilst there was a balance of support for the principle of congestion charging in central London among Londoners and some stakeholders, albeit with some reservations about the particular scheme, there were also fierce critics, including the City of Westminster and London's *Evening Standard*. And, despite the government's initial enthusiasm for road user charging, it carefully distanced itself from Livingstone's scheme.

As a very large number of organizations, and individuals, expressed views on the proposed scheme (too many to attempt to cover here), this chapter seeks to provide an indication of the responses to Livingstone's plans from a variety of organizations. As with most policy initiatives, it was those who were unhappy with the proposed scheme that voiced their views most strongly; those in favour were not particularly vocal.

### Government and Parliament

Although the new Blair Government had promoted congestion charging as a policy measure for local authorities in England as part of its new transport policy, that was when John Prescott was Secretary of State. Following the June 2001 elections, Prescott was moved to a new Office of the Deputy Prime Minister, and his old Department of the Environment, Transport and the Regions, created in 1997, was split up. Stephen Byers was then appointed as Secretary of State for the restructured Department of Transport, Local Government and the Regions. A new Ministerial team became responsible for implementing the Ten-

Year Plan, published just a year earlier by their predecessors, with one Minister, John Spellar, known to have few sympathies with 'anti-car' measures.

Within months of taking up office Byers was caught in two major controversies. The first was when his political adviser, Jo Moore, sent out an e-mail on 11 September 2001 (9/11) suggesting it was a good time to publish anything the Department might wish to go unnoticed. The second was his handling of the decision to let Railtrack, the privatized rail infrastructure company, go into administration, to be replaced by the 'not for profit' Network Rail. By the end of May 2002, Byers had succumbed to pressure for his resignation. With the appointment of Alistair Darling as Transport Secretary, the all-embracing Department of the Environment, Transport and the Regions created in 1997 was finally reduced back to its pre-1997 form as the Department for Transport. There was also a succession of Permanent Secretaries, with the third since 1997 being appointed in 2002.

With the frequent changes in leadership, transport policy priorities changed too. The radical visions of the Prescott team had been progressively diluted, with Darling reputed to have the brief to keep transport out of the headlines, a role at odds with the pursuit of radical policies to reduce congestion and environmental impacts. In particular, observers identified a distinct cooling on the use of charging, a concept never liked by Blair's advisers in Downing Street (see Chapter 6), or Spellar. With charging one of the key features of Livingstone's platform, some in the Labour Party hoped the scheme would fail, discrediting the man who had challenged their authority and won. If it failed, it showed that they were right not to have included it in their 2000 manifesto for London, but if it succeeded, the government could take the credit for the foresight in providing the necessary powers in the GLA Act.

However, it seems that Ministers were not just passive in their approach to charging. Writing in the *Evening Standard*, Simon Jenkins suggested that Byers would see that there were no improvements in London's rail services before the start of charging (*Evening Standard*, 2001b), and *The Economist* reported that Spellar had sought to frustrate Livingstone in a number of ways (*The Economist*, 2003a). These included trying to dissuade the Driver and Vehicle Licensing Agency from providing TfL with the vital information on the owners (or keepers) of vehicles for which the charge had not been paid, seeking support for a judicial review, and trying to stop the Secretary of State from approving Livingstone's plans for the use of the net revenues, one of the very few controls vested in him under the GLA Act.

However, to have frustrated the Mayor's scheme would have called into question the government's true commitment to devolution, and its formal position was that the scheme was the responsibility of the Mayor, whom they had provided with the necessary authority through the GLA Act. There was therefore surprise when Byers told *The Times* he thought Livingstone should hold a public inquiry, even though (or perhaps because) that would delay introduction of the charge, bringing it closer to the 2004 elections and increasing Livingstone's exposure to any problems (*The Times*, 2002). Byers justified his view by saying that he did not want people to think they were being forced onto public transport, a line he also took in distancing himself from the Ten-Year Plan commitment on urban charging. A possible indication of the government's growing concerns about Livingstone's plans was a suggestion, in 2001, that consideration was being given to abandoning the PPP plan for the Underground that Livingstone strongly opposed, provided he withdrew his congestion charging plans. That might have suited Byers and Spellar, but such a deal was never likely to find backing from Gordon Brown at the Treasury, who was not only committed to the PPP but also undoubtedly saw congestion charging as a useful source of additional revenues (or another of his stealth taxes, as some see any form of road pricing).

Speaking in the House of Lords in October 2002, Lord McIntosh, a Government transport spokesman (who, as Andrew McIntosh, had led the Labour Party to victory in the 1981 GLC elections, only to be deposed within 24 hours by a Livingstone-led putsch), declared that the government had supported the London scheme (Hansard, 2002). However, when John Humphrys interviewed Darling the next day on BBC Radio 4's *Today* programme, he repeatedly refused to say whether he supported Livingstone's scheme (*Evening Standard*, 2002c). His responses implied that Livingstone was anti-car, had failed to obtain the necessary public support, and had not achieved sufficient improvement in bus and Underground services. Public airing of government doubts continued, with challenges on the effectiveness of the charge and enforcement technology as well as the charge area boundary, just a month before charging was to start (*The Times*, 2003a).

That the government had distanced itself from the implementation of charging schemes was one of the conclusions of an inquiry into urban charging by the Commons Transport Committee published in early February 2003 (House of Commons, 2003). Indeed, they went on to accuse the government of sitting on the fence, and to say that they found it a matter of serious concern that the government was not

prepared to make a more positive contribution to the debate on congestion charging. They stressed that failure of the London scheme to deliver the expected benefits would have very serious consequences for the government's strategy for reducing urban congestion, and questioned whether the government had the political nerve to support '*bold experiments in reducing congestion*', with the clear implication that it would have been in the government's wider interest to have been considerably more supportive of the London scheme. The Committee noted that Darling had told them that the government's position was determined by technology rather than political cowardice, yet the ROCOL study had shown that low technology could work. It suggested that the government's approach had been muddled, acting outside London as a brake rather than a leader.

It was a highly critical report, leading *The Times* to accuse the government of being afraid to support the London scheme (*The Times*, 2003d). In a subsequent Commons debate, the Committee Chair, Gwyneth Dunwoody, explained that the Committee had had a number of concerns about the London scheme, including whether it had been properly designed and whether the technology would satisfy the needs of the scheme but, above all, how the need for such schemes could be explained to the public (Hansard, 2003). In its formal response, the Department for Transport said that charging can be effective when implemented properly, and claimed that although it had taken a clear lead on urban charging and was supportive of local schemes, it was up to local authorities to decide whether charging should form an element of their transport and land use policy (DfT, 2003).

Whilst Livingstone might have hoped for real support from the government that had introduced the legislation to permit urban charging schemes, he probably never expected it from the Conservatives. One of the strongest onslaughts came from a former Conservative leader of Wandsworth Borough Council and Minister of Roads and Traffic, Christopher Chope, MP for Christchurch, in Dorset, who urged users to pay by cheque post-dated for the day of travel, hoping to cause the system to collapse under the administrative burden (Hansard, 2003; *The Times*, 2003e). Whilst careful to avoid incitement to law breaking, he compared the congestion charge with the Poll Tax, and the impact of that '*can't pay, won't pay*' campaign, noting that Livingstone had been in its forefront. Not only did he misjudge the effort of paying by cheque or the general mood, or both, but he might also have forgotten that in a debate on the Poll Tax, as a Minister in the Thatcher

Government, he had chided a Labour member by saying '*it would be particularly mean-minded of him to withhold payment of the community charge and encourage others to do so*' (Hansard, 1990).

Conservative MPs were not alone in their criticism. Speaking in a debate on the charge a week before it went live, Kate Hoey, MP for Vauxhall (a part of London straddling the charge cordon) and a former Labour Minister of Sport, challenged the view that Livingstone had an election mandate for the introduction of congestion charging (Hansard, 2003). She thought the idea that driving people out of their cars was '*going down a blind alley*', and condemned the scheme as representing '*no more than the ideological hatred of cars of someone who does not drive*'. She stated that there were '*huge anomalies*' in the scheme, citing the impacts on school staff within the charged area as a particular problem, and was highly critical of the consultation process, describing it as '*sham*'.

### The London Assembly

The Assembly, as such, speaks as a body, particularly when publishing scrutiny reports, such as that on congestion charging, and its corporate position on congestion charging has been described in Chapter 10. However, as politicians, its members are also keen to promote their party line, and themselves. Although they had a number of concerns, the Liberal Democrats supported the scheme. With their transport spokesperson, Lynne Featherstone, chairing the initial Congestion Charging Scrutiny Panel and the Transport Policy and Spatial Development Policy Committee between 2000 and 2002, they were in a strong position to get their views across to the media. Yet they did not create a clear image as staunch supporters, and obtained little coverage in the media researched by Gaber (Gaber, 2004). The Conservatives were opposed to Livingstone's scheme and their transport spokesperson, Angie Bray (member for West Central, a constituency that includes Westminster, and Kensington and Chelsea, two of the arch opponents of the scheme), proved a highly effective campaigner against the scheme, exploiting very many opportunities to get her message across. The Labour group supported the principle of charging, whilst having definite reservations about Livingstone's scheme, no doubt accentuated by the party's antipathy to Livingstone. John Biggs, their transport spokesperson and Chair of the Transport Committee for the year leading up to and including the start of charging, was reasonably successful in obtaining media coverage of the Labour group's views, which

Gaber's analysis classed as essentially critical. Whilst the Greens, whose transport spokesperson was Jenny Jones, were strongly in favour of the charge, and would have liked a much more ambitious scheme, Gaber's analysis suggests their campaigning obtained little media exposure.

## **The London boroughs**

The Association of London Government had the challenging task of seeking to present corporate views on the scheme when the member boroughs had differing policies. Overall, it was in favour of the scheme, in principle. However, it had a number of reservations, which grew as implementation progressed and the boroughs considered that TfL was failing to adequately consult with them and keep them properly informed (see Chapter 9).

An initial divide was essentially political, with Conservative-led Westminster, Kensington and Chelsea, and Wandsworth all opposing the scheme. Although Kensington and Chelsea, and Wandsworth were outside the charged area, they anticipated that the charge would increase traffic within their areas. Labour councils were generally in favour, as was the apolitical City Corporation.

However, the City Corporation came to have concerns about the impact of the scheme on Tower Bridge. Opened in 1894 to carry pedestrian and horse-drawn traffic, it now forms part of the Inner Ring Road, the route just outside the charged area, but has a weight limit of 17 tonnes and a speed limit of 20 mph (32km/h). Although heavy vehicles had been able to avoid it by using one of the upstream crossings, enforcement of the weight limit (and associated speed limit) was not as effective in protecting the bridge structure as required. With many of the upstream crossings due to fall within the charged area, pressure on Tower Bridge was expected to increase. As its owners (although, as the road forms part of the TfL road network, TfL is responsible for management of the road across it), the City Corporation pressed for the charged area boundary to be changed, so cross-river traffic east of the central area would have to use the Blackwall or Rotherhithe Tunnels. Disappointed by TfL's responses, the development of measures to control traffic over Tower Bridge became a contentious issue, contributing to the Corporation's decision to formally object to the scheme (Corporation of London, 2001).

As described in Chapter 9, other boroughs also became frustrated with TfL, and Lambeth, controlled by a Liberal Democrat/Conservative alliance, within whose jurisdiction much of the charged area south of

the Thames falls, decided to adopt a resolution of non-cooperation with TfL *'unless and until Transport for London enters meaningful dialogue with us about the environmental impact of the boundary'* (Lambeth, 2002). The resolution regretted *'that officers of TfL had been instructed not to attend a meeting convened under the Council's town centre arrangements'* and *'that there has been no formal response from TfL'*. They reaffirmed their opposition to the proposed scheme boundary in Kennington and condemned *'the Mayor for London for his failure to consult properly on his congestion charging policy and supports the call for a public inquiry'*. Thus there was a close alignment between the Liberal Democrat/Conservative-led Council, the local Labour MP, Kate Hoey, and the Kennington residents who mounted a legal challenge (see Chapter 7).

The strongest opposition was led by Westminster (supported by its Conservative allies in Kensington and Chelsea, and Wandsworth), which had concluded that the charge would do more harm than good. Their concerns related to the potential traffic and economic impacts, as well as whether public transport could accommodate the additional demand. They considered the scheme was being imposed without adequate review, and pressed for a full public inquiry to provide an impartial examination of Livingstone's proposals. This eventually led to the High Court action initiated by Westminster (see Chapter 7). In evidence to the Commons Transport Committee, the Council contended: *'consultation is not the same as holding a public inquiry. Consultation involves the decision maker listening to what everyone says; but a public inquiry allows the strengths and weaknesses of each party's case to be discovered'* (House of Commons, 2003). Among the Council's other concerns was the ten-year limit to the government commitment to the hypothecation of net revenues, coupled with the possibility that within that period, the Treasury could reduce its funding for transport in London.

As local education authorities, boroughs with schools within the charged area were concerned about the effect of the charge on retaining and recruiting teachers.

## **The business sector**

A number of major employer and business organizations were supportive of the charge in principle, but had a variety of reservations, whilst others were against it.

London First, a business-based organization promoting London, had long been a supporter of congestion charging, having commissioned its own study of a possible pilot charging scheme for a part of central

London. However, it considered that those paying the charge should benefit from reduced congestion, particularly those who had no option other than to pay (London First, 2002). It also considered that TfL should clearly state how it intended to use the net revenues, that spending funded by the charge should be seen as additional to government grant funding, and that TfL should be allowed to use the charge revenues to finance borrowings for a long-term investment programme. It thought it important that the charging system was fully tested before going live, to avoid the scheme being discredited by teething problems, and that traffic management measures designed to respond to changed traffic patterns should not cause new problems. On publication of the TfL 2003/4 budget, London First expressed concern about the large increase in bus costs, stating that *'we would not want to see congestion charges paid by drivers going to meet higher costs or hold down fares'* (London First, 2003a). Drawing on a survey with business, it stated: *'people don't know which future transport improvements can be attributed to congestion charging and therefore can't identify with the benefits of the scheme'* (London First, 2003b).

The Confederation of British Industry (CBI) supported the scheme in principle, provided it was accompanied by real improvements in the service and delivery environment for business, including a review of the London Lorry Control Scheme. The Greater London (Restriction of Goods Vehicles) Traffic Order 1985 was introduced as an environmental control measure to stop unnecessary lorry movements disturbing the peace of Londoners at night and weekend (ALG, 2004.) The CBI also sought improvements in public transport services, and wanted assurance that the net revenues would be additional to government funding (CBI, 2002b). However, in their response to the consultation on the Scheme Order, they reported *'increasing concerns about the scheme as proposed'* (CBI, 2002c). They feared that the charge would add to the cost of doing business in London, and that if firms were not to leave the charged area, it would be necessary for them to see a clear benefit from the use of the net revenues. They were particularly concerned that, by reducing the net revenues, the scheme costs could undermine the case for the charge and that rushing implementation might lead to a sub-optimal scheme. They objected to Livingstone's decision to exempt local authority vehicles on the grounds that some of their services were provided in competition with the private sector; they called for the exemption of diesel vehicles *'that meet the required standard'*; and they expressed concerns about the cost of fleet accounts and *'a lack of serious measures to assist in the delivery and servicing opera-*



tions of commercial vehicles' (CBI, 2002a). Disenchantment appeared to grow, and early in February 2003 the CBI reported that many of its members were becoming increasingly frustrated (*Financial Times*, 2003d).

Although the London Chamber of Commerce and Industry recognized that congestion charging could provide a range of benefits, they were concerned that the charge could be just an additional cost. Indeed, some of their members anticipated the charge would make it more difficult to recruit staff and would deter some customers. They also had concerns about the suitability of the technology, the likelihood of early obsolescence and the costs of upgrading it. Other concerns included the provision of adequate public transport improvements, and the effects on businesses just outside the charge area if the charge caused additional parking demand and congestion.

The Federation of Small Businesses was strongly opposed to the charge, which it saw as a flat rate tax '*with all the unfairness of the Poll Tax*' (FSB, 2001). Whilst recognizing that '*travelling in London is a nightmare*', it considered that '*the answer cannot lie with an untested, unevaluated measure*'. It wanted some form of protection for small businesses from the costs of the charge for the vehicles needed for their business, suggesting that the charge would reduce the number of tradesmen (plumbers, electricians, etc.) willing to work within the charged area. It noted the paradox that the greater success of the charge, the lower the revenues and the greater the need for public transport. The Association of Convenience Stores was particularly concerned about the impact of congestion charging on deliveries to their members, typified as small quantities and high frequency, as well as on their customers (House of Commons, 2003). Other trade groups concerned about the costs of the charge included the construction sector, with claims that it could add £50,000 a year to the cost of a major project (*Evening Standard*, 2003d).

The Freight Transport Association successfully campaigned against the initial plans for a £15 charge for heavy vehicles. Although its primary objective was to gain exemption for all commercial vehicles, like the CBI, they pressed for 100 per cent discounts for low emission diesel, EUROL III and IV, vehicles (FTA, 2004). They were also concerned about the costs to business of administering charge payment and sought a reduction in the minimum fleet size (from 25 to 10 vehicles) for inclusion in the fleet payment scheme, to which TfL agreed, in 2004. The Road Haulage Association accepted that congestion charging could reduce congestion but argued that as goods can only be delivered, or collected, in urban areas by commercial vehicles, and given the

restrictions on the use of lorries at night, the charge would represent an additional cost to be passed on to consumers (RHA, 2002).

### **Transport user and environmental groups**

The London Transport Users Committee, LTUC (a statutory body representing the interests of transport users in and around London, established under the GLA Act and funded by the GLA) supported the principle and generality of charging (LTUC, 2003). In commenting that they would be aghast at a £5 increase in Zone 1 public transport fares, the Committee concluded that a £5 congestion charge passed two crucial tests of fairness and choice, and that more people were likely to benefit than lose (LTUC, 2002). Whilst recognizing the risk of additional traffic and parking demand just outside the charged area, they thought that £5 was not too much, that time would tell whether it was too little, and that it should apply to all powered two-wheelers with a discount for those with smaller engines. Once experience had been gained, consideration should be given to charging at weekends. It considered priorities for the use of net revenues were bus service improvements, followed by improvements in cycle and pedestrian facilities.

The Capital Transport Campaign, closely related to ASLEF, the rail trade union, questioned the TfL concept of a cascade, with car users switching to Underground and Underground users switching to bus, and were concerned that the charge could harm those in relatively low paid jobs (House of Commons, 2003).

The AA Motoring Trust was of the view that Livingstone was rushing his scheme to suit a political timetable (AA, 2003). They considered that the risks of failure were high, that the benefits could have been achieved through improved highway and traffic management, and that the costs of collecting the charge were too high relative to the revenues. They formally objected, on the grounds that inadequate information had been made available through public consultation to enable them to make a reasonable judgement (AA, 2001). They were also concerned about the use of the net revenues, which they considered required defined application rather becoming a part of TfL's general income. In 2002, the RAC Foundation published a study, *Motoring towards 2050*, in which they concluded that direct road user charges on busy roads at periods of peak demand would become essential (RAC, 2002). Given this research, it was in favour of the principle of the London scheme, provided that there were sufficient improve-

ments to public transport to provide an attractive alternative to the car, and to the roads outside the charged area to accommodate diverted traffic. They also called for transparency in accounting for charge revenues and their use, and for careful monitoring of the traffic, economic and social impacts. The Association of British Drivers, which claims to represent the interests of car drivers but has a membership of just a few thousand (*The Guardian*, 2004), was strongly opposed to the scheme, claiming that *'this Poll Tax on wheels must be stopped before it starts'* (ABD, 2003). It forecast dire economic consequences, with commuters taking jobs and businesses relocating outside the charged area, as well as an increase in accidents as *'drivers try to beat the clock'*. The British Motorcyclists Federation initially welcomed the charge, describing TfL as having an *'enlightened view'* on the role of powered two-wheelers. However, with what it perceived as an anti-motorcycling agenda within TfL's road safety division, it began to suspect that their exemption had been solely for practical administrative reasons (BMF, 2003).

The London Cycling Campaign welcomed the proposed scheme, although it believed it was too limited (London Cycling Campaign, 2003). It called for a £10 charge, to apply from 6am until 10pm and at weekends. The Campaign opposed the exemption of powered two-wheelers, as well as all other exemptions except buses, taxis, emergency vehicles and those for people with disabilities, and called for investment in improved cycling facilities. Living Streets, formerly the Pedestrians Association, was a strong advocate of the scheme, campaigning against the *'deluge of negative publicity'* (Living Streets, 2003).

Friends of the Earth supported the charge, but stated that it, alone, would not solve London's transport problems. The group called on Livingstone to provide real incentives such as travel discounts, company travel plans and safe routes to school, to help people change their travel habits (Friends of the Earth, 2002). They later published a pamphlet, *10 myths about the London Congestion Charge*, which sought to allay concerns raised by the critics and doubters on such issues as the charge being regressive, damaging business and being unnecessary (Friends of the Earth, 2003). Transport 2000 (2004), a transport and environment campaigning group, saw Londoners as being more ready to embrace radical solutions to transport problems and supported Livingstone's scheme, which it described as *'the best idea since the London Underground'*.

Watching Them, Watching Us, a civil liberties group campaigning for control of CCTV, was concerned about the privacy issues related to

the use of the camera-based system, and raised a number of key questions about the system, access to the camera images, and compliance with data protection requirements. They were not convinced that TfL, and Capita, would fully satisfy their legal obligations.

## Charities

A number of charities were concerned about the effects of the charge on their costs and volunteers. The Samaritans feared that it would make it difficult for them to maintain sufficient volunteers for the night shift at their Soho call centre, many of whom drive, given the nature of public transport services late at night when the shift began, but who would incur the charge as the shift did not finish until 8.30. The Royal National Institute for the Blind made the case for provision for partially sighted people, who are not entitled to a Blue Badge for a car, and arrangements under which charges could be reclaimed by staff and volunteers on formal visiting schemes. The TfL response to such requests was that providing exemptions to charities would set a precedent that could undermine the objective of the charge.

## The World Wide Web

A number of web sites were launched, some with names, such as London Congestion Charges.com, which might have been confused with the official site, cclondon.com. One, describing itself as *'the forum about the London congestion charge'*, took the name Sod-U-Ken.co.uk, and quoted on its home page a statement Livingstone made to the *Sunday Times* on 21 November 1999: *'I hate cars. If I ever get any powers again I'd ban the lot.'* As well as hosting a forum, which divided participants into three groups, *'the antis'*, *'the moderates'*, and *'Ken's friends'*, the site provided a range of Sod-U-Ken merchandise (t-shirts, posters, stickers, etc.) and a comprehensive set of links to other sites, including TfL, BBC London (which had an area devoted to information on the charge) and the local press.

KeepLondonFree.com encouraged browsers to *'register your protest against Ken Livingstone's congestion charge'*, and provided a link to mayorwatch.org.uk for information on the charge; Mayorwatch, which describes itself as an impartial site detailing the activities of the Mayor and Assembly, had a congestion charging area primarily concerned with information on the charge; nocongestioncharging.com promoted *'Can't Pay, Won't Pay!'*; and beatcongestion.co.uk focused on legal ways to

avoid the need to pay the charge. congestion-charging.net combined protest with information and links, whilst london-congestioncharge.co.uk promoted the slogan '*stop the congestion charge – say no to Ken's new poll tax*' and contained a large number of juxtaposed '*Ken says – We say*' statements, challenging both the principles and details of the scheme.

## The people

A series of TfL surveys to determine attitudes to the charge found a close balance between Londoners supporting the scheme and those opposed to it, with some 40 per cent in each group (TfL, 2004).

The most organized group of individuals directly affected by the scheme were Kennington residents, where the scheme boundary runs through the local community. They petitioned Livingstone to hold a public inquiry, to undertake environmental and local business impact studies, and to move the charged area boundary north of the Thames. These requests were supported by the local MP, Kate Hoey, and Lambeth Borough Council. Having made little progress with Livingstone, the Kennington Residents' Association took their case to the High Court, where it was heard together with that of Westminster City Council, and rejected (see Chapter 7).

Shortly before charging started, the actress Samantha Bond (James Bond's Miss Money Penny) initiated a protest movement on behalf of low paid workers in the theatre world, which broadened out to encompass Smithfield meat market and other low paid workers, particularly those who had to make one of their work journeys during the late evenings or early mornings when public transport services are, at best, limited, and many have concerns about personal security. Publicity led to Class Law suggesting a legal challenge, on the grounds of inadequate consultation with workers from outside London, and to a meeting attended by 300 protesters in the Palace Theatre. However, managing to raise only a tenth of the £500,000 needed to mount a legal challenge, that idea died. Although Class Law claimed they had been given assurances by Livingstone that he would consider a lower charge for drivers on lower incomes, Livingstone made it clear that that he was convinced they had no grounds for action (*The Times*, 2003i). Indeed, the legal and administrative implications of seeking to relate the charge to income were such that Livingstone had already abandoned ideas to reduce the charge for some lower paid public sector workers. The Smithfield meat market workers, however, were determined not to let the matter drop and sought to lead a 'won't pay' campaign, but it

failed to obtain the critical mass they, and others, hoped for; consequently, it died an early death.

## The press

At best, the media were generally sceptical. Even those supporting the principle of congestion charging saw Livingstone as taking a gamble, with both *The Economist* and the *Financial Times* (*FT*) using that term in December 2002. The *FT* saw three possible risks: the ability of public transport to handle the extra load, the possibility of technological failure and the possibility that congestion was not reduced (*Financial Times*, 2002). Although *The Economist* described Livingstone as being engaged in a huge gamble (*The Economist*, 2002), shortly after his election it had described him as 'Brave Ken', saying that he could be under no illusions about the task he had taken on; that if he failed he stood little chance of being re-elected, but success would have every other city in the world beating a path to his door (*The Economist*, 2000). However, it regarded the £5 charge as being too low, describing it as 'small change' relative to central London hourly parking charges, and suggested that a much higher charge would be necessary to have a real impact on congestion. It saw £5 as a political decision, aimed at both persuading Londoners that the scheme benefits outweighed the costs and securing his re-election in 2004 (*The Economist*, 2001). With days to go before charging commenced, *The Economist* stated that should any problems emerge, they would not be a reason to abandon the principle, but rather to change the scheme, extend the area, increase the charge and improve the technology (*The Economist*, 2003b).

Noting the UK's 'inglorious past of failed public service technology projects', the *FT* explored the risks associated with the charge technology, and reported that a number of experts expected the system to work, albeit with possible teething problems (*Financial Times*, 2003a). The bigger challenge was seen to be effective enforcement. But, despite the 'deafening sniping' from opponents of the charge, the *FT* was convinced that some form of charging was inevitable (*Financial Times*, 2003c) and described most of the arguments against the scheme as bogus (*Financial Times*, 2003b). In an Editorial of 17 February 2003, the *FT* argued that it is 'progress when a darling of the loony left puts his career on the line in defence of orthodox economics', and concluded that the charge is 'courageous – but highly risky' (*Financial Times*, 2003e). *The Guardian* was as hopeful as the *FT*, explaining that tougher restrictions and pricing were required to stop the remorseless accumulation of cars in every street

(*The Guardian*, 2003). It saw Livingstone as having an iron will with 'more political guts than all the present members of the cabinet put together', showing 'bold political leadership of a kind that has become very rare'. These three journals were among the few that were clear, and consistent, in their support for the scheme, even if it was qualified.

Among the other broadsheets, *The Times* and *Daily Telegraph* were far from convinced of the benefits of the scheme, or were simply not willing to support Livingstone. According to Gaber, *The Times* published more stories and words on the scheme than any other broadsheet (Gaber, 2004). One of those, a full-page feature, had five sections headed: 'Join the London rat race at £5 a day', 'Pros and cons of paying up', 'Critics predict chaos on perimeter of pay zone', 'The doubters foresee hi-tech fiasco ahead' and (the only one without a negative tone), 'Cities to gain capital experience' (*The Times*, 2001). Towards the end of 2002 *The Times* started publication of a series of countdown articles, many of which identified what it perceived to be weaknesses or flaws in the scheme, and in January 2003 it published a set of features under the headline 'C is for cars, cameras, charges, controversy . . . and chaos?' (*The Times*, 2003b). This largely factual report started by mocking the secrecy shrouding the location of the charge control centre and ended with a quote from TfL's Turner that the scheme was not a gamble. But in an Editorial a few weeks later, it described the scheme as being 'erratic, mired in glitches and largely incomprehensible' (*The Times*, 2003c). It anticipated determined opposition, concluding: 'schemes that begin in chaos face an almost insuperable barrier to their credibility'. On 17 February 2003, it declared that it was now up to the advocates of congestion charging to prove they were right (*The Times*, 2003f). However, in the same issue, transport writer Christian Woolmar described much of the criticism as 'pure tosh', accusing the media of focusing on a few 'self interested or politically motivated whingers' whilst ignoring the wider transport implications; he portrayed Livingstone as being driven by rational free-market principles, 'rather than anti-car left wing prejudice' (*The Times*, 2003g). That was followed on 18 February by a Simon Jenkins feature headed 'Full throttle for this Rolls-Royce of a policy', in which he praised Livingstone, who had 'behaved like a real mayor' (*The Times*, 2003h).

When Livingstone published his Transport Strategy in July 2001, Max Hastings was Editor of the *London Evening Standard*. Its Editorial commented that Livingstone faced a vicious circle: he did not have the funds to make major public transport improvements, but was being told he could not implement his planned congestion charge without such improvements being in place (*Evening Standard*, 2001a). Challenging the

implicit defeatism, it concluded that *'congestion charging is the best, indeed the only, constructive decision that anyone has produced'*, and described Livingstone as *'being a good deal braver than London's MPs, most of whom have been too cowardly even to comment on congestion charging in case they end up on the wrong side'*. It thought that the planned £5 charge was *'small enough for many drivers to live with'* whilst providing funds for additional buses. However, the tenor of the *Standard's* reporting became essentially critical, with headlines such as *'Hyde Park will become a rat run'*, *'£5 tax just to buy petrol over the road'*, and *'Traffic charge threatens 999 calls'*. Following Veronica Wadley's appointment as Editor, in February 2002, the *Standard* appeared to take on a mission to find every opportunity to cast doubt on the scheme. Whilst some reports contained pros as well as cons, there was often imbalance. A piece on the increase in charge from £5 to £10 if paid after 10 pm (but before midnight) on the day of travel, which had been a feature of the scheme for many months, was reported in September 2002 as a *'little-publicised rule'*, with much space devoted to critical comment by the motoring lobbies but only a little to TfL's explanation (*Evening Standard*, 2002d). Increased interest in the use of alternative fuel cars, which were to be exempt from the charge to encourage emissions reductions, was described as a *'loophole'* allowing green cars to avoid the charge (*Evening Standard*, 2003a). Some headlines misrepresented the base material; a report on a nationwide poll on congestion charging was headed *'70 per cent oppose car charge'*, implying that 70 per cent opposed the London scheme, even though the text made it clear that it was a national finding and included a comment from one of the researchers that research in London would have shown a higher proportion in favour of charging (*Evening Standard*, 2002e). However, an August 2002 Editorial stated that it had always supported the principle of road pricing, but it was *'sceptical that the Mayor has got the details of his proposed scheme right. It is far too complex needing a vast infrastructure of cameras and charging mechanisms'* (*Evening Standard*, 2002a).

In the run-up to the charge, the *Standard* placed one of its reporters undercover in the charge call centre and another in the mobile camera (enforcement) team. Both reported that they had identified major deficiencies in these crucial operations, with that on the call centre published under a front-page headline in very large letters, *'C FOR CHAOS'*, claiming the discovery of *'confusion, muddle and panic'* (*Evening Standard*, 2003b). The report on the mobile unit described the situation as a shambles, although the undercover man expected the difficulties would be *'ironed out to some degree'* (*Evening Standard*, 2003c).



Despite the effort put into the information campaign (see Chapter 9), it would appear that TfL was not as helpful as it might have been, and probably brought some of the criticism on itself. When the *Standard* published a piece on the installation of the first cameras, TfL was reported as having refused to provide answers to questions put to it. It was not surprising, therefore, that the opponents criticized TfL and Livingstone for unnecessary secrecy, leading them to question what was being hidden (*Evening Standard*, 2002b).

The hostility of the *Standard* to the scheme led the Mayor's office to commission an analysis of its coverage between January and July 2002, the period that included Veronica Wadley's appointment and a serious clash between the *Standard* and Livingstone in June 2002 over an incident at a party involving Livingstone. This analysis was later expanded to also include the ten national newspapers, *Metro* and two television news programmes for the period January 2002 to May 2003 (Gaber, 2004). The analysis found that only three national dailies, the *Financial Times*, *The Guardian* and the *Daily Express*, could be classed as broadly supportive, whilst the *Independent* and *Daily Mirror* were sceptical or cynical, and the *Sun*, *The Times*, *Daily Telegraph* and *Daily Mail* were all hostile, as was the *Evening Standard*, although its free stable mate, *Metro*, was classed as sceptical. BBC London was found to be broadly supportive and ITV's *London Tonight* sceptical. Overall, Gaber concluded that the press was against the charge, and Livingstone.

### A commentary

Having provided the opportunity to introduce congestion charging, the government stepped back, failing to support their policy actively or, and possibly more importantly, Livingstone, 'the turncoat'. Although the Liberal Democrats and Greens were supportive, that support was relatively low key and was no match for the vociferous and organized opposition of London's Conservatives. Politically, Livingstone was isolated, but that might have made him even more determined to progress the scheme, and succeed.

Although attitudes among Londoners were balanced between those in favour and those against the scheme, it was those who were against the scheme who made the running. Whilst the CBI and London First were strong supporters even they made it clear that their support was in principle rather than for some of the scheme details, and both became less supportive as implementation progressed.

The motoring lobby was not only effective in presenting its case, but also in making sure it was heeded by the media. The pro-charge lobby was surprisingly ineffective in both respects. In particular, little was heard from the London Transport Users Committee, a body charged with representing the interests of public transport users, organizations representing cyclists or pedestrians, or the usually very effective environmental lobby. Whilst there were several anti-charge web sites, no one established a 'Back-U-Ken' site.

## References

- AA (2001). 'The Greater London (Central Zone) Congestion Charging Order 2001', Letter to TfL from the AA Motoring Trust, Basingstoke.
- AA (2003). *London Congestion Charging – The Views of the AA*, Basingstoke: The AA Motoring Trust.
- ABD (2003). 'Congestion Charging', abd.org.uk.
- ALG (2004). <http://www.alg.gov.uk/doc.asp?doc=65308CAT=1010>.
- BMF (2003). *Congestion Charging – The Biking Scare Factor*, press release, 23 January, British Motorcycling Campaign.
- CBI (2002a). *Decision Time on Congestion Charging*, London: Confederation of British Industry.
- CBI (2002b). *London Congestion Charge 'Must Not Go Ahead Before Scheme is Right' Says CBI*, Press Release, 17 January, London: Confederation of British Industry.
- CBI (2002c). *Proposed Central London Congestion Charging Scheme: Consultation on Proposed Modifications to the Scheme Order*, London: Confederation of British Industry.
- Corporation of London (2001). *Minutes of the Planning and Transportation Committee*, 7 September.
- DfT (2003). *The Government's Response to the Transport Committee's Report on Urban Charging Schemes*, London: Department for Transport.
- Evening Standard* (2001a). 'Squaring the circle', 11 July.
- Evening Standard* (2001b). 'London's traffic has defeated the Mayor', 29 November.
- Evening Standard* (2002a). 'Ken's car charge dilemma', 1 August.
- Evening Standard* (2002b). 'Car charge spy cams go up', 30 August.
- Evening Standard* (2002c). 'Darling refuses to back car charging', 16 October.
- Evening Standard* (2002d). 'Ken's road charge doubles after 10pm', 18 September.
- Evening Standard* (2002e). '70% oppose car charge', 4 December.
- Evening Standard* (2003a). 'Probe into "green" loophole', 13 January.
- Evening Standard* (2003b). 'C for chaos', 13 February.
- Evening Standard* (2003c). 'Exposed: Ken's camera spies', 20 February.
- Evening Standard* (2003d). 'Building firms oppose CC', 13 March.
- Financial Times* (2002). 'Ken Livingstone's biggest gamble', 9 December.
- Financial Times* (2003a). 'Doubts that surround the mayor's big gamble', 6 January.
- Financial Times* (2003b). 'A logical effort to ease the London gridlock', 24 January.

- Financial Times* (2003c). 'Time for solution to urban gridlock', 25/26 January.
- Financial Times* (2003d). 'Business support for traffic zone wavering', 6 February.
- Financial Times* (2003e). 'An end to gridlock: London's congestion charge deserves support', 17 February.
- Friends of the Earth (2002). *FOE backs Livingstone over congestion-charging*, 22 February, London: Friends of the Earth.
- Friends of the Earth (2003). *Briefing Note: 10 Myths about the London Congestion Charge*, London: Friends of the Earth.
- FSB (2001). *Congestion Charging in London: The FSB Response*, Blackpool: Federation of Small Businesses.
- FTA (2004). *Congestion Charging: Campaign Progress Report*. Update 26 July 2004, Tunbridge Wells: Freight Transport Association.
- Gaber, I. (2004). *Driven to Distraction*, London: Goldsmiths College.
- Hansard (1990). House of Commons, *Local Government Finance*, Wednesday 21 February.
- Hansard (2002). House of Lords, *Transport Strategy in London*, 15 October London: The Stationery Office.
- Hansard (2003). Westminster Hall, *Congestion Charging*, Tuesday 11 February, London: The Stationery Office.
- House of Commons (2003). *Urban Charging Schemes, First Report of Session 2002–03*, House of Commons Transport Committee, London: The Stationery Office.
- Lambeth (2002). *Minutes of Council Meeting, Wednesday, 17th July*, London: London Borough of Lambeth.
- Living Streets (2003). *The Secrets of Successful Streets. Annual Report, 2002–3*, London: Living Streets.
- London Cycling Campaign (2003). *LCC View on Congestion Charge*, London: London Cycling Campaign.
- London First (2002). *Transport Update 2002: An Agenda for Action*, London: London First.
- London First (2003a). *Business Demands Clarity of Expenditure on Congestion Charging Proceeds*, Press Release, 14 January.
- London First (2003b). *Where Does London Want Congestion Charging Money to be Spent?*, Press Release, 17 February.
- LTUC (2002). *London on the Move: Transport Policies for a Liveable City*, 1st edn, London: London Transport Users Committee.
- LTUC (2003). *Congestion Charging*, Agenda No. 10, 29 January, London: London Transport Users Committee.
- RAC (2002). *Motoring towards 2050*, London: The RAC Foundation.
- RHA (2002). *Response from the Road Haulage Association to the Transport Subcommittee Inquiry on Urban Charging Scheme*, London: Road Haulage Association.
- TfL (2004). *Impacts Monitoring Second Annual Report*, London: Transport for London.
- The Economist* (2000). 'Brave Ken', 29 July.
- The Economist* (2001). 'The mayor's £5 flutter', 14 July.
- The Economist* (2002). 'Ken's Gamble', 14 December.
- The Economist* (2003a). 'Fuming: How the transport minister tried to undermine the congestion charge', 15 February.
- The Economist* (2003b). 'Traffic decongestant', 15 February.

*The Guardian* (2003). 'Congestion charging will hurt but it has be done', 8 January.

*The Guardian* (2004). 'They call themselves the voice of the driver. But who do they really represent?', 3 February.

*The Times* (2001). 'Join the London rat race for £5 a day', 11 July.

*The Times* (2002). 'Byers tries to wreck Livingstone car charge', 12 January.

*The Times* (2003a). 'Darling has doubts over congestion boundary', 6 January.

*The Times* (2003b). 'C is for cars, cameras, charges, controversy . . . and chaos?', 7 January.

*The Times* (2003c). 'Mayor's false start: the congestion charge is beginning in chaos', 6 February.

*The Times* (2003d). 'Ministers "afraid" to support charge', 10 February.

*The Times* (2003e). 'Drivers urged to put cheque on charges', 11 February.

*The Times* (2003f). 'London crawling: five tests for the new congestion charge must pass', 17 February.

*The Times* (2003g). 'Take Ken's decongestant medicine and be glad today. It's London's last hope', 17 February.

*The Times* (2003h). 'Full throttle for this Rolls-Royce of a policy', 18 February.

*The Times* (2003i). 'Workers abandon charge challenge', 22 February.

Transport 2000 (2004) [www.transport2000.org.uk](http://www.transport2000.org.uk).

# 12

## The First Year

### Introduction

On Monday, 17 February 2003, some 31½ months after formally taking up office, Livingstone's central London congestion charge came into operation. That particular day had been chosen because it was the first weekday of the school half-term holidays, a time when traffic is usually 5–10 per cent lighter than during school term time.

In the last few weeks of 2002 and the early weeks of 2003, TfL had been busy undertaking highway works in and around central London that would otherwise have been undertaken later in 2003 and ensured that the pedestrianization of the northern part of Trafalgar Square and the remodelling of Vauxhall Cross, works that had seriously disrupted traffic, were complete by 17 February. The target was to have roads within and around the charged area as free from works as possible for the early months of the charge. However, on 25 January 2003 a Central Line train was derailed at Chancery Lane, due to a rolling stock fault, leading to the immediate closure of both the Central Line and the Waterloo & City Line (which uses similar stock). Although the Waterloo & City Line was reopened on 18 February, the Central Line, which carries nearly 600,000 passengers a day, was only reopened in stages and full service was not restored until the end of May 2003.

Despite all the preparations, many of those opposing the scheme predicted chaos, even failure. As Simon Jenkins, writing in *The Times* put it, with some journalistic hyperbole: '*gleeful predictions of fiasco, shambles, gridlock and the impending death of urban society have consumed the media. National newspapers have run double-page spreads and countdowns to catastrophe*' (*The Times*, 2003a). Indeed, Livingstone told journalists he was expecting a 'bloody day'.

## The economic background

The charge was introduced when London's economy was facing a number of difficulties, and its impacts should be assessed against the broader economic background. The GLA Economics Unit's July 2003 forecast suggested that whilst London's economy had turned the corner, recovery was likely to take longer than previously expected, with growth below the trend for the second year running (GLA, 2003b). The 2003 LSE report, *London's Place in the UK Economy*, concluded '*the long boom of the 1990s is over*' (LSE, 2003). It reported that '*the slowdown in London's economy became a reality in 2002*' with a loss of 50,000 jobs in business services in central London, although they saw the situation as more a '*pause in economic growth than a recession as such*'.

Overlying the medium-term trends were a number of events that had a serious effect on key elements of London's economy, particularly that of central London, including declines in retail activity and national and international tourism; tourism accounts for some 10 per cent of London's gross domestic product (Visit London, 2004b). The threat of terrorism, emphasized by the UK's role in Iraq, proved a major deterrent for visitors to London during 2003, and this was reinforced by the SARS epidemic in Asia, and the general downturn in the world economy, resulting in the number of visitors falling to a low of 26 million in 2003, from 32 million in 2000, before recovering to an estimated 28 million in 2004 (Visit London, 2004a).

Retail activity was affected by the downturn in tourism, the closure of the Central Line, and a reduction in the rate of domestic retail expenditure. The *London Retail Monitor* recorded four months of year-on-year decline in central London retail sales, from February to May 2003, with a modest recovery in the latter part of the year before a very flat November and December, and an upturn in the early months of 2004 (London Retail Consortium, 2004). In the first half of 2003, retail, which accounts for 17 per cent of central London employment, had the worst performance among those sectors that contribute most to central London's economy with a year-on-year 3 per cent decline (TfL, 2004e). Leisure (10 per cent of employment), the public sector (16 per cent of employment) and distribution (5 per cent of employment) each declined by 2 per cent. The services sector, accounting for 42 per cent of central London employment, was the only sector to show any growth, at 1 per cent.

Despite expectations of a recovery in the latter part of 2003, a panel established by the business organization, London First, concluded in October 2003 that the ‘*“bounce back” that was expected after the war in Iraq did not happen*’ (London First, 2003).

### The early days

On Monday, 17 February 2003, some 190,000 vehicles entered the charged area, compared with 250,000 on a normal weekday. Even allowing for the effect of half-term, this was a substantial reduction. Nearly 100,000 charges had been paid, but charges had not been paid for another 10,000, whilst the remainder benefited from exemptions. Although the 10,000 unpaid was higher than expected, it was much lower than those campaigning for a ‘*won’t pay*’ response needed to be effective. It was clear that the vast majority of drivers were willing to pay, and over the whole of the first week, with close to half a million chargeable transactions, TfL sent out a total of 34,000 PCNs.

With the predictions of chaos, some people may have chosen to avoid central London. However, with traffic increasing only slightly over the first week it was clear that, initially at least, fewer people were willing to pay the charge than the research had suggested. But, as had been noted by the Assembly, ‘*there is no prior experience of such a scheme*’ (London Assembly, 2000).

Although there were some reports of specific problems with the payment arrangements, of heavier traffic outside the charged area and of individual hardship, the consensus was that day one went very well. It was suggested that improvements in traffic flow were assisted by judicious tuning of traffic signal timings on 17 February in favour of traffic, following a programme of changes in the months before charging to provide more time for pedestrians (for example, CfIT, 2003), a suggestion strongly refuted by TfL. The immediate beneficiaries were the bus users, not only because of all the extra buses and new routes, but because buses were travelling faster (so much faster that some had to slow down to keep to schedule). With buses coping well with increases in demand, little impact was observed on the Underground which was still without the Central and Waterloo & City Lines. TfL reported that calls to the charge call centre on 17 February were being answered within 1 minute and transactions completed within 3 minutes. However, with some problems encountered later in the week, doubts whether the system was as robust as it needed to be remained. The

most serious problem was with fleet payment arrangements, which had been identified a few days earlier, but had been dealt with by 17 February.

A snap survey of businesses in and around the charged area by the Royal Institute of Chartered Surveyors found most respondents saw benefits (RICS, 2003), and both Capita and bus operators saw their share prices move ahead, with Capita benefiting from the lack of catastrophic failure (*The Times*, 2003b).

With traffic flows some 25 per cent lower than on a usual Monday, and with few problems for those seeking to pay the charge, Livingstone said that the scheme had worked far better than he had hoped for, with the *Evening Standard* reporting that the scheme '*appears to be working smoothly . . . no reports of any problems on public transport*', and the AA stating '*it's been gain without pain – so far*' (*Evening Standard*, 2003a). Indeed, despite its opposition to the scheme, in its 17 February Editorial the *Standard* recognized the initial success, under the heading 'Brave New World': '*whether people like or loathe Ken Livingstone, the Mayor deserves respect for the sheer doggedness with which he has pressed ahead with one of the biggest experiments in history*' (*Evening Standard*, 2003b). As it became clear that things were going well, the Transport Minister, John Spellar, a resolute opponent of congestion charging, congratulated Livingstone, quipping '*the devil looks after his own*'.

The next morning, the BBC reported '*residents talked of being able to hear birdsong for the first time in years*' and, with more journalistic hyperbole, the week's *The Economist* reported '*by far the loudest noise in London this week was not traffic but critics of the congestion charge in thunderous retreat*' (*The Economist*, 2003a). But all were not happy, and after meeting Conservative leader Iain Duncan Smith and Mayoral candidate Steve Norris, 150 Smithfield workers marched to City Hall on 17 February to express their opposition, although they had recognized that their '*won't pay*' campaign was not going to attract the critical mass to succeed. Nevertheless, Conservative opposition remained firm, with Norris predicting that traffic would build back up, and London spokesman Eric Pickles branding the charge an '*unfair tax*'.

With fears that, given the initial scale of reduction, the charge would not raise the £130 million a year expected, TfL's Transport Commissioner, Bob Kiley, stressed that the scheme was designed to relieve congestion, not to make money.

Despite the *Standard's* initial praise, it became more cautious, reserving its judgement on the longer-term benefits (*Evening Standard*, 2003c). Indeed, even TfL was cautious about claiming full success, until the scheme was several months old.



### The first year's traffic

TfL's *Second Annual Report* explained that new traffic patterns quickly became established and were sustained throughout the first 12 months (TfL, 2004e). Vehicles with four or more wheels entering the charged area were 18 per cent down and traffic within the charged area was 15 per cent down, relative to early 2003. The main reduction in inbound traffic was cars (33 per cent down), whilst vans and lorries were 11 per cent down. Vehicle classes with increased flows were buses and coaches (+23 per cent), licensed taxis (+17 per cent) and two-wheeled vehicles (+15 per cent). Overall, including two-wheeled vehicles, there was a 14 per cent decrease, from 378,000 over the 11½ hour charged period, and a 27 per cent decrease in chargeable vehicles. Changes in outbound flows were somewhat different, with an overall decrease of 18 per cent (29 per cent for chargeable vehicles), from 374,000 vehicles.

A report to the TfL Board in December 2004 noted:

*'Traffic levels in the second quarter of 2004/05 were 19% lower than the weeks prior to the introduction of the scheme. The introduction of charging on 17 February 2003 resulted in a reduction of 21% in traffic entering the zone, compared to the period immediately before charging. Traffic levels since the second quarter of 2003/04 appear to have stabilised at a level some 6% higher than those seen after the introduction of the CCZ [congestion charging zone], but these are some 15% less than pre-congestion charging levels'. (TfL, 2004b).*

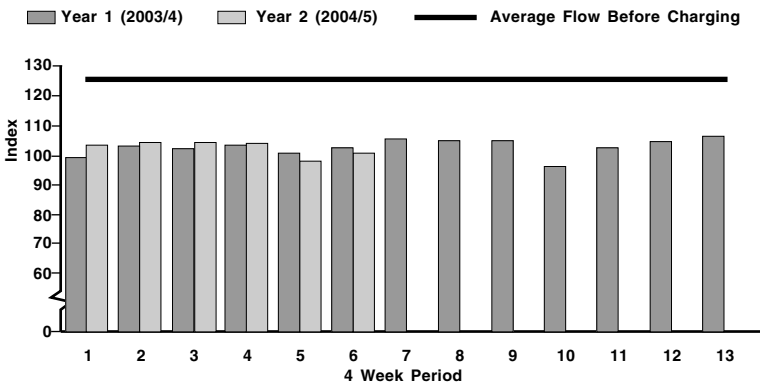


Figure 12.1 Vehicle flow into the charged area during the charged period

The flow of traffic entering the charged area over the first 18 months relative to pre-charged levels are illustrated in Figure 12.1.

An analysis by time of day showed little change in flows entering the charged area before 7am, followed by a consistent drop across the charged period, which was maintained at a lower level after 6.30pm (TfL, 2004e). TfL estimated that about 4,000 car drivers switched to travelling in the hour before and the 1½ hours after the charged period. There could, however, be two counterbalancing effects, as suggested by the London Congestion Charging Research Programme, with some drivers travelling earlier to avoid the charge and others, who had been travelling early to avoid congestion, being willing to pay the charge to travel at a more convenient and now less congested time (DTp, 1995).

The Association of London Government commissioned its own study of traffic impacts, using data provided by TfL as well as by the London boroughs (ALG, 2004c). Using the TfL data, they noted that weekend flows for 2002 and 2003 were very similar, although they found *some 'indication of a slight reduction'*. Using the TfL and borough data for weekday traffic, they agreed with the TfL figure of an 18 per cent reduction in total inbound traffic, but found a 22 per cent reduction in outbound traffic. The reduction varied around the boundary, with a 27 per cent decrease inbound south of the Thames, but only 12 per cent within Westminster (the northern and western boundaries). A similar pattern was observed in outbound traffic, varying from a 27 per cent reduction in the south to 15 per cent in Westminster.

TfL reported that the total vehicle km travelled within the charged area decreased by 12 per cent, with a 15 per cent reduction in four or more wheeled vehicle km, 25 per cent in chargeable vehicle km and 34 per cent in car km. Taxi km increased by 22 per cent, buses and coaches by 21 per cent and two-wheeled vehicles by 14 per cent. Whilst the ALG findings do not exactly match TfL's, due to differences in method, they are broadly similar, with a 14.6 per cent (+/-4.8 per cent) reduction in total four or more wheeled vehicle km within the charged area (ALG, 2004c). The ALG work also provides a breakdown by road type, as well as the 95th percentile error margin, with a 13.4 per cent (+/-5.4 per cent) decrease on TfL roads, 10.1 per cent (+/-9.5 per cent) on A roads, and 17.8 per cent (+/-14.9 per cent) on B and minor roads.

Agreeing with TfL's estimated reduction in chargeable vehicle km within the charged area of 25 per cent, the ALG noted that their share of the total vehicle km decreased by 58 per cent, emphasizing the

increase in non-chargeable traffic: taxis, buses and two-wheeled traffic. A breakdown by area showed the lowest reduction in Westminster, with a 5.4 per cent (+/-11.1 per cent) decrease, and the largest, 24.9 per cent (+/-6.1 per cent), south of the Thames (Lambeth and Southwark). The reduction in the parts of the charged area in the City and Tower Hamlets was 15.2 per cent (+/-8.6 per cent). Thus, as with traffic entering the charged area, the reduction of traffic on the streets of the charged area was lowest in Westminster; indeed, given the confidence limits, there might have been a small increase. This suggests that those travelling to, or living in, Westminster are among the least willing to give up their cars, whilst those in the charged area south of the Thames are among the most willing. This may well reflect differences between the areas, with the charged area of Westminster including higher income areas – Mayfair and Marylebone – as well as the West End shops and entertainment areas, whilst that south of the Thames has more lower income housing and fewer high income commercial destinations.

Whilst TfL's published analyses do not explore local differences in impacts, TfL survey research with charged area residents indicates that 68 per cent had not changed their use of the car for trips to, from or within the charged area within the charged period, whilst 18 per cent drove less and 14 per cent drove more; 79 per cent reported no change in the overall use of their car (TfL, 2004e).

Prior to charging, there had been concerns about substantial increases in traffic outside the charged area, as drivers sought to avoid it. However, TfL's analyses give a 4 per cent increase in vehicle km using the IRR, with a (not statistically significant) increase of 1 per cent for vehicles with four or more wheels, of 7 per cent for lorries and a 2 per cent decrease for chargeable vehicles, and a statistically significant 7 per cent decrease in cars and increases of 16 per cent for licensed taxis, 24 per cent for buses and coaches and 43 per cent for two-wheeled vehicles (TfL, 2004e). Changes in orbital traffic on and outside the IRR were measured on four radial screenlines. Whilst none of the changes was statistically significant, there was a pattern of small increases (2 per cent to 3 per cent) in the north and east, and similar decreases in the south and west. TfL noted that small reductions in cars tended to be matched by increases in powered two-wheeled vehicles. Case studies on a number of local roads outside the charged area showed a general pattern of decrease, but with some small increases.

The ALG analyses indicated a net reduction of 2.9 per cent (+/-1.7 per cent) in vehicle km in a 'collar zone' around the charged area including

the IRR (ALG, 2004c). However, with a 3.9 per cent (+/-2.5 per cent) increase on the IRR, there was an average 3.8 per cent (+/-1.9 per cent) decrease on roads excluding the IRR. The ALG finding of a 3.9 per cent increase in vehicle km on the IRR contrasts with TfL's reported 1 per cent increase. Although the differences are attributable to methodology, the ALG estimate appears to be the better founded. The ALG analyses show considerable variation by sector of the IRR, ranging from an increase of just 0.3 per cent in Westminster (for which the TfL approach would give a 1.2 per cent reduction) through to a 10.8 per cent increase south of the Thames (TfL: +11.1 per cent). The ALG found that the greatest decreases within the outer collar were on B roads (8.2 per cent, +/-7.3 per cent), and unclassified roads at 4.8 per cent (+/-5.9 per cent), with a greater reduction in flows on minor radial roads (B plus unclassified) than on minor orbital roads. The reductions in flows on orbital roads suggest that either the fears about rat running through minor roads to avoid the charged area were unfounded or the measures taken by the boroughs to reduce such use were effective. The ALG report concluded that although there were some large percentage changes on minor residential roads, they *'are unlikely to have been significantly affected by the congestion charge'*, as traffic levels are low.

An analysis by area within the outer collar, excluding the IRR, gives rather different results to the changes in traffic entering and leaving the charged area, with only a relatively small change (-3.7 per cent +/-5.8 per cent) south of the Thames, and the largest changes in the north (Camden: -9.9 per cent +/-6.3 per cent and Islington and Hackney: -16.8 per cent +/-7.0 per cent). There was very little change (-1.6 per cent +/-5.0 per cent) in those parts of Westminster outside the charged area, and in Kensington and Chelsea (-2.8 per cent +/-2.5 per cent).

Evidence from London boroughs to the Assembly confirmed that the effects outside the charge area were minor, leading the Transport Committee to conclude that the scheme appeared *'to have had no significant impact to date on roads on the edge or outside the zone'* (London Assembly, 2004a).

## **Congestion**

The definition of 'congestion' has proved contentious, with the Transport Department stating *'although a number of transport commentators have attempted to estimate congestion . . . an ideal measure has yet to be identified'* (DETR, 2000). However, the Commission for Integrated

Transport concluded that it should be '*measured through changes in total vehicle hours lost below free-flow speeds*' (CfIT, 1999), and this is the definition adopted by TfL: '*the lost time elements of travel time spent over and above that under "uncongested" . . . conditions . . . taken as being those . . . during the early hours of the morning, when traffic flow is at its lightest and traffic is most able to move around the network at its "free-flow" speed*' (TfL, 2004e).

TfL used four sources of information on congestion:

- (a) moving car, using a car 'floating' in the traffic stream, building on a long established series of surveys;
- (b) ANPR cameras, using data obtained from the charge enforcement cameras, although this did not contribute to the assessment of the first year's operation;
- (c) a panel of regular drivers;
- (d) qualitative research among central London businesses.

The moving car surveys indicated that typical delays within the charged area decreased from 2.3 min/km to 1.7 min/km, and average network speeds during charging hours increased from 14.3 km/hour to 17.0 km/hour. Overall, TfL estimated that congestion was reduced by 30 per cent, an improvement sustained over the first year. Despite increased traffic on the IRR, delays reduced from, typically, 1.9 min/km to between 1.5 and 1.7 min/km. TfL attribute this improvement to a combination of better operational management and the end of the effects of the roadworks of 2002. A 20 per cent reduction in congestion was recorded on radials approaching the charged area. No change in congestion was recorded on other major roads within inner London.

The AA Motoring Trust commissioned an independent survey of journey times. This gave an average increase of 2 mph (3 km/hour) within the charged area, 1 mph (1.6 km/hour) within a 10 km band around it and no measurable change outside that (AA, 2004). Noting that the IRR '*successfully took a 5 per cent increase in traffic*' due to the measures introduced, including the control of roadworks, they questioned why traffic engineering and better road operation management could not be applied more generally, and suggested that the reduction in congestion might not be sustained '*as roadworks return to typical levels and capacity is removed for bus lanes and pavement widening*'.

TfL has attributed the increase in average speeds within the charged area more to reductions of time spent stationary or moving slowly, than to travelling at higher running speeds. Most crucially, there has

been a useful, but unquantified, improvement in journey time reliability, a key consideration for many road users.

The TfL panel survey used drivers from across London, with journeys analysed in concentric zones according to the journey origin or destination, as well as by 'outward' or 'return'. Journey times in both directions decreased by an average of 14 per cent, with the greatest decreases experienced by those travelling longer distances, and their reliability improved, with standard deviations of travel time reduced by 27 per cent for outward journeys and 34 per cent for return journeys (TfL, 2004e).

The TfL qualitative research among central London businesses found that the 51 per cent of businesses considering peak period congestion '*critical*' or '*very bad*' before the charge had fallen to 16 per cent with the charge; the comparable proportions for inter-peak conditions were 36 per cent and 11 per cent.

## **Bus and rail**

Implementation of the congestion charge was paralleled by improvements in London's bus services and the introduction of a standard 70p fare, resulting in a decrease in the proportion of Londoners who say they never use buses from 29 per cent to 20 per cent (TfL, 2004e). These improvements alone could be expected to lead to a significant increase in patronage across the network, and TfL estimated they accounted for about half the 37 per cent increase in bus passengers (to 264,000) entering the charged area a day during the charged period between Autumn 2002 and Autumn 2003 (thus after the Central Line was fully reopened), and the 29 per cent increase (to 211,000) in passengers leaving the charged area (TfL, 2004e). During the three-hour morning peak there was a 38 per cent increase in passengers entering the charged area (to 106,000), equating to 14,000 additional passengers in the peak hour. This compares with the 13,500 passenger capacity increase in place by February 2003, and 14,500 in later months, and a 27 per cent increase in buses entering the charged area during the charged hours. By Autumn 2003, nearly 3,000 buses were entering the charged area in the three-hour morning peak, up 560 on the previous year. However, with the patronage increases, average loadings per TfL bus increased marginally. Although there was a greater increase in bus occupancy of buses within the charged area, TfL suggested that they '*were acceptably accommodated*'. Research by the ALG on a sample of 33 routes found that overcrowding was not a problem on the major-

ity of these, with an average occupancy level of less than 30 per cent across the morning peak, but they observed overcrowding at times during the morning peak on seven routes (ALG, 2003), and a City Corporation report stated that some bus corridors had experienced a step change in passengers per bus, and noted that a 'place', as defined by TfL, does not mean a seat (Corporation of London, 2004). TfL found an occupancy increase of about 50 per cent on inbound coaches, used by longer distance commuters (TfL, 2004e).

TfL has a long-standing annual morning peak count of bus passengers across a cordon approximating to the Zone 1 fare boundary, and thus outside some of the main railway termini that are within the charged area (TfL, 2004e). This showed an 18 per cent increase in passengers, to 104,000, with TfL attributing some of the difference between this and the charged area boundary counts to increased bus use within central London for the last part of rail passengers' journeys.

The reduction in traffic within the charged area has benefited bus passengers through reduced delays and unreliability. TfL measures delay by Excess Waiting Time, defined as '*the additional wait time at bus stops experienced by passengers caused by service irregularity or missing buses*'. Initiatives taken by TfL led to a 20 per cent decrease in Excess Waiting Time across London, but a 30 per cent improvement within the charged area was seen to demonstrate the impact of the charge. Between 2002 and 2004, disruption to services caused by traffic congestion was reduced by around 40 per cent, with routes operating within the charged area benefiting from a 60 per cent reduction, and those using the Inner Ring Road finding a 50 per cent reduction. Overall, morning peak bus journey speeds within the charged area increased by 6 per cent to 11.6 km/hour, and by between 3 per cent and 4 per cent on radials and orbitals outside the charged area, with the exception of the Inner Ring Road, where they remained constant, at 13.3 km/hour.

Despite all the improvements in bus services, passengers in a regular TfL survey showed little increased overall satisfaction, with the satisfaction rating staying steady at between 77 per cent and 78 per cent over the two years from January 2002 to December 2003 with, typically, a 1 percentage point difference between services within and outside the charged area (TfL, 2004e).

Whilst TfL had anticipated that improved bus services would abstract some Underground passengers, Underground patronage in 2003 was also affected by the decline in economic activity and the closure of the Central Line. For stations in and around the charged area in the morning peak period, gate-based estimates of patronage for the first

12 four-week periods after charging started, compared to the same periods the previous year, showed an 8 per cent reduction in patronage, compared with a 6 per cent decline across the whole network. An average of 473,000 passengers exited stations in and around the charged area in the year after introduction of the charge, compared with 513,000 in the previous year. Over the whole of the charged period, patronage was reduced by 7 per cent, from 1,275,000 passenger exits. Docklands Light Rail also experienced a decrease in morning peak patronage, of 2 per cent, but showed a small (1 per cent) increase over the whole of the charged period.

There was no significant change in the number of passengers travelling to central London by National Rail. In the three-hour morning peak, 7 to 10 am, around 451,000 passengers arrived by national rail, compared with 447,000 in 2003, a statistically insignificant 1 per cent decrease, whilst across the whole of the charged period there was a 1 per cent increase to 573,000 passengers departing from stations in the charged area.

Noting that Livingstone had said that the downturn in London's economy had enabled the Underground and National Rail to absorb additional commuters (GLA, 2003a), the Assembly was concerned that reliance on an economic downturn to manage additional rail patronage could have repercussions in the future. They also noted that Westminster City Council had warned that fare increases in January 2004 might encourage some people who had switched from car to public transport to switch back again.

Despite the bus services improvement, TfL found only 47 per cent of charged area residents perceived an improvement in the availability of public transport, and 38 per cent perceived improvements in its reliability (TfL, 2004e). The comparable proportions shrink for inner London residents to 39 per cent and 30 per cent, respectively, and to 16 per cent and 12 per cent for outer London residents.

There had been a concern that switches to rail would increase demand for parking at railheads, creating problems in the vicinity of stations not within Controlled Parking Zones. Whilst studies by TfL at a sample of stations indicated a 1 per cent reduction in demand, probably reflecting decreased underground patronage (TfL, 2004e), the ALG found an increase in parking space occupancy on streets closest to six stations surveyed in outer London (ALG, 2004b). However, the increases were small and the ALG concluded that it was *'not possible to tell whether it is solely attributable to the charge'*, with the implementation of CPZs around other stations among other contributory factors.



They noted that although the TfL findings represented the average, analysis of the individual stations covered by TfL showed increases in the vicinity of National Rail stations and decreases around Underground stations. The ALG work also found the greatest increase around the National Rail stations in its sample, but no decrease around Underground stations.

The combination of investment in buses and bus services, simplified fares and improved reliability within central London made the bus more acceptable to the 'professional class', with one-third of new bus users in 2003/4 coming from social groups A and B. Style and fashion magazine *Harpers & Queen* accorded the London bus the plaudit of being '*one of the hottest trends of 2004*' (*The Times*, 2004).

## Taxis

The traffic data indicates a substantial increase in taxi km into, within and out of the charged area, following introduction of the charge. It might be expected that this could be attributed to a greater use of taxis, with a combination of modal shift as a direct response to the charge and improved journey times and reliability, and lower fares (the London taxi fare structure is a combination of distance and time), making the taxi a more attractive option. However, research by the Commission for Integrated Transport (CfIT, 2003) indicated that taxi takings shrank by 20–30 per cent over the first few months of charging. This loss was attributed both to the downturn in the London economy, reducing the demand for taxis, and to a reduction in the average fare per trip, due to decreased journey times. Further, the charge was introduced when the previously unregulated mini-cab trade was being changed into a regulated private hire industry, making them a more attractive alternative to traditional black cabs. However, Bannister suggested that taxi revenues increased by 20–30 per cent, and noted that although they do not pay the charge they contribute to congestion and pollution (Bannister, 2004).

## Cyclists and pedestrians

The reduction in traffic within the charged area contributed to a 30 per cent increase in cycling, although evidence from the London Cycling Campaign suggested that this might be an underestimate (London Assembly, 2004a). In its *6 Months On* report, TfL also reported a 30 per cent increase in pedal cyclists entering the charged area (TfL, 2003b),

whilst noting the variability in cycle volumes with weather, a point underlined by the variability over the year shown in the *Second Annual Report* (TfL, 2004e).

Despite the Assembly's earlier concerns about impacts on pedestrians, and the need to monitor these (London Assembly, 2000, 2002), the Assembly's *First Review* contains no reference to direct impacts on pedestrians (London Assembly, 2004a). Moreover, the only reference in TfL's *Second Annual Report* is to perceptions of residents on the ease of crossing roads, with 33 per cent reporting an improvement (TfL, 2004e).

### **People with disabilities**

Evidence to the Assembly indicated that the scheme benefited people with disabilities (London Assembly, 2004a). The operators of the capital's 'Dial A Ride' and 'Taxicard' schemes reported that they had been able to improve the speed and reliability of their services, allowing them to provide marginally more trips within their fixed budget. The Assembly was also told that, following some initial difficulties with the registration system, the Blue Badge arrangements (which provide holders with exemption) was working well. However, there was evidence that the arrangements for the reimbursement of those who were seriously ill and needed to visit medical facilities within the charged area were creating difficulties, and that the charge was also creating problems for those requiring support from the voluntary sector.

### **Low income groups**

TfL's *6 Months On* report (TfL, 2003b) explained that '*achieving a robust and comprehensive study*' of the social impacts of the charge '*is necessarily a long-term process*' and, although it had been hoped to include initial findings in the *Second Annual Report*, no findings were published (TfL, 2004e). An invitation for tenders to research the social impacts, issued by TfL in November 2004, might explain this omission (*Evening Standard*, 2004b).

Research by CfIT with employees in three sectors (hospitality, health, and restaurants, bars, etc.) which typically employ low income staff, came to the conclusion most of the low paid workers in these sectors were unaffected by the charge (CfIT, 2003). However, the research identified that those on low incomes who chose to travel by car, and pay the charge, could be seriously disadvantaged, as they are less likely

to have a credit or bank card, and thus could not use most of the charge payment channels. It has been suggested that the greatest impact has been on the 'not quite poor', who might be more car dependent than the less well off.

### Travel behaviour overall

With a reduction of between 65,000 and 70,000 car movements into the charged area during the charge period, from some 195,000 in 2002 to less than 130,000 in 2003, TfL estimated that, based on a combination of surveys:

- 1 15,000 to 20,000 movements previously made through the area diverted around it.
- 2 35,000 to 40,000 movements into the charged area switched to bus and rail, representing between 40,000 and 45,000 car occupants.
- 3 5,000 to 10,000 movements into the charged area switched to cycle, walking, motorcycle, taxi and car share.
- 4 Fewer than 5,000 movements into the charged area switched to outside the charged period.
- 5 Fewer than 5,000 movements into the charged area were made less frequently or to other destinations (TfL, 2004e).

Analysis by TfL of trips by residents of inner and outer London indicated a reduction in car use for trips to central London across three main purposes – work, business and education – as well as 'other', with the greatest proportional effect being on commuting, and the smallest on education for inner London residents and on 'other' for outer London. Overall, 50 per cent of drivers resident in inner London, but only 33 per cent of those in outer, reported using their car less often for trips into the charged area during the charged time, and 8 per cent in each area reported increased use.

Research for the GLA by Oxford Economic Forecasting found that only 2 per cent of the employees of firms it sampled considered their journey to work *significantly better*, and 7 per cent *somewhat better*, while similar proportions thought it *somewhat* or *significantly worse* as a result of the charge; 50 per cent thought it had had *no effect* and 31 per cent did not respond (GLA, 2005b). However, as a higher proportion of the employees surveyed travel by National Rail than of all central London employees, these findings probably underestimate the beneficial effects.

## Attitudes to congestion charging

A TfL longitudinal series of surveys on attitudes to congestion charging reveals some interesting changes over time (TfL, 2004e). Responses to a question on the importance of reducing congestion in central London showed a declining majority rating it 'important', from 77 per cent (85 per cent rating it important and 8 per cent unimportant) in December 2002 to 64 per cent in February 2003. In later surveys, the question was prefaced with a statement that the charge had reduced congestion, and the majority rating 'further' reductions (implicitly beyond those achieved) important fell from 70 per cent in March 2003 to 30 per cent in June and 14 per cent in October 2003, when 36 per cent rated it 'unimportant'. In a TfL survey reported in the July 2004 report on consultations on the proposed westwards extension (see Chapter 14), 69 per cent of respondents agreed that the charge had been effective in reducing congestion and 16 per cent disagreed (TfL, 2004g).

Prior to the commencement of charging, attitudes were almost equally divided between supporting and opposing the charge, with each recording some 40 per cent (TfL, 2004e). This compares reasonably well with research by the AA Motoring Trust in Autumn 2001 which showed 47 per cent in support and 43 per cent opposed (AA, 2004). However, in the months immediately after charging commenced, there was a net balance of between 19 per cent and 35 per cent in support, although the maximum proportion in support was 59 per cent, yet an ICM poll for BBC *Newsnight* in November 2003 found a much narrower net balance, with just over 40 per cent of Londoners in favour of congestion charging, and 31 per cent opposed (BBC, 2003). However, very many more City of London residents supported the scheme in March 2003, with 69 per cent in favour, 16 per cent opposed and 15 per cent 'neutral' (Corporation of London, 2004). The same poll found 54 per cent of City workers supporting the scheme and 23 per cent opposed to it.

Before the charge, between 72 and 76 per cent of respondents thought it would be effective, although only 50–54 per cent thought it would reduce congestion and an average of 35 per cent thought it would not (TfL, 2004e). The expectations of effectiveness were confirmed by research by the Office of National Statistics (ONS) undertaken for the Department for Transport (in March 2003), which found that 75 per cent of Londoners thought the scheme would be effective, and 15 per cent thought it would not be (DfT, 2003). After charging had commenced, TfL found between 76 per cent and 81 per cent

thought it had been effective, whilst an average of 5 per cent considered it not at all effective (TfL, 2004e). Although between 71 per cent and 76 per cent thought it had reduced congestion, between 11 per cent and 17 per cent saw no such benefit. Research for the DfT road pricing feasibility study (see Chapter 14) found mixed views among those living in London, with some noticing much lighter traffic on the roads and others thinking the charge had made no difference (DfT, 2004).

In July 2003, further ONS research for DfT found that 66 per cent of Londoners thought the charge to be a fair way of reducing traffic, and 63 per cent thought it had been '*good for London (according to their own interpretation of "good")*', although 30 per cent thought it had not been beneficial (DfT, 2003). This survey also found that 61 per cent of London respondents thought that the roads inside the charged area were less crowded, less than 5 per cent thought those just outside the charged area were less busy, while 41 per cent thought they were busier and 37 per cent thought they were about the same. Over London as a whole, 53 per cent thought that traffic was about the same, 24 per cent thought roads were less busy and 9 per cent thought they were busier.

The TfL work found that most Londoners were prepared to accept charging so long as public transport was improved with, typically, 85 per cent agreeing and only 10 per cent disagreeing. Yet the majority in favour of charging if it improved car travel was much smaller, with just over 60 per cent agreeing and 20 per cent disagreeing (TfL, 2004e). Whilst the ONS work found 44 per cent of London respondents did not know what was being done with the net revenues, 38 per cent identified public transport as one of the uses (DfT, 2003). In the City, 56 per cent of workers were concerned that the charge would overload the public transport system (Corporation of London, 2004).

The GLA Annual London Survey of 2004 found that 39 per cent of Londoners were very or fairly satisfied with way Livingstone was doing his job as Mayor, compared with 21 per cent who were fairly or very dissatisfied (GLA, 2005a). Of those satisfied, 37 per cent cited action on traffic and congestion as one of their reasons (second, by 3 percentage points, to views that Livingstone is doing a good job, his best for London), whilst 45 per cent of those dissatisfied cited the congestion charge as a reason, leading the second most cited reason – wasting money/spending too much – by 23 percentage points. Yet, despite the relatively high satisfaction with action on traffic and congestion, 49 per cent of Londoners consider traffic congestion to be one of '*the two or three worst things about living in London*', up on 2003 (46 per cent)

but down on 2002 (54 per cent), although there has been a small reduction in the percentage citing traffic congestion as a problem affecting the respondent's quality of life in London, from 85 per cent in 2002 to 79 per cent in 2004 scoring it 1 or 2 on a 5 point scale (1 = major, 5 = no problem). Thus, whilst the congestion charging scheme might have provided some alleviation, congestion continues to be seen as a serious problem, second only to the cost of living in London.

Research by the AA Motoring Trust found 45 per cent of respondents cited the charge as a deterrent to driving into central London, whilst 39 per cent cited the need to register to pay the charge, 70 per cent parking and 57 per cent traffic as a deterrent (AA, 2004). Although research for the DfT road pricing feasibility study concluded that information about the charge and how it worked was clear and effective, some concerns were expressed about people visiting London from outside not understanding how the scheme worked, and there was a suggestion that it was harder for older people to understand the scheme (DfT, 2004). Although there had been extensive publicity on the charge in the build-up to 17 February 2003, it became clear that there was a continuing need to remind and inform both residents and visitors.

### **The emergency services**

The emergency services reported to the Assembly that there were no problems in operating within the charged area, although extra payments had to be made to ambulance service front line staff working within the charged area to ensure adequate cover (London Assembly, 2004a).

### **Road safety**

The forecast reduction in vehicle km was expected to give rise to a reduction in accidents, although there were concerns that an increase in speed could lead to an increase in accident severity and an increase in the use of motorcycles could also have an adverse effect. While noting that it was too early to '*fully understand the impact of charging*', TfL reported that an observed reduction in all reported personal injury accidents within the charged area and charged times was proportionally greater than the reduction in such accidents across London (TfL, 2004f). Whilst the number of fatal accidents was too small to draw any meaningful conclusions, TfL found the reduction in serious and slight

injury accidents was greater than the reduction in the previous year. TfL also concluded that the charge had had no effect on the relative proportions of pedestrians involved. Whilst, contrary to expectations, there was a decrease in accidents involving powered two-wheelers, accidents involving them across the whole of London increased, leading TfL's Deputy Chair, Dave Wetzel, to suggest a possible link with the fact they are not subject to the congestion charge (*Evening Standard*, 2004a). Overall, 9 per cent of residents of the charged area had a sense of improved safety, with 19 per cent of those in inner London having a greater sense of safety in their area (TfL, 2004e).

## The environment

In its *Second Annual Report*, TfL concluded it was not yet possible to detect a measurable effect on local pollutants. Whilst a model-based approach indicated that there should be a small beneficial effect within the charged area, this assumed that the increase in bus movements would not increase PM<sub>10</sub> emissions (TfL, 2004e). However, speaking at a conference in October 2004, TfL's Assistant Director of Congestion Charging, Murray-Clark, said that emissions of nitrous oxides (NOX) within the charged area had fallen by 16 per cent, and there had been a similar reduction in PM<sub>10</sub>s (*Sunday Herald*, 2004). These findings, from work undertaken by Kings College London, were later reported in *New Scientist*, together with a reduction of 19 per cent in carbon dioxide emissions (*New Scientist*, 2004). Three-quarters of the reductions in NOX and PM<sub>10</sub>s were attributed to 'a fall in the number of cars and an increase in speed of 4 kilometres an hour' with the rest due to 'greener technology'; particulate traps limited the impact of extra buses on PM<sub>10</sub>.

Cyclists indicated that air pollution appeared to have been reduced (London Assembly, 2004a), and TfL research with charged area residents found 33 per cent perceived less pollution and 36 per cent less noise (TfL, 2004e).

Measurements of noise levels at five sites provided TfL with no evidence of changes that were either 'statistically significant or within the conscious perceptual range of most people under most circumstances'.

## Parking

An ALG study of parking found the number of paid parking 'events' decreased between 2002 and 2003, both within and outside the

charged area but that, at 28 per cent, the decrease within the charged area compared with 3 per cent outside it (ALG, 2004a, 2004d). A proportionally lower reduction in parking revenues within the charged area, at 18 per cent, was attributed to increases in parking charges in some boroughs over the same period, whilst a 9 per cent increase in revenues outside the charged area was attributed to a combination of increased parking activity and increased charges.

In an attempt to offset the effect of the charge on the use of its off-street parking sites, one major private operator, NCP, reduced its rates on 17 February 2003, and had charge payment machines installed at most of its sites.

The number of parking Penalty Charge Notices issued within the charged area decreased by some 2 per cent and PCN revenues fell slightly, with the City Corporation reporting a decrease of 30 per cent, with no change in the level of enforcement staffing (ALG, 2004a). Outside the charged area, there was a 6 per cent increase in PCNs issued in boroughs in the vicinity of the charged area, and a similar increase in PCN revenue. However, only 14 per cent of residents of the charged area perceived an improvement in the availability of parking, and 21 per cent thought it had become worse (TfL, 2004e).

Anticipating an increase in parking outside the charged area, a number of boroughs strengthened their parking enforcement, leading to a 12 per cent increase in PCNs issued outside the charged area, and 4 per cent within it (ALG, 2004a). In addition, the PCN charge increased over the period, from £80 to £100 (£60 to £80 in some areas). Whilst the ALG concluded that there was little increase in the number of parking offences outside the charged area, 39 per cent of inner London residents thought parking availability had worsened (TfL, 2004e).

Net revenues from on- and off-street parking can be an important source of income for the boroughs, particularly for Westminster (in 2002/3 – before the charge – parking revenues of £35 million accounted for 7 per cent of total council income). Westminster reported an 18 per cent reduction in off-street parking revenues within the charged area and the City Corporation an 8 per cent reduction, despite some increase in charges over the period (ALG, 2004a). Overall, the ALG concluded that the charge '*caused a significant reduction in borough parking revenue*', whilst noting that a long-term decline in traffic entering central London could be expected to have contributed to a decline in parking demand. Despite expectations that some drivers might park outside the charged area and walk or take public transport into it, '*scant evidence for any increase in parking outside the charging zone*' was found.



Thus, whilst TfL obtained an increased income stream, the boroughs incurred a net reduction. Livingstone explained that although the congestion charge cannot be varied across the area, there is greater flexibility with parking charges which can be varied by locality within the charged area, but his suggestion that the boroughs might address adverse effects of the congestion charge on local businesses '*by adjusting the local parking times and local parking charges*' (GLA, 2003a) did nothing to improve relations with the boroughs.

## **Business and the economy**

Although there has been little sustained controversy about the transport impacts of the charge, and different substantive sources of information have generally supported each other, that is not the case for reports on the impacts on business and the local economy. Separating the effect of the charge from all the other determinants of business and trends was never going to be easy, as Glaister and Travers had concluded in their work for the London Congestion Charging Research Programme (DTp, 1995), and although most pundits agree that one year on is too soon to draw definite conclusions, there are very different views on the short-term effects and on the possible long-term impacts. The TfL view is that the impacts over the first year were, on balance, neutral, with businesses within and close to the charged area remaining generally supportive and the finance and business services sector enthusiastic because it had become easier to move around within central London (TfL, 2004e).

One of the main differences between TfL's view of performance and that of some others relates to retail. Whilst recognizing that the retail and leisure sectors had suffered through the first half of 2003, TfL suggested that this was mainly for reasons unrelated to congestion charging. They estimated that economic factors were the major influence on retail performance, accounting for 41 per cent of change, compared with 18 per cent for the congestion charge and 4 per cent for the Central Line closure. Using the London Retail Consortium's sales monitor and the SPSL Retail Traffic Index, TfL noted that central London's decline had started in the fourth quarter of 2002. They also noted that the footfall index for central London showed very similar patterns for both weekdays and weekends (when there is no charge). This indicated that factors affecting retail performance applied equally to weekdays and weekends. Other points made by TfL, based on survey research, are as follows.

- 1 The vast majority of people in Oxford and Regent Streets use public transport to access central London, with only 3 per cent of those in Oxford Street and 8 per cent in Regent Street using cars.
- 2 Central London car users only spend 20 per cent more than users of other modes.
- 3 Non-London residents account for about half the people in Oxford and Regent Streets.

TfL's conclusion has been challenged by a number of other organizations. One of Oxford Street's major stores, John Lewis, which also has a number of other stores in and around London, was convinced that comparisons across its stores demonstrated that the charge had been a significant factor in the decline in sales in Oxford Street, and commissioned research by Imperial College London (Bell *et al.*, 2004). Weekly sales data for two years from January 2000 to January 2004 (when Sunday opening was introduced in the Oxford Street store) for five John Lewis stores in London as well as their Bluewater store (in a major shopping complex close to the M25) were analysed, using econometric modelling techniques. The researchers concluded, with 98 per cent confidence, that the congestion charge caused a 5.5 per cent reduction in sales from the Oxford Street store, and observed that there was only *'a 2 per cent chance that the congestion charge had no effect on sales'*. They also concluded that whilst closure of the Central Line caused a 7 per cent sales drop during the closure, there were no effects of the Iraqi war, overseas visitors, the state of the economy or consumer price indices.

The Royal Institute of Chartered Surveyors (RICS) reported that *'nine out of ten retailers within the zone view . . . congestion charging as having had an adverse effect on business'* (RICS, 2005). Research by CfIT among managers of convenience and food stores found some 60 per cent had negative views on the scheme, and none had positive views (CfIT, 2003). A mail-out survey to 1,430 retailers selected at random from a Dun & Bradstreet database, with a 23 per cent response, undertaken by the London Chamber of Commerce and Industry (LCCI) one year after charging started, found that 79 per cent of respondents reported takings down year on year, with 24 per cent reporting a 20 per cent or more fall in earnings (LCCI, 2004c). Some 42 per cent of respondents stated that the charge was *'all or mostly'* to blame for these falls in trade, and 25 per cent reported having laid off staff specifically because of the effects of the charge. Reporting on a survey of restaurants in or close to the charged area, the LCCI stated that three-quarters reported a

decline in either takings or customer numbers (LCCI, 2004b). Giving evidence to the Assembly on the proposed westwards extension, a fishmonger from Marylebone (within the charged area) where the local landlord has been encouraging a rejuvenation of local food shops, said: *'my trade was increasing at a fairly steady rate, until February 17, and then it was instant; it was as though someone had turned the tap off. It was a straight line reduction of 20 per cent, and it has continued like that'* (London Assembly, 2003c).

Concerns about the impact of the charge were also expressed by three large stores in representations on the proposed westwards extension (see Chapter 14), with Marks & Spencer and Sainsbury's joining John Lewis (TfL, 2004f). Research by market analysts CACI, using their extensive data base of shops, population and retail expenditure together with models of retail trade (widely used by retail and property development clients in assessing potential locations for stores or investment), indicated that, in the westwards extension, whilst the charge could adversely affect most retailers, the main losers would be the smaller shopping areas, particularly those near the area boundary (Nash, 2004). Although not used to assess the central London scheme, Nash has indicated that similar findings would be expected.

Bannister concluded that whilst the charge *'must have had some impact on retail trade . . . probably of the order of 1–2 per cent'*, smaller retailers and those near the charge area boundary were more likely to be affected (Bannister, 2004).

In evidence to the Assembly, the Federation of Small Businesses suggested there were *'clear indications that in certain geographical areas (particularly areas just inside the zone) many businesses are suffering a significant drop in trade . . . in some cases . . . as much as 35 per cent'* (London Assembly, 2004a). An e-mail based poll among London members of the Forum of Private Business found two-thirds of respondents reported a drop in footfall and some 60 per cent a fall in profits since the charge was introduced, and one-third had thought of relocating (Forum of Private Business, 2004). The LCCI found that 85 per cent of respondents reported that the charge had failed to increase their productivity through decreased journey times (LCCI, 2004c). Whilst recognizing that neither all businesses within the charged area nor all businesses in certain industrial sectors were suffering, Westminster City Council reported that 70 per cent of respondents had experienced a loss of income (Westminster, 2003).

However, the nature of some of the surveys of the economic impacts is such that response levels are likely to be higher from those with the

strongest concerns. This possible bias appears to be confirmed by the findings of cross-sector research undertaken by market researchers for London First, based on 500 businesses, small and large, within (76 per cent) and outside the charged area (24 per cent: London First, 2004). Asked to say, on a 10 point scale, whether the charge had had a discernible effect on their bottom line, 8 per cent reported a positive impact, 64 per cent no effect and 21 per cent a negative effect, including 3 per cent reporting a *'very negative effect'* (point 10 on the scale) and 5 per cent *'quite negative'* (points 8 and 9). Whilst 36 per cent reported an increase in costs as a result of the charge, the majority reported no change, with 13 per cent not knowing. Taking a broader view, the London First research found ambivalence about the impact of the charge on London's economy, with 26 per cent responding that it had been negative, and another 26 per cent that it had been positive, whilst 33 per cent thought it neutral (15 per cent did not know). Despite this, 58 per cent considered introduction of the charge had enhanced London's image and only 16 per cent thought it had had a negative effect. Although the overwhelming majority (71 per cent) of London First respondents reported that their company had made no changes in their operations as a result of the charge, 17 per cent had made changes, 56 per cent with negative and 44 per cent with beneficial effects. RICS research in 2004 concluded: *'the overall result . . . is that the congestion charge has received significant support from within the office and professional sectors whereas businesses in the retail, bar/restaurants trades and other sectors . . . expressed concern. Small firms in all sectors tended to be most adversely affected'* (RICS, 2005).

Research by Oxford Economic Forecasting found that 16 per cent of employers reported that there had been *significant improvement* in business travel in central London following the introduction of the charge, and 51 per cent reported *some improvement*; 28 per cent reported *no effect* and 4 per cent thought conditions had got *worse* (GLA, 2005b). However, the sample was almost exclusively drawn from business and professional services; it included no retail or other trades.

In its response to TfL's consultation on the proposed westwards extension, the LCCI stated that its most recent survey of retail businesses had shown that 33 per cent of retail businesses within the charged area were planning to relocate because of reduced takings (LCCI, 2004a), yet only 2 per cent of London First respondents reported such plans *'purely as a result of congestion charging'*, 94 per cent said they were not considering relocation, and of those considering it, only 29 per cent were definite in saying they would relocate outside

the charged area. Research among business and professional service employers by Oxford Economic Forecasting found that transport problems had led 13 per cent to move some of their operations elsewhere, and that among other factors staff costs were cited most (90 per cent), followed by availability of staff (49 per cent) and property rental costs (45 per cent: GLA, 2005b).

In a study of the impact of the charge on property in central London, based on qualitative research within the property business in the latter part of 2003, the RICS reported that only a minority of businesses were likely to move, and that many considered their location in central London as key to their business (RICS, 2004a). This was confirmed in later research that found *'only 3 per cent of businesses thought about relocating outside the zone while five times as many thought it would have a negative effect on their businesses'* (RICS, 2005). The earlier research noted that, although moving just outside the charged area would relieve businesses of the particular burden of congestion charging, they would not avoid others, such as high parking charges and business rates, and that the costs of relocation, and possible consequential loss of trade, would be greater than the savings (RICS, 2004a). The RICS noted that more stringent parking controls outside the charged area had also had an adverse effect on business. They concluded that whilst the charge *'alone may not be enough to close businesses down . . . the cumulative effect of the charge with high rents, high rates and increasingly stringent parking restrictions means owners may have to reassess the viability of their business'*, and, in the longer term, the charge *'coupled with other negative dynamics, means it is likely that some smaller retailers may be forced to move or close'*. In its representation on the proposed westwards extension, the RICS explained that it had a particular worry that the charge *'might lead to the gradual erosion of specialist shops which often give an area its distinctive character and contribute to . . . mixed use vibrant neighbourhoods'* (RICS, 2004b). This concern is supported by a conclusion of the CfIT report, that it expected some reduction in convenience stores, with small traders being particularly vulnerable (CfIT, 2003). However, CfIT found, from the sectors it researched, *'many, if not most, businesses recognise the potential for both economic and social benefit from a reduction of congestion in central London'*.

The RICS reported that the majority of agents cited the Iraqi war as the most influential factor on the property market over the first six months of the charge and found no consensus on the effect of congestion charging, with some agents classing it as the most influential dynamic and others as less influential than the closure of the Central

Line, falling levels of tourism and increased parking restrictions (RICS, 2004a). In its 2004 survey it found *'businesses were more inclined than surveyors to believe that the congestion charge had adversely affected property values . . . in respect of both rental and capital values'*, but *'only one in six surveyors thought it had had any effect and this was solely within the retail sector'*; and no surveyors thought there had been any effect on capital values (RICS, 2005).

The RICS found the charge was being used as a factor in lease renewal negotiations and rent reviews, and predicted that existing retail occupiers would try to compensate for increased costs and reduced turnover/trading profits, while potential occupiers would be deterred from taking up properties within the charged area (RICS, 2004a). Occupiers were also citing the charge as a reason for revaluation of business rates, and in their 2004 survey businesses that had renegotiated leases reported mainly securing non-financial gains (RICS, 2005). From the start of charging until the end of March 2004, the Valuation Office Agency received 4,984 appeals citing the congestion charge for Westminster and 3,210 for the City of London (Valuation Office Agency, 2004). In total, 10,901 appeals were received for those boroughs included (in part) in the charged area. However, as another 1,332 were made for other areas (as well as 44 in Durham, the only other city with a congestion charge), some of these may have been opportunistic. Whilst TfL reported that none of the first 8,000 appeals considered was allowed, it was not clear that a similar outcome awaited those still to be considered; there was a suggestion that decisions had first been made on those easiest to disallow.

Apart from the minority of vehicle operators working exclusively, or predominantly, within central London, it appears that it has only occasionally proved possible to obtain sufficient time savings to increase vehicle utilization. Despite the reductions in congestion, in its assessment of the first year, the Confederation of British Industry concluded that there had been no improvement in the environment for delivery of freight and services (CBI, 2004a), noting that *'logistics and delivery activities typically involve long trips, and the small time savings do not enhance their productivity'* (CBI, 2004b). An early survey of Freight Transport Association members also found the time savings were too small or localized to offer operational benefits, and concluded the charge had failed to benefit transport operators (FTA, 2003). In a one-year-on member survey, the FTA found 85 per cent of the 167 respondents had not been able to reduce the number of journeys made within the charged area, 90 per cent reported that they had not been able to make

any more deliveries and 31 per cent reported that journeys within the charged area took less time (FTA, 2004b). In a letter to MPs on the planned westwards extension, the supermarket chain Sainsbury's reported that it had experienced '*no discernable improvement in delivery schedules*' as a result of the central London charge, and that whilst bearing the costs it had not achieved the efficiencies hoped for (Sainsbury's, 2004). However, research by Oxford Economic Forecasting found that 6 per cent of employers reported that there had been *significant improvement* in journeys for servicing and deliveries in central London following introduction of the charge, and 43 per cent reported *some improvement*; 41 per cent reported *no effect* and 4 per cent thought conditions had got *worse*, whilst 6 per cent did not respond (GLA, 2005b). But, as noted above, the sample was almost exclusively drawn from business and professional services.

A CfIT survey of courier and express delivery organizations working in central London found that 25 per cent viewed the effects of the charge as broadly positive and an equal proportion as negative, with the remaining 50 per cent either mixed or neutral (CfIT, 2003). Although reductions in traffic had improved operators' ability to meet deadlines, there was little evidence of any increase in efficiency flowing through to profitability or lower prices, possibly because other factors, such as the Iraqi war or economic conditions, offset any benefits that might have been obtained as a result of the charge. In their representation on the planned westwards extension, the express delivery company UPS reported that they had experienced no net benefit from the central London scheme, but had incurred increased costs (TfL, 2004g).

It is evident that UPS is not alone in this view, as CfIT reported that '*the general administration in registering for the scheme and the information required from companies met with widespread disquiet. Although many stated that the administration was relatively straightforward once the scheme had been set-up, a number of companies reported the administration was an inconvenience and a waste of resources*' (CfIT, 2003). To most FTA members, not only has the charge itself become an extra cost of operating in central London, but the cost of administering the charge was put at an average of £12,000 per company (FTA, 2004b). In evidence to the Assembly, the CBI suggested that the annual direct costs of administration could '*run into hundreds of thousands of pounds*' (London Assembly, 2004a). In its evidence, London First reported that the administration of fleets '*can be quite burdensome*'. Given this evidence the Assembly considered TfL's estimate of £15 million as the total cost to all users of administering the charge was likely to be far too low.

Despite the concerns of some business sectors about the adverse impacts of the charge on their revenues and/or costs over the first 12 months, TfL stated in its report to the Mayor on consultation on the westward extension that it considered '*congestion charging will have no significant impact on business in the long term*' (TfL, 2004f), and in a report to the Assembly (London Assembly, 2004c) a year after the scheme started, Livingstone declared:

*'it is important to put the scheme in perspective. Traffic congestion has blighted Central London for decades . . . costing businesses millions of pounds a year. The scheme I introduced last year has freed up the roads again and got traffic moving. Without this scheme, congestion would have continued rising year on year, causing more delays and adding to business costs.'*

Writing about the challenges of implementing the scheme, Livingstone concluded that: '*it is clear that . . . the charge's impact on business will take time to be properly understood . . . I remain committed to working with the retail sector and others to find ways of minimising any problems with the operation of congestion charging*' (Livingstone, 2004). Yet it was only in November 2004 that TfL sought to appoint consultants to examine the economic and business impacts of the charge (*Evening Standard*, 2004b).

## **Scheme management**

Immediate responsibility for the management of most of the operational elements of the scheme lies with Capita, TfL's contractor. As described in Chapter 10, it soon became evident that there were serious deficiencies in the way in which the scheme was being operated, leading to a renegotiation of Capita's contract, with TfL making substantial additional payments to obtain an improved performance. The problems described by TfL in its *Second Annual Report* centred on the call centre not answering calls within a reasonable period of time or callers frequently being told to try again later, not all vehicles for which no charge had been paid receiving a PCN, and deficiencies in the provision of evidence to appeals (TfL, 2004e). In August 2003, *The Economist* described enforcement as '*a big headache*', quoting TfL's Murray-Clark as admitting that some drivers who entered the charged area every day without paying were receiving only one PCN a week (*The Economist*, 2003b). The FTA found after the first few months that



its members scored the scheme operations poorly on a number of criteria, with average scores (on a 10-point scale, 1–2 very poor, 8–10 good) in the range of 4 to 5 (i.e., on average poor to just satisfactory) for usefulness of the helpline, customer service, accuracy of information, and ease of set-up and ease of management of fleet accounts (FTA, 2003). Only ease of paying the charge daily scored ‘satisfactory’.

Commercial vehicle operators were not the only users concerned about payment arrangements. Arch-opponents of the scheme, the London Conservatives, claimed that nearly 60 per cent of the retail outlets in Westminster where the charge could be paid were not complying with the opening hours agreement they had with TfL (*Evening Standard*, 2005). Although TfL responded that payment could be made by text message, through the call centre or over the Internet, the RAC noted that ‘a great many motorists are wary of paying over the internet or via a call centre; they want to . . . get a receipt’, and CfIT research had found that a key impact on lower income drivers was their need to pay cash, as many did not have the bank account or credit card required for other payment options (CfIT, 2003).

In evidence to the Assembly in October 2003, TfL estimated that about 10,000 vehicles a day, about 10 per cent of all chargeable vehicles, were evading the charge, more than it had expected, and Kiley attributed this to Capita’s failure to manage violations in an aggressive fashion (London Assembly, 2004a). By mid-October 2003, of the 905,000 PCNs issued, only just over half had been paid, and some 25 per cent had been disputed. The Assembly noted that some 20 per cent of PCNs were being overturned either by a successful representation or on appeal, with TfL failing to contest some 60 per cent of appeals and winning only about half of the appeals they contested. The FTA one-year-on survey found that 26 per cent of the PCNs issued to its members had been cancelled, although it recognized that this might have been high due to initial registration problems (FTA, 2004b).

TfL told the Assembly that although they had expected that Capita would complete transactions and processes accurately, with appropriate quality control, Capita had not delivered the expected quality in the early months of the scheme (London Assembly, 2004a). Although Livingstone may well have had hopes about Capita’s determination to perform well (see Chapter 10), it is evident the contract lacked necessary performance indicators, leading to the need for a Supplemental Agreement signed in August 2003 (see Chapter 10). *The Sunday Times* claimed that the additional payments made to Capita under the Supplemental Agreement were excessive, with Livingstone having been

'effectively "held to ransom" ' to ensure his flagship policy did not collapse (*The Sunday Times*, 2004b). It suggested that Capita had refused to pursue more than the 4,000 non-payers a day it was contractually obliged to as the marginal payment for additional actions was inadequate. With some 8,000 non-payers TfL was losing revenue, and in the end it succumbed to Capita's demands for additional payments, costing TfL £15 million, according to *The Sunday Times*. TfL justified the additional payments on the basis of an audit by accountants Deloitte and Touche which had shown that Capita was unlikely to make a profit under the contract's original terms (TfL, 2003a). Since the management consulting arm of Deloitte had been TfL's congestion charging project manager, it might be reasonable to assume they had had an involvement in the terms of the original Capita contract with TfL.

Livingstone has summarized the key concerns with Capita's performance as:

- (a) *'lengthy waits to be answered by the call centre at certain times, or callers not able to get through;*
- (b) *errors in recording day of travel and number plates, leading to PCNs being issued to people who had attempted to pay;*
- (c) *lower than the expected compliance;*
- (d) *deficiencies in the processing of representations and appeals, with inadequate information being supplied to those appealing or the independent adjudicators'. (Livingstone, 2004)*

The Mayor declared that he had *'openly acknowledged these problems from the outset'*; as they were not resolved quickly, he had decided that *'more robust and systematic action was required'*. The Capita contract was renegotiated, *'in a thoroughgoing way'*, with payments to Capita *'more closely linked to the measurable quality of customer service they achieved'*, and a phased programme of improvements, including increased staffing levels, better training and monitoring, and improved data checks and handling of complaints, with the introduction of more relevant quality performance indicators.

Under the Supplemental Agreement, Capita had until March 2004 to improve its performance, with milestones in October 2003 and January 2004. Although both Livingstone (Livingstone, 2004) and TfL (TfL, 2004e) have stated that the agreed measures had been delivered by the agreed date, £330,000 due to Capita had been withheld as the first of the milestones had not been met fully (London Assembly, 2004a). As

Capita's performance improved, average queue times for calls to the call centre and the number of failed attempts to call the call centre were both reduced to 'close to zero' (TfL, 2004e). There was also an improvement in the issue and pursuit of PCNs, increasing from between 15,000 and 20,000 per week in the early months to an average of 35,000 per week over the first quarter of 2004, equating to 6 per cent of charges paid. Collection improved from a low of some 35 per cent in the early months to 70 per cent in September 2003, which was the level set by TfL as the 2004/5 target (TfL, 2004c). Of the PCNs that were paid, 88 per cent were paid within 14 days, incurring a cost of £40 (increased to £50 in July 2004).

Despite the intended improvements, and whilst acknowledging that the enforcement level was due to reach 97 per cent by March 2004, *The Sunday Times* reported in February 2004 that a lack of resources at Capita meant that only 83 per cent of offenders were then being sent a PCN, with the result that over 1,500 drivers were not being pursued every day (*The Sunday Times*, 2004a), with a continued loss of TfL revenue.

As Capita's errors became fewer and users became more familiar with the payment arrangements, the number of PCN representations fell, from an initial high in excess of 60 per cent to some 20 per cent (TfL, 2004e). Many related to vehicles that had recently been bought or sold, for which the change of ownership documents had not been completed or processed by the time the PCN was issued. Vehicles owned by hire companies also accounted for a substantial proportion of PCNs, as they use the representation process to request the transfer of the PCN to the hirer. By March 2004, representations attributed to errors by Capita had fallen to 2 per cent of all PCNs issued.

By the end of February 2004, appeals lodged against PCNs (following failure to secure cancellation through representation) totalled 39,000, some 2 per cent of all PCNs issued, although with lags in the system not all PCNs would have matured to the appeal stage. This was a much larger number than the 7,000 that had been expected (ALG, 2004e). Of those heard during that period, 57 per cent were found in TfL's favour (TfL, 2004e). Collecting debts due on PCNs can involve action through the County Court. Between June 2003 and March 2004, around 67,000 warrants had been issued, some 26 per cent of the debts TfL had registered with the court. However, by April 2004 only 8 per cent of the warrants issued had resulted in payment, although TfL expected the success of this process to improve, and set a 2004/5 target of 20 per cent (TfL, 2004c). Whilst TfL has the right to clamp and/or remove the vehicles of persistent offenders, its *Second Annual Report* explained it had

delayed exercising this right whilst the scheme became established (TfL, 2004e), although the Assembly has suggested that this also reflected the initial difficulties with enforcing the charge (London Assembly, 2004a).

The AA Motoring Trust had been critical of TfL's approach to drivers who successfully challenged a PCN, as they were not reimbursed the £10 paid for a copy of the evidential record (AA, 2003). That charge has since been dropped. They have also been critical of the fact that TfL does not compensate drivers for expenses incurred in their defence against erroneous PCNs, and the RAC Foundation has expressed its concern *'that thousands of motorists have to go to great lengths to prove their innocence, which causes apprehension, worry and resentment'* (RAC, 2004). A concern raised by the Finance and Leasing Association in their representation on the proposed westwards extension was that as the DVLA does not differentiate between the registered keeper and owner of a vehicle, the lessor of a vehicle is held liable for PCNs incurred; it notes that this is a problem that will grow as more use is made of the DVLA database until the two are differentiated (FLA, 2004).

The motoring organizations were not alone in their concerns about the administration of the charge. In her first Annual Report, which covered the period in which Livingstone had acknowledged deficiencies in customer service, the Road User Charge Adjudicator found a number of weaknesses in TfL's (in many instances, Capita's) administration of the charge and penalties, making 11 recommendations for changes to be made by TfL:

- (a) improve customer care service, giving front line staff the correct knowledge to deal with callers;
- (b) aim to ensure all evidence is lodged with the appeal service in time;
- (c) work towards effective implementation of the statutory declaration process;
- (d) work with hire agreement firms to encourage compliance with the relevant regulations;
- (e) cease proceeding with enforcement while an appeal is pending;
- (f) allow appellants, where their vehicles have been clamped or removed, the opportunity to pay part of the charges and appeal;
- (g) provide better evidence from the Driver and Vehicle Licensing Agency;
- (h) give better information on all signs, in particular the call centre number;
- (i) produce more specific camera evidence;

- (j) consider wider exercise of their discretion;
- (k) exercise a consistent approach to their pay and appeal practice (PATAS, 2004a).

The *Evening Standard* interpreted this report as a '*litany of criticism*' of TfL, who it described as regularly treating motorists appealing against the charge '*unlawfully*' (*Evening Standard*, 2004c). Certainly, had Livingstone not already taken action, her report would have been a serious indictment of TfL's administration.

The *Sunday Times* has suggested that, in February 2004, there were about 6,000 serial offenders and that about half of those were likely to be drivers who had not paid Vehicle Excise Duty and were also uninsured (*The Sunday Times*, 2004a). The identification and pursuit of these drivers, and their vehicles, is clearly more difficult than with those that are properly registered; yet effective pursuit is of wider importance, since uninsured vehicles (of which it is estimated that there are 1 million within the UK) are estimated to increase the average cost of insurance for those with insurance by £30 (Downing Street, 2004). Another issue that gained publicity was vehicle cloning, by which people seek to evade the charge and the law by adopting the licence plate of an identical vehicle, so the owner of another vehicle is issued with PCNs.

Noting that the object of enforcement should be to obtain a high level of compliance rather than raise revenue, the AA Motoring Trust was concerned that TfL had come to regard PCNs as a source of income rather than just a means to achieve compliance (AA, 2004), and the Assembly observed that with a significantly higher gross revenue from each paid PCN than the base £5 charge, TfL faced a difficult trade-off between improving compliance and maximizing revenues (London Assembly, 2004a). The dilemma is illustrated by a November 2004 *Evening Standard* report that penalty charges accounted for £38.5 million of total revenues of £102.7 million for the then most recent six months, leading the Chair of the Assembly's Transport Committee, Lynne Featherstone, to comment, '*when more than a third of his C-charge cash comes from fines, serious questions must be asked about his commitment to making the charge easier to use*' (*Evening Standard*, 2004d). Reminding Livingstone of his claims that the charge is all about reducing congestion, rather than making money, both Featherstone and the RAC suggested that there was a strong case for providing an extra day for payment. The provision of an extra day was one of the recommendations of a Public Inquiry on the proposed Edinburgh scheme (see Chapter 14).

In support of their concern, the AA cited the accuracy of TfL's timing, the Rugby atomic clock, which has a precision not available to ordinary road users. Indeed, an appeal upheld by an adjudicator related to whether a vehicle had entered the charged area before or after 7.00. In coming to his judgment, the adjudicator recommended that, as the appellant had to rely on their radio or watch, rather than the Rugby clock, TfL should consider installing a visual signal to alert drivers when the scheme is in operation (PATAS, 2004b). The Chief Adjudicator noted that whilst some adjudicators allowed up to two minutes, others had applied the absolute letter of the law; however, she understood that TfL had '*decided to adopt a two minute discretion*' (PATAS, 2004a).

Providing a visual signal would address an issue raised by the RICS which, among others, has suggested that, despite the extensive information campaign to inform drivers and vehicle owners of the charge and how it worked, there continued to be both confusion and concern, which was a deterrent against visiting central London (RICS, 2004a). The Assembly also noted that the '*hassle factor*' of paying the charge was a deterrent to visiting central London (London Assembly, 2004a). Having considered evidence on impacts on the retail sector, the Assembly concluded that there was a '*lack of awareness about the hours of operation*' and that TfL should work more closely with retailers to ensure that customers understood the scheme, particularly those from outside London, indicating a need for a sustained information campaign following the initial launch initiative. Possibly by way of response, in July 2004, TfL launched a customer care kit to be made available to 20,000 businesses (TfL, 2004h).

Research among businesses by London First (conducted when most of the improvements Capita was required to make under the Supplemental Agreement should have been in place), found that 42 per cent of respondents would like to see registration and payment made easier, with 21 per cent wanting improvements to the call centre and 16 per cent improvements to the web site (London First, 2004); 43 per cent of respondents to the LCCI one-year-on survey reported administrative problems with the scheme, which it described as being costly for business (LCCI, 2004c). The Assembly also noted that arrangements for paying the charge had been heavily criticized by businesses with vehicle fleets (London Assembly, 2004a), with automated fleet arrangements only applying to those with at least 25 vehicles, making it particularly onerous for smaller operators. Even though TfL announced a reduction of the threshold to 10 vehicles from 2005 (TfL, 2004d), as the average commercial fleet size in the South Eastern and Metropolitan Traffic Area is five (FTA, 2004a), some smaller businesses

are likely to continue to find administration burdensome. The FTA also questioned the justification of the 50p additional charge for vehicles in the automated fleet schemes, which TfL had suggested was required to cover those vehicles missed by the enforcement cameras, as the evidence indicated that less than 2 per cent of vehicles were being missed, generating additional annual revenues for TfL of £1 million (*The Guardian*, 2004). TfL responded by saying the additional 50p was justified because it reduced the hassle for operators, despite their claims of their own costs of managing payments. However, as part of its proposals to increase the charge to £8, TfL proposed dropping this surcharge, and providing a 15 per cent discount for monthly and annual payments (see Chapter 14).

## Revenues

Livingstone has said that, given the success of the scheme in reducing congestion, he did not regard *'the revenue shortfall as jeopardising the case for the scheme'* (Livingstone, 2004), and by early 2003, the estimated net revenues from the charge for 2003/4 had been reduced to £121 million (London Assembly, 2003a) from the previous forecast of £130 million (see Chapter 9), with small increases in each of the next two years of £127 million in 2005/6. However, the greater impact on traffic flows than had been expected led to reduced revenues, and the difficulties encountered with the enforcement regime and the increased costs of the Capita contract under the Supplemental Agreement caused TfL to reduce its estimated net revenues for 2003/4 to £68 million, with a gross revenue of £165 million and operating costs of £97 million, excluding £23 million budgeted for traffic management schemes (London Assembly, 2003b).

In the Mayor's 2004/5 Budget, the expected net revenue outturn for 2003/4 had become £70 million, and that budgeted for 2004/5 was now £93 million, increasing to £95 million in 2005/6 (London Assembly, 2004b). However, the Assembly noted that the budgeted 2003/4 net revenues excluded a number of items of planned expenditure, including:

- (a) an increase in the costs of the adjudication's services from £700,000 to £1.5m;
- (b) £10 million to develop the business case for designing, implementing and operating a westwards extension of the zone;
- (c) £17 million over four years (starting 2003/04) to trial new technology (London Assembly, 2004a).

The Mayor's 2004/5 Budget included £25 million for the proposed westwards extension, and a further £87 million in 2005/6 (London Assembly, 2004b). However, the more detailed TfL 2004/5 congestion charging budget gave a total of £40 million for westwards extension traffic management, technology trials and set-up costs, together with £500,000 for other traffic management costs, £5 million staff costs and £91 million operating costs, offset by £179 million of revenues to give net revenue of £42 million (TfL, 2004c). Thus, even if the westwards extension and technology trials costs are excluded, the net revenue is £83 million, rather than the £93 million given in the Mayor's budget presented to the Assembly, which had expressed doubts about the ability of the scheme to '*generate a net surplus of £80-£100 million per year*' (London Assembly, 2004a). By September 2004, income was running 9 per cent ahead of budget for the year, '*largely as a result of higher . . . PCN income*' (TfL, 2004a).

Both the CBI and the AA Motoring Trust have expressed concern that, despite the government's commitment to local hypothecation of the net revenues for the first ten years of operation, the Treasury had cut London's transport grant for 2005/6 by at least £200 million, more than offsetting the financial benefits of the scheme (AA, 2004; London Assembly 2004a).

### **Net costs and benefits**

In its *6 Months On* report, TfL provided a preliminary estimate of the annual costs and benefits of the scheme (see Table 12.1), giving a net benefit of £50 million (TfL, 2003b). This was replicated in the *Second Annual Report*, pending additional data.

The analysis is based on a conventional transport assessment and therefore excludes the charge itself, since this is defined as a transfer payment. As noted, the Assembly considered the estimated £15 million user compliance costs as an underestimate (London Assembly, 2004a), and it has been suggested that the £20 million costs attributed to buses is low, possibly by a factor of two (Corporation of London, 2004). In addition, there is no provision for the impact on parking revenues and costs, or for amortization of the implementation costs. As a standard transport-based assessment, it also excludes non-transport impacts, such as loss of trade, employment and social impacts and property values, or any benefits through improvements in the business environment. The net impact depends on whether the assessment is limited to central London or relates to London as a whole, and whether the



Table 12.1 Costs and benefits

|  | £ million  |
|--|------------|
| <b>Annual costs</b>  |            |
| TfL administrative and other costs                                 | 5          |
| Scheme operation   | 90         |
| Additional bus costs   | 20         |
| User compliance costs (paying the charge, and its administration)  | 15         |
| <b>Total costs</b>   | <b>130</b> |
| <b>Annual benefits</b>   |            |
| Time savings to car and taxi occupants, business use               | 75         |
| Time savings to car and taxi occupants, private use                | 40         |
| Time savings to commercial vehicle occupants                       | 20         |
| Time savings to bus passengers                                     | 20         |
| Reliability benefits to car, taxi and commercial vehicle occupants | 10         |
| Reliability benefits to bus passengers                             | 10         |
| Vehicle fuel and operating savings                                 | 10         |
| Accident savings   | 15         |
| Disbenefit to car occupants transferring to public transport, etc. | -20        |
| <b>Total transport benefits</b>                                    | <b>180</b> |
| <b>Net annual transport benefits</b>                               | <b>50</b>  |

Source: TfL (2003b).

Treasury has, indeed, reduced its funding for transport in London. Further, it is clear that it is too early to determine the longer-term impacts with any certainty.

On balance, the evidence suggests the analysis may well overestimate the immediate net benefits, possibly by a significant margin. Further, if the Treasury has clawed some of the net revenues back through lower central government funding for TfL, the net benefit to London will have been reduced.

The financial benefits are very dependent on the costs of collecting the charge. The 2004/5 TfL budget shows annual costs (excluding sunk costs) of £96 million against total revenues (including PCNs) of £179 million. This means that 54p is spent raising each £1.00 of gross revenue. Compared with some other road user charging schemes, including the Norwegian toll rings and the Singapore ERP, this is very high, emphasizing the fact that whilst the APNR technology adopted

for the scheme enabled Livingstone to implement it quickly, it is not the most economic technology (at least not as applied and managed in London). Other cities, where charges may be set at less than £5 or have fewer chargeable transactions, might find APNR even less cost effective.

### **A commentary**

It is clear that the scheme has been a great success in its primary target of reducing traffic congestion within central London, and contributing to improving access by bus. Whilst there is conflicting evidence about the impacts on the retail and leisure sectors, and the net costs to the distribution industry appear to have been substantial, some of the adverse impacts that some had expected have either not occurred (or have not yet become apparent), or have been more muted than expected. However, even after nearly two years, it is still too early to assess the scale of the net benefits, or costs, to both central London and London as a whole.

The Assembly called for independence in monitoring the impacts of the charge. Yet, for reasons discussed in Chapter 10, the primary monitoring function is being undertaken by TfL. With a few notable exceptions, there is little independent and objective work, and anecdotal evidence suggests that TfL might be exercising tight control over its contractors, ensuring that whatever information from its studies enters the public domain does so only through its own channels.

The primary area in which there is independent research is in traffic flow, on which there is a large measure of agreement about the nature and extent of the changes. There is also broad, but not universal, agreement that it has had very little effect on traffic immediately outside the charged area. Although there has been only limited independent assessment, there also appears to be little challenge to the impacts on buses reported by TfL.

Where there is no clear consensus is on the economic impacts; TfL is steadfast in its conclusion that the charge only played a small role in a downturn in central London retail activity through much of 2003, a view challenged by a variety of organizations. On balance, it is likely that there has been an initial adverse effect on the retail and leisure sectors, with smaller businesses more affected than larger ones, but the overall effect is probably within the variations experienced due to the wide range of factors that affect trade. More importantly, it is too early to draw conclusions with confidence. Whilst the business services sector appears pleased with the reduction in congestion and the

improvements in journey time reliability, most of those responsible for deliveries within the charged area found that they had not made sufficient time savings to be able to make significant efficiency gains, whilst the administration of charge payment has imposed additional costs.

Although the charge collection system did not prove to be the weakness some had forecast, it rapidly became clear that there were serious deficiencies in the operation of both the collection and enforcement of charges, with poor service for charge payers and inadequate enforcement, causing TfL to renegotiate its contact with Capita. The evidence suggests that under the new terms performance has improved, although TfL may have had to pay a high price to achieve it. With the extra costs of the Capita contract and the greater-than-expected impact of the charge on traffic, the net revenues are substantially down on expectations.

## References

- AA (2003). *Congestion Charging in London – The Story after 9 Months*, Basingstoke: The AA Motoring Trust.
- AA (2004). *Congestion Charging in London – One Year On*, Basingstoke: The AA Motoring Trust.
- ALG (2003). *Impact of the Congestion Charging Scheme on Bus Occupancy Levels*, London: Paul Cullen for the Association of London Government.
- ALG (2004a). *Congestion Charging Monitoring: Changes in Parking Usage and Revenues*, London: Ove Arup & Partners for the Association of London Government.
- ALG (2004b). *Congestion Charging Monitoring: Railhead Parking Survey*, London: Ove Arup & Partners for the Association of London Government.
- ALG (2004c). *Congestion Charging Monitoring: Traffic Impacts of the Congestion Charging Scheme*, London: Ove Arup & Partners for the Association of London Government.
- ALG (2004d). *An Independent Assessment of the Impacts of the Central London Congestion Charging Scheme, Project Overview*, London: Association of London Government.
- ALG (2004e). *Transport and Environment Committee, Pre-Audited Final Accounts 2003/4*, London: Association of London Government.
- Bannister, D. (2004). 'Implementing the possible?', *Interface, Planning Theory and Practice*, Vol. 5, No. 4 (December), London: Taylor & Francis.
- BBC (2003). *Newsnight*, 22 November.
- Bell, M., A. Quddos, J.-D. Schmöcker and A. Fonzone (2004). *The Impact of the Congestion Charge on the Retail Sector*, London: Centre for Transport Studies, Imperial College London.
- CBI (2004a). *Congestion Charging One Year On*, London: Confederation of British Industry.
- CBI (2004b). *Consultation on Transport Strategy Revision – Extension of the Congestion Charge: CBI Response*, London: Confederation of British Industry.

- CfIT (1999). *National Road Traffic Targets*, London: Commission for Integrated Transport.
- CfIT (2003). *The Impact of Congestion Charging on Specified Economic Sectors and Workers*, report by FaberMaunsell, London: Commission for Integrated Transport.
- Corporation of London (2004). *Congestion Charging – One Year On*, Report to Planning & Transportation Committee, 16 March.
- DETR (2000). *Tackling Congestion and Pollution: The Government's First Report*, London: Department of the Environment, Transport and the Regions.
- DfT (2003). *Attitudes to Roads, Congestion and Congestion Charging: Summary of March and July 2003 ONS Omnibus Survey Results*, London: Department for Transport.
- DfT (2004). *Feasibility Study of Road Pricing in the UK: Public Attitudes to Road Pricing in the UK: A Qualitative Study*, London: Department for Transport.
- Downing Street (2004). *Uninsured Drivers Face Crackdown*, 10 Downing Street, 11 August.
- DTP (1995). *London Congestion Charging Research Programme*, Department of Transport, London: HMSO.
- Evening Standard* (2003a). 'All quiet as charge bites', 17 February.
- Evening Standard* (2003b). 'Brave new world', 17 February.
- Evening Standard* (2003c). 'The rush to judgement', 14 March.
- Evening Standard* (2004a). 'Scooter casualties soar', 12 July.
- Evening Standard* (2004b). 'Mayor to pay £6m for road research', 8 November.
- Evening Standard* (2004c). 'C-charge enforcers "unlawful"', 22 November.
- Evening Standard* (2004d). 'Third of C-charge income from fines', 24 November.
- Evening Standard* (2005). 'C-charge outlets closed in rush hours', 6 January.
- FLA (2004). *FLA Response to Transport for London's Consultation on a Proposal to Extend the Central London Congestion Charging Scheme Westwards*, London: Finance and Leasing Association.
- Forum of Private Business (2004). *Business Group blasts 'gung-ho' Darling and Begg over congestion Charging*, Press Release, 15 December Knutsford: Forum of Private Business.
- FTA (2003). *London Congestion Charging: Does it Measure Up?*, Tunbridge Wells: Freight Transport Association.
- FTA (2004a). *London Congestion Charging – No Increase in Fines says FTA*, 22 April, Tunbridge Wells Freight Transport Association.
- FTA (2004b). *Survey Results: London Congestion Charging – One Year On*, Tunbridge Wells: Freight Transport Association.
- GLA (2003a). *Mayor's Question Time*, 26 February, London: Greater London Authority.
- GLA (2003b). 'The latest forecasts for the London economy', *London's Economy Today*, 11 (July).
- GLA (2005a). *Annual London Survey 2004: Final Topline, 11 January 2005*, London: MORI, for the Greater London Authority.
- GLA (2005b). *Time is Money: The Economic Effects of Transport Delays in Central London*, London: Oxford Economic Forecasting, Greater London Authority.
- LCCI (2004a). *Formal Response to the Proposed Western Extension to the Congestion Charging Scheme*, London: London Chamber of Commerce and Industry.

- LCCI (2004b). *Restaurant Sector being Damaged by C-charge says London Chamber Survey*, Press Release 12 July, London: London Chamber of Commerce and Industry.
- LCCI (2004c). *The Retail Survey: One Year On: The Impact of the Congestion Charge on the Retail Sector*, London: London Chamber of Commerce and Industry.
- Livingstone, K. (2004). 'The challenge of driving through change: introducing congestion charging in central London', *Interface, Planning Theory and Practice*, Vol. 5, No. 4 (December), London: Taylor & Francis.
- London Assembly (2000). *Congestion Charging: London Assembly Scrutiny Report*, London: Greater London Authority.
- London Assembly (2002). *Minutes of a Meeting of Transport Committee, 2 July*, London: Greater London Authority.
- London Assembly (2003a). *Mayor's Background Statement in Support of his Final Draft Consolidated Budget for 2003–04*, London: Greater London Authority.
- London Assembly (2003b). *Minutes of a Meeting of Budget Committee, 16 October*, London: Greater London Authority.
- London Assembly (2003c). *Transcript of Transport Committee Evidentiary Hearing, 24 November*, London: Greater London Authority.
- London Assembly (2004a). *Congestion Charging: A First Review, February*, London: Greater London Authority.
- London Assembly (2004b). *Mayor's Background Statement in Support of his Final Draft Consolidated Budget for 2003–04*, London: Greater London Authority.
- London Assembly (2004c). *Mayor's Report to The London Assembly, 25 February*, London: Greater London Authority.
- London First (2003). *London Economic Panel Report, October 2003*, London: London First.
- London First (2004). *Business says Congestion Charge Works and is Good for London*, London: London First.
- London Retail Consortium (2004). *London Retail Monitor*, June.
- LSE (2003). *London's Place in the UK Economy*, London: The Corporation of London.
- Nash, P. (2004). *Extended London Congestion Charge*, London: CACI.
- New Scientist* (2004), 'City congestion charge clears the air', 27 November.
- PATAS (2004a). *Annual Report 2003–2004, Road User Charging Adjudicators*, London: Parking and Traffic Appeals Service.
- PATAS (2004b). 'Topcrest Properties v. Transport for London', *PATAS Newsletter*, August.
- RAC (2004). *London Congestion Charging 12 months on*, London: The RAC Foundation.
- RICS (2003). *Congestion Charging: The Impact on Businesses – Day 1*, London: Royal Institute of Chartered Surveyors.
- RICS (2004a). *The Impact of the London Congestion Charge on Property*, London: Royal Institute of Chartered Surveyors.
- RICS (2004b). *A proposal to extend the central London congestion charging scheme*, London: Royal Institute of Chartered Surveyors.
- RICS (2005). *RICS Research into the Impact of Congestion Charging on London Property*, London: Royal Institute of Chartered Surveyors.
- Sainsbury's (2004). *Proposed Western Extension to London Congestion Charging Scheme: Letter to Members of Parliament*, London: J Sainsbury plc.

- Sunday Herald* (2004). 'Capital to use London data to support congestion charges', 3 October.
- TfL (2003a). *Board Minutes, 29 July 2003*, London: Transport for London.
- TfL (2003b). *Congestion Charging: 6 months on*, London: Transport for London.
- TfL (2004a). *Board Meeting paper, 27 October 2004*, London: Transport for London.
- TfL (2004b). *Board Meeting paper, 1 December 2004*, London: Transport for London.
- TfL (2004c). *Budget Expenditure 2004/2005 Congestion Charging and Road Network Operations*, London: Transport for London.
- TfL (2004d). *Businesses, Fleets and Patients to Benefit from C-Charge Improvements*, Press Release, 23 July, London: Transport for London.
- TfL (2004e). *Impacts Monitoring Second Annual Report*, London: Transport for London.
- TfL (2004f). *Report to the Mayor following consultation with Stakeholders, Businesses, Other Organisations and the Public*, London: Transport for London.
- TfL (2004g). *Report to the Mayor following consultation with Stakeholders, Businesses, Other Organisations and the Public*, Annex C, London: Transport for London.
- TfL (2004h). *TfL Launch C-Charge Customer Care Kit*, Press Release, 16 July, London: Transport for London.
- The Economist* (2003a). 'Ken leads the charge', 22 February.
- The Economist* (2003b). 'Lucky Ken', 23 August.
- The Guardian* (2004). 'Freight firms in C-charge row', 16 March.
- The Sunday Times* (2004a). 'Congestion charge cuts traffic by third', 8 February.
- The Sunday Times* (2004b). 'Ken's secret £75m road charge deals', 2 May.
- The Times* (2003a). 'Full Throttle for this Rolls-Royce of a policy', 18 February.
- The Times* (2003b). 'Capita expects congestion charges to boost fortunes', 21 February.
- The Times* (2004). 'Buses are picking up passengers of a different strip: a pin-stripe', 13 February.
- Valuation Office Agency (2004). 'Appeals made on grounds of congestion charging', private communication. (See also *Evening Standard*, 'Firms demand compensation', 18 March 2004.)
- Visit London (2004a). *2004 Forecasts for London Visitors*, London: Visit London.
- Visit London (2004b). *The Importance of Tourism in London*, London: Visit London.
- Westminster (2003). *Topline Results from Business Questionnaire*, London: Westminster City Council.

# 13

## Some Lessons Learned

### **Introduction**

Ken Livingstone succeeded in implementing a policy that others have considered but, with the notable exception of Singapore, have decided not to pursue. He had the political courage to include congestion charging as a key element of his 2000 manifesto, and to pursue it as soon as he took up office, building the team to help him secure a policy that was to become a major accomplishment of his first term of office.

What can others learn from the London experience?

### **Foresight**

While the credit for implementing the London congestion charge must be attributed to Livingstone, it is right to recognize that he was only able to move as quickly as he did because of the foresight of Genie Turton, the Director of the Government Office for London who created the ROCOL Working Group. Without that foresight, and the ROCOL scheme, Livingstone would have found it exceedingly difficult to implement an effective scheme ahead of the 2004 election.

### **Leadership and courage**

There can be little doubt that the successful pursuit of radical policies or plans requires strong leadership and political courage. It needs a champion who has a vision, who is prepared to take risks to achieve what they truly believe is important, who is prepared to withstand criticism in the short run to obtain a longer-term benefit and yet who has

earned sufficient respect to motivate and secure the confidence of key players in his, or her, decisions; someone, in short, who can make change happen.

Despite the rationale for charging where congestion is serious and capacity cannot be increased, a succession of national and local political leaders has found reasons for postponing, or avoiding, a decision to implement a major charging scheme. Until 2000, only Lee Kuan Yew in Singapore had had the determination to face down the critics and the doubters and to implement a scheme.

Livingstone's courage and leadership has made road user charging an acceptable element of the UK Government's transport policy.

## **Stability**

Even with strong, committed, leadership, there is a need for political and policy stability. Endeavours to introduce charging measures in the Netherlands and Stockholm have foundered because agreement within the coalitions on which they depended fell apart, and in Hong Kong the ERP Pilot Project reported at a time when the established administration was undergoing change. Plans for congestion charging in Bristol developed over many years by the controlling Labour group were set back when Labour lost overall control. Rattled by the loss of a council seat, the controlling Labour Party in Edinburgh undertook to hold a referendum on their charging plans, rather than depend on their rightful authority to make the key decision.

One of the fundamental weaknesses in British (latterly, following devolution, English) transport policy has been the frequency of changes of the Secretary of State for Transport, and the variations in emphasis, if not in direction, that ensues. The powers to introduce road user charges were instituted by John Prescott following the 1997 election, but he was replaced by Stephen Byers in 2001, who was clearly much less enamoured of the idea, and Byers was replaced by Alistair Darling in 2002. Darling kept his distance from charging to begin with. However, with extensive increases in highway capacity to accommodate growing traffic demand off the agenda, the success of the London scheme evidently persuaded him that road user charges had to be an essential element of English transport policy – but not yet, and almost certainly not on his watch.

Livingstone had three key, closely interlinked, advantages. First, as an Independent, he was not beholden to any political party and its policies. Second, as Executive Mayor he did not have to secure the



(continued) support of other politicians through the approval and implementation of his plans. Third, he had a four-year term of office before having to face the ballot box.

Freed from many of the political constraints affecting other cities, Livingstone was able to take a medium-term view, pursuing such policies as he believed would stand him in good stead in the 2004 elections.

### **Decisive and speedy action**

Whilst it can be argued that a radical policy, such as congestion charging, should be developed slowly, allowing time to build support, there is strong evidence which suggests that an initial commitment to controversial policies can be eroded over time, in the face of procedural and funding difficulties, technical issues, political change and well-orchestrated opposition. Thus speedy action can ensure delivery that might fail with a more relaxed approach.

Livingstone made his decision on congestion charging for central London, and then set about implementing it in the shortest possible time. Although some have criticized him for adopting a technology (ANPR) which only permits a single daily charge rather than one more closely related to each vehicle's individual contribution to congestion, is difficult to extend and expensive to operate, he chose to go with a system which could be implemented quickly, well within his first term of office. He preferred the 'good enough' now, to the 'better' later.

### **A balanced package**

Congestion charging alone will rarely, if ever, be a stand-alone transport policy. It must be part of a balanced package of measures, providing adequate alternatives to the use of the car, and ameliorating the adverse effects. Livingstone invested heavily in improved bus services and in traffic and environmental management.

### **A robust scheme**

Speedy implementation requires a robust scheme, one that is likely to be generally seen as sound and fair, and which has been well thought through, so that once the decision to 'go' is made, it can be implemented on schedule, without technical and procedural delays and cost overruns, and one that will be effective once it is in place.

The availability of the ROCOL work provided Livingstone with a scheme which a group of experts had spent a year developing. Its background gave the scheme a certain credibility; it was not Livingstone's scheme, dreamt up with his close group of advisers, behind closed doors. Instead, it was a scheme developed by a group of independent experts informed by research studies.

### **Sound research and analysis**

There can be little doubt that Livingstone was concerned with the 'big picture', and in particular with:

- (a) delivering 'noticeable' reductions in traffic congestion within central London, accompanied by 'noticeable' improvements in the quality of bus services;
- (b) delivering a system that worked efficiently and would be accepted by Londoners, on schedule;
- (c) generating substantial net revenues, to improve public transport;
- (d) maintaining London's position as a world city, and thus the strength of its economy.

But delivery of a robust scheme depended on a thorough understanding of the needs and impacts, and that depended on sound research and analysis. TfL had the benefit of the ROCOL work, which had benefited from the London Congestion Charging Research Programme. Thus, the TfL charging team started off with a substantial foundation of research and methods, on which they built to inform the design process. That knowledge base was crucial to being able to progress implementation with confidence, and quickly.

However, there were some key aspects of the scheme that became of particular concern to politicians and their advisers, for which analysis techniques were not sufficiently advanced to satisfy their needs. In particular, there were weaknesses in techniques and gaps in research related to the assessment of likely impacts on:

- local traffic flows
- the local environment
- the local economy
- different segments of the local community (in particular, lower income car users)
- commercial vehicles and the distribution industry
- compliance and enforcement

There were also weaknesses in the research base required for the development of methods to determine the transport impacts of an area licence.

Although much recent academic and EC-funded research has been directed towards the development of 'optimal' road pricing designs, the principle of optimality was never an issue in London. There was little political debate about charging systems or the level of the charge, and comparatively little debate on the location of the cordon. Neither was there much political debate about the revenues, costs, net social costs and benefits, or overall levels of traffic reduction; the orders of magnitude forecast were considered reasonable, given the uncertainties. Indeed, it is difficult to avoid the conclusion that there is a substantial gap between issues pursued by the research community and the issues of primary interest to those at the front end of scheme delivery.

### **A good legal framework**

The GLA Act proved to provide a very effective legal framework. It is not overly prescriptive and provides the Mayor with considerable authority (for instance, over the need for and the conduct of a public inquiry).

The authority vested in the Mayor by the Act, and the limited role of the Secretary of State, coupled with the wider powers of an Executive Mayor, helped Livingstone move quickly. The role of the Secretary of State in congestion charging schemes elsewhere in England, under the 2000 Transport Act, suggests that other authorities pursuing local charging policies would not be able to move with the same speed, and independence.

### **A single authority**

Livingstone had another major advantage in that TfL, which is under his direct control, has responsibility for the major road network, traffic (signal) control, and buses, and is also the charging authority. Although the London boroughs are responsible for the local road network, and thus for many of the local traffic and environmental measures required to complement the charge, much of their funding for transport emanates from TfL, which therefore can exert considerable influence. And, unlike the rest of the UK, bus services within London are still regulated, with TfL specifying the services required and letting contracts for their supply, giving Livingstone direct control over the provision of the complementary bus service improvements.

The unified control of the key elements enabled Livingstone to deliver the total package, and was central to his ability to move quickly.

## **Cooperation**

Even if the lead authority has wide-ranging powers, other organizations will invariably have a role to play in the successful development and implementation of a scheme, and need to be imbued with the same commitment to deliver. Devoting resources to achieving a matching commitment with those organizations from the outset is therefore important.

The tense relations between TfL and the boroughs, with the boroughs feeling that TfL was not communicating with them and TfL's concerns about their collective commitment, cannot have been to the good of anyone.

## **Adequate funding**

Effective implementation requires adequate funding, to meet all the needs of delivery of both the scheme itself and the associated and complementary measures. While there can be no excuse for inadequate planning and budgeting, the case for rapid implementation, once the 'Go' decision has been made, suggests the need for a reasonable contingency fund so that unforeseen needs can be addressed without delaying implementation, or putting key elements at risk. Delivering the promised package of measures on schedule also helps maintain public confidence.

With TfL's very substantial budget, Livingstone was able to ensure the allocation of the necessary funding for on-time delivery of the scheme.

## **Pragmatism**

For Livingstone, technology was the enabler. Acceptance of that is crucial to the containment of costs and delivery on schedule.

A key attribute of both Livingstone and the TfL congestion charging team was their pragmatic approach to scheme implementation. Thus, although some of the criticisms of the London technology are fair, Livingstone clearly decided that implementing a less than 'perfect' system within his first term was very much better than deferring imple-

mentation of, and the benefits accruing from, the scheme, simply in order to provide greater technical sophistication.

As design and implementation progressed, the team has said that it addressed difficulties and unforeseen issues as challenges to be overcome rather than obstacles placed in its way: it had a 'can do, will do' approach, essential to rapid implementation of a successful scheme.

### **Technical competence**

Successful delivery of challenging projects requires top class staff across the board, and Livingstone was determined to have a team that could and would deliver the scheme on schedule. As a new organization, TfL was fortunate in being able to create its Congestion Charging Division from a blank sheet, hiring the most suitable people (whether as staff or consultants) without being constrained by employment legislation and other constraints in accommodating existing staff, and it also had a leader with the necessary financial resources who was willing to pay the price of assembling and maintaining a highly competent team.

### **Project management**

Whilst a very high level of competence across the broad range of skills required to design and implement such a scheme is essential, good project management is crucial to success. However, the shortcomings of the Capita contract demonstrate the challenges of achieving a high level of competence across a large team, and over time.

### **Obtaining and retaining broad support**

Livingstone recognized very early that consultation and information management had to be used to build support from the media, key stakeholders and the public. A key element of a media campaign must be to establish and retain confidence in the integrity of the proposed system, which should be error free and proof against fraud and evasion.

Although the media remained, on balance, critical of the scheme, that team sought to establish good relations both within the congestion charging division and with all sections of the media, helping them understand the scheme. Livingstone's apparent willingness to eat humble pie by withdrawing the scheme if it failed might have helped win some over, but it also ran the risk of alienating those who were concerned by an apparent preparedness to gamble with public money.

Ensuring that a very high proportion of those who drive to London were aware of the scheme and how it would affect them was crucial to its smooth launch, and to acceptance of the policy, but this first of all required an acceptance that there was a need to reduce congestion in central London, and that the proposed scheme was a reasonable and fair way of doing that. Although public transport was seen to be a greater problem, there was recognition of the need to reduce congestion. There can be little doubt that acceptance of the charge was facilitated by the very high proportion, 85 per cent, of commuters to central London already travelling by public transport. For them, the charge offered improved bus services. Furthermore, many Londoners who do not work in central London only visit the centre occasionally, and when they do they also travel by public transport. Some of them could also hope to benefit from improved bus services for other journeys. Thus, for very many Londoners, the use of the net revenues to provide improved bus services meant that there was greater potential for benefit than for increased costs or inconvenience.

However, there are few cities around the world with as extensive use of public transport as London, and the provision of appropriate transport alternatives is likely to prove very much more challenging, and costly, in cities with significantly lower levels of use.

The fact that the congestion charging scheme was a crucial part of the Mayor's Transport Strategy was also of importance to winning the hearts and minds of key stakeholders and the public, but there was also a need to demonstrate that other elements of the policy were being progressed in parallel with congestion charging. The appearance of new buses on London's streets was probably the most obvious indication of this.

### **Congestion charging is NOT a licence to print money**

It has been suggested that one of the attractions Livingstone saw in the ROCOL scheme was the estimated stream of net revenues. Although the 2000 Transport Act makes it clear that the purpose of any congestion charging scheme must be to reduce congestion, rather than raise revenues, the potential revenue stream, and the transport investment it enables, can be crucial to obtaining public acceptance. However, the London experience demonstrates that congestion charging is not a licence to print money.

Relative to the Norwegian toll ring and Singapore ERP schemes, the direct cost efficiency of the London scheme is low. It had been

expected that costs would account for 62 per cent of revenues. While these costs include the investment in traffic and environmental management measures, they do not include the additional net costs of public transport services. In the event, with a much greater impact on traffic than had been expected, charge revenues are substantially lower, leading to an even lower cost efficiency. This emphasizes a paradox of charging: the greater the effect of the charge, the lower the net revenues and (in the case of London) the greater the increase in net bus costs.

There is one crucial lesson here, that some of those promoting congestion charging elsewhere seem to overlook. Most of the costs of a scheme are independent of the charge level. Whether the charge was £2 or £10, TfL would incur much of the cost incurred at £5. With a lower charge, there would be more demand and thus higher total transaction costs, but the need for complementary measures, including additional bus capacity, would be lower. With a higher charge, and lower demand, total transaction costs would be lower, but the costs of accommodating those switching to public transport would be higher.

### **The use of revenues**

As already noted, the potential for a stream of (hypothecated) net revenues, and their application, can be central to the political decision to implement a charging scheme and the wider acceptability of that scheme. However, as most funding for local transport is distributed by the Treasury from general taxation, the concept of hypothecation is tenuous; it is all too easy for the Treasury to reduce funding under other heads. Whilst the dedication of revenues to a specific use might make it rather less easy for the Treasury to finesse funding in this way, it can be argued that directly associating revenues with a specific project, benefiting a particular sector, rather than spreading the benefit across the community, can reduce the general acceptability of a charging scheme.

Despite pressure from a broad range of interests, including the Assembly, the City of Westminster, the CBI, London First and the AA, Livingstone chose not to earmark the net revenues for specific projects, preferring to merge them with TfL's general revenues. But the nature of funding settlements for the GLA (i.e., TfL) suggests that the Treasury may have, indeed, taken back with one hand some of that which it 'gave' with the other, as feared by the CBI and others.

Yet seeking to ensure that the net revenues are retained locally, that there is no Treasury claw-back, will usually be central to the local economic case for charging. Carefully designed earmarking schemes, such as those which borrow funding for a specific project against the stream of charge revenues, are more likely to ensure that the hypothecated net revenues of charging schemes stay within the local community, rather than being offset by reductions in Treasury funding.

## **Enforcement**

Effective enforcement is paramount to the success of any charging scheme. Poor enforcement adversely affects public acceptability and compliance: *'If he can get away without paying, why should I pay?'* However, it usually requires greater effort to increase compliance levels from relatively low levels than to achieve and maintain an initial higher level.

The evidence indicates that effective enforcement was an initial weakness in London, due to inadequacies in the original contract between TfL and Capita, and that it took a year to bring it up to the standard TfL required.

## **A commentary**

The success of the London scheme depended on the determined leadership of one man, Ken Livingstone, and his willingness to take risks in the pursuit of a policy many others have stood back from but which he believed was necessary. He was supported by a set of circumstances that made it easier for him to pursue such a radical policy than those that would apply to the leaders of many other cities. These include the combination of his independence and executive authority, his direct control of the key transport elements and the associated budget, the ability to build a new, high quality, team from scratch, the provisions of the GLA Act and the very extensive use of public transport by commuters to the charged area.

Crucially, Livingstone accepted the available technology as 'good enough', rather than defer action to await the availability of something better that might (or might not) be just around the corner. He did not let the best become the enemy of the good.

Whilst the lessons to be learned from London are important to any authority considering the introduction of congestion charges, it is essential that they adopt a route suited to their needs and circumstances, and not seek to emulate Livingstone and London.



Although road user charging has been researched extensively, some of the key concerns of those close to the scheme were not well served by existing research. Indeed, while supported by detailed technical studies, many of the key decisions were based on pragmatism and political expediency.

# 14

## The Future

### **Introduction**

The success of Livingstone's congestion charging has awakened, or created, interest in a number of cities and countries around the world and yet the scheme is not universally accepted in London; Steve Norris stood as the Conservative candidate for the 2004 Mayoral elections committed to scrapping it.

However, spurred by the London success and a realization that the national congestion charging targets boldly launched in 2000 as part of the government's Ten-Year Plan were not going to be met, and that England would not, could not, build its way out of congestion by either increasing road capacity or improving public transport, the government took a first step towards a national road user charging system.

### **The 2004 Mayoral election**

Although Blair had said that Livingstone would be a disaster for London, and Livingstone had been expelled from the Labour Party for five years for standing for Mayor as an Independent in 2000, by late 2003 Blair had realized that the then Labour candidate for the 2004 Mayoral elections, Assembly Member Nicky Gavron, was likely to come third, at best. Much to the disapproval of some, Blair decided to seek a rapprochement with Livingstone, and secure his return to the Labour Party and his formal selection as the Labour candidate in place of Gavron, who stood down (and became his deputy, a position she had held for much of his first term). He was readmitted to the Labour Party in January 2004, was adopted as its candidate for the forthcoming elec-

tion, and demonstrated his power by wresting lead responsibility for the Labour manifesto from the National Executive Committee.

With congestion charging seen as one of the major achievements of Livingstone's first term, it was no surprise that it was an important topic in the 2004 Mayoral election. As one of five key pledges, Livingstone undertook to '*continue with the successful central London congestion charging scheme but improve it to reduce the "hassle factor" ' and also to:*

- (a) '*make the congestion charging system easier to use*', by introducing automatically debited accounts for all users, as well as block pre-payment methods that generate automatic reminders when further payments are required;
- (b) '*consult on extending the zone to more of Westminster and Kensington and Chelsea*', retaining the existing residents' discount and with the charging hours ending at 6pm instead of 6.30pm;
- (c) '*suspend congestion charging between Christmas and the New Year*' (Labour Party, 2004).

In contrast, Stephen Norris, the Conservative candidate, undertook to scrap the congestion charge, explaining: '*[it is] clear that the charge is damaging shops and restaurants inside the zone as well as causing real hardship to those who cannot afford to pay . . . the congestion charge is . . . likely to be the first tax in history that actually loses money*' (Conservative Party, 2004). Simon Hughes, the Liberal Democrat candidate, undertook to:

- (a) allow an extra day to pay;
- (b) change the end of the charging period from 6.30pm to 5.00pm;
- (c) allow block booking and give every vehicle five free entries into the charged area each year;
- (d) not extend the charged area westwards into Kensington and Chelsea (Simon 4 Mayor, 2004).

Darren Johnson and the Green Party, however, were '*firmly committed to . . . extending the congestion charge to the whole of Greater London in concentric rings, with charges at lower rates than for the centre*' (The Green Party, 2004).

In the event, Livingstone won again, obtaining 36 per cent of the vote, against 28 per cent for Norris and 15 per cent for Hughes. Using the single transferable vote, in the run-off with Norris, Livingstone won with 55 per cent of the vote, thereby securing the future of the congestion charge.

## Extending the scheme

Very shortly after the central London congestion charge had commenced Livingstone talked about extending it, with various options, eastwards and westwards, as well as the creation of a separate charging area around Heathrow. After rejecting the Heathrow idea – for the time being – because studies had shown it would only be effective if applied to all road users rather than just air passengers, as had been intended (*LTT*, 2004a), he decided to pursue a westwards extension of the initial area first. To comply with the GLA Act, the first stage was to consult on an amendment to the Mayor's Transport Strategy, rather than on a new Scheme Order, which would follow if he decided to amend the Strategy. Formal consideration of the proposed extension commenced in September 2003, when the initial scheme had been in operation for just seven months and there was only a limited understanding of some of the impacts of the initial scheme. The proposal was included in the TfL 2004/5–2009/10 Business Plan, considered by the Board at an away-day in September, and stakeholder consultations with the London Assembly and the Functional Bodies were launched in October 2003. This strongly suggests that Livingstone's decision to pursue the extension reflected his confidence in the policy of charging and a need for an early move if the scheme were to be extended well in advance of the 2008 Mayoral elections; he was not going to wait to fully understand the impacts of the initial scheme.

The new area would include most of the remainder of the City of Westminster as well as most of Kensington and Chelsea, with possible alternatives in the Earls Court area and along the Thames. The proposal was to have a single charged area (the initial plus extension), but with the western part of the Inner Ring Road (Park Lane, Grosvenor Place and Vauxhall Bridge Road) together with the southern end of Edgware Road excluded to provide a free route through the middle. With a 90 per cent discount for all residents of the combined area, TfL forecast a 5–10 per cent reduction in traffic within it, and a 10–20 per cent reduction in congestion (TfL, 2004e). Whilst they expected an increase in annual net traffic benefits of £60–£90 million (according to the stakeholders' version, but omitted from the public version), they anticipated a 1–2 per cent increase in traffic within the initial area. The increase in net annual revenues was forecast at £10 million.

Asked by Assembly members about the decision to have a single charged area, rather than two separate areas, TfL's Michelle Dix explained that the single area scheme would be cheaper to set up and

operate and would be more easily understood (London Assembly, 2003b). However, a two-zone scheme would not generate any additional traffic in the central area and would provide slightly higher revenues.

Having taken evidence from a broad range of organizations in response to the stakeholders' consultation, the Assembly expressed a number of concerns, including:

- (a) the low net revenues, and the risk that the extension would operate at a financial loss;
- (b) the justification for creating a single rather than two charged areas;
- (c) the reality of TfL's claim that there would be '*no significant traffic impacts*' arising from the proposed extension, given 60,000 cars owned by newly exempted residents would benefit from the discount when driving within the initial charged area, and the creation of non-chargeable routes;
- (d) the impacts on residents close to the non-chargeable routes (London Assembly, 2003c).

They concluded that:

*'the economic case has not yet been fully understood and therefore it is premature to consider further extension of the Congestion Charging scheme until the public, and other stakeholders, can be consulted knowing the full economic impacts of the current scheme and likely impacts of the proposed scheme,*

- *it has not yet been unambiguously demonstrated that the level of congestion west of the existing zone is so severe that it warrants the immediate planning of an extended zone.*
- *the consultation should contain real options, properly modelled, so that stakeholders and the public have enough information to make an informed choice.'*

The Assembly also noted '*unless alternatives are considered now, the boundary in the proposed consultation is in danger of being fixed for the Scheme Order stage*', identifying an important aspect of the consultation. This was developed by Kensington and Chelsea, leading to a conclusion that, given the High Court ruling on Westminster's challenge to the initial scheme, once the Mayor's Transport Strategy is revised, '*not only the principle of the extension but also its boundaries will in practice have been fixed*', and that it should not be assumed '*any inadequacies or*

*faults could be put right at a later stage . . . such as when any traffic order implementing the extension . . . comes to be made'* (Kensington and Chelsea, 2004). This view emphasizes the strength of the Mayor's Transport Strategy as noted by the Assembly's Scrutiny: *'it is clear . . . that the Mayor may choose to use the Transport Strategy to define much of the detail of his proposed congestion charging scheme . . . by so doing, the scope of the consultation on the congestion charging order is likely to be limited'* (London Assembly, 2000). Thus it seems that, once published, the Transport Strategy (and any revisions to it) gives the Mayor considerable authority in the implementation of the policies and plans it contains.

Given this interpretation, and the limited information provided by TfL in their consultation document, Kensington and Chelsea requested that the Mayor suspend consultation until further information was provided, and Westminster concluded that the proposals were premature, causing it to have *'no alternative but to object, at least until such time as Transport for London has produced results of tests which satisfy the City Council's concerns'* (Westminster, 2004).

Whilst objections from Westminster, and Kensington and Chelsea might have been expected, given their stance on the initial scheme, supporters (at least in principle) of the original scheme, including the Association of London Government and the business organization, London First, also concluded that plans for the extension were premature and more information was required, with London First questioning its value for money (ALG, 2004; London First, 2004a).

Although a survey undertaken by the London Assembly in 2003 found a majority of Westminster, and Kensington and Chelsea residents favoured the idea of a westwards extension (London Assembly, 2003a), a YouGov poll undertaken for the *Evening Standard* a year later, following the consultation, found 48 per cent opposed to the plan, with 26 per cent in support (*Evening Standard*, 2004a).

With 100,000 representations, the consultation on the revised Strategy generated very much more interest than the initial Strategy consultation, on which there were fewer than 10,000 (see Chapter 7). However, whilst the initial Strategy was a large document, covering the full range of transport issues and policies for the whole of London, the revision was focused on a single issue and a particular area of London. With the local councils strongly opposed to Livingstone's proposals, it is not surprising that they were able to orchestrate an effective campaign. In so doing they would also have helped to generate a higher level of favourable response than might otherwise have been expected.

Although Livingstone recognized that such campaigning is 'perfectly proper', he tended to be somewhat dismissive, saying 'consultations of this type, whilst extremely useful, inevitably tend to elicit responses primarily from those opposed to whatever is being consulted upon' (GLA, 2004b).

Having considered the representations received, in August 2004 Livingstone announced that although it was 'clear that this proposal is controversial and that the majority of those responding to the consultation opposed the indicative scheme', he had decided to revise his Transport Strategy to include the proposed extension (GLA, 2004b). He continued to believe 'a Western Extension is a logical next step for congestion charging in London', but accepted the 'draft proposals may have appeared to be too prescriptive', and that 'further investigation is needed of the potential for and impacts of an extended scheme, before deciding to make an Extension Order'. He also accepted that a statement that the scheme should be introduced as 'soon as possible' was inappropriate, explained he was 'very aware of concerns from the business community that there may be impacts, particularly on small businesses' and stated he believed there to be a strong case for ending the charged time at 6pm if there were to be a westward extension.

Although Livingstone recognized that, after further investigation of its exact form and timing, TfL might 'decide that it is inappropriate to

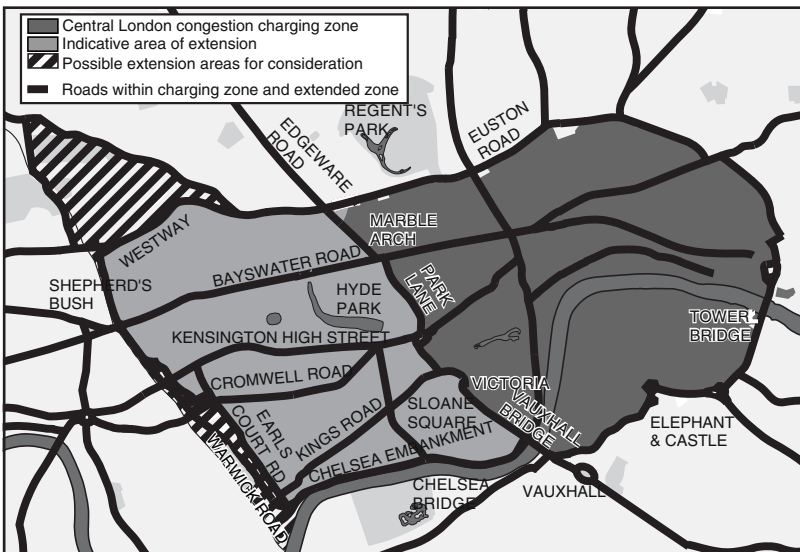


Figure 14.1 Extension proposals

make an *Extension Order*' (an unlikely decision), he had concluded that '*now is the time to provide a policy framework which will enable a western extension*'. He confirmed that there would be a single charged area with a free route through the middle, as well as along the A40, Westway, but left the precise boundaries open to further discussion (see Figure 14.1). He also confirmed that all residents would benefit from the 90 per cent discount and opened the possibility of extending the discount to some residents outside the charged area.

Having consulted, and considered the representations, the Assembly's and Kensington and Chelsea's interpretation of the GLA Act suggests that Livingstone's authority to implement the extension was almost certainly established on publication of the revised Transport Strategy, with consultation on the draft Scheme Order needing only to address detail, not the principle. Indeed, *The Economist* described Livingstone's announcement as '*largely about bullet-proofing if the extension ultimately faces legal challenge . . . Livingstone has to show he has announced things at the right time and dealt with (or ignored) the public consultation properly*' (*The Economist*, 2004c), and the *Financial Times* headed its report on the revised Strategy '*Livingstone determined to charge ahead*', (*Financial Times*, 2004a).

In so doing, the Labour Mayor, once characterized as anti-car and willing to soak the rich, will be pursuing a policy that benefits the well-heeled residents of the staunchly Conservative area covered by the extension, who will enjoy the 90 per cent discount throughout the charged area, whilst those on lower incomes just outside the area will have to pay the full charge to do the same; as *The Guardian* put it, '*the bourgeoisie of Knightsbridge should be in favour, although they are not, according to polls*' (*The Guardian*, 2004).

In response to questions from Assembly members, TfL's Walder stated that there was no intention of extending the charged days or hours and, despite Livingstone's manifesto, that there were no proposals '*on the table*' to reduce the charged hours (London Assembly, 2004).

Consultation, with stakeholders, on the draft Scheme Order to implement the proposed extension commenced in January 2005. This included a proposal that some 21,000 residents just outside the planned extended area would be allowed to benefit from the 90 per cent residents' discount (*Evening Standard*, 2005a).

Although the westwards extension is likely to be the only extension implemented during Livingstone's second term, TfL has initiated studies on the possibility of extending charging to cover much more



of London, possibly the whole of it. However, the limit of the ANPR system would be reached with the westwards extension, and further extensions would require the use of some form of electronic charge collection.

## Technology

Thus, in parallel with studies of possible further extensions, TfL initiated investigations of advanced charge technology. The simplest option studied was the replacement of the ANPR analogue cameras by digital cameras, with local – roadside – ANPR processing, reducing communications costs by enabling evidential records to be transmitted over a lower cost cable network. This led to a decision to progress procurement in August 2004, with a budgeted cost of £34 million and a target of going live in 2006. The tender documents allowed for the supply of the system, its maintenance (possibly up to 2016) and its eventual updating. The technology would be used first for the proposed westwards extension, and then for the initial, central, area.

More fundamental was an investigation of electronic charging using DSRC (tag and beacon), mobile phones, and satellite positioning (GNSS). Initial work identified problems with positional accuracy of GNSS and mobile phones, and Hendy reported to the TfL Board that an '*affordable satellite system would not be feasible for at least a decade*'; however, '*improvements to the existing scheme and any further scheme could be afforded with tag and beacon systems*' (TfL, 2004d). Following this research, TfL is planning to introduce an EFC tag as an alternative to ANPR-based charges for the existing scheme and the proposed westwards extension, but not until 2009 (*Evening Standard*, 2005b). Although similar alternatives already exist for Toronto's Highway 407 and Melbourne's CityLink (for which the ANPR option is only available for truly occasional users – those using the facility for a maximum of 12 days a year), the delay in introducing it in London may well be a consequence of a TfL decision to extend Capita's existing contract to February 2009 and to include the westwards extension (*Financial Times*, 2005a).

TfL's Kiley sees the tag and beacon technology as opening up the possibility of charging on busy routes or congested town centres (*The Times*, 2005b), although Livingstone was quick to respond with a denial that there was a policy to pursue charging beyond the westwards extension. However, having a tag and beacon system is not sufficient. There must be provision for those vehicles not fitted, which is likely to continue to be ANPR, and a charging structure which is

equitable yet effective in its differentiation between those with a tag and those registering with the ANPR system. The technology aside, charging elsewhere must be seen as being necessary and reasonable.

Charging technology is one of the aspects requiring the Secretary of State's approval, to ensure compatibility with national standards, or that any incompatibility is '*not detrimental to . . . persons . . . outside London*' (GLA Act, 1999). However, those standards do not yet exist, despite extensive research in the latter part of the 1990s (DTLR, 2001), and further research commenced in 2002 (DfT, 2002). With fieldwork due for completion in 2005, approved standards are unlikely to be published for a further two years or so. Yet, with the government taking the view that GNSS-based systems are unlikely to be ready for a national application before 2014 (DfT, 2004c), it is evident that DfT will need to approve a DSRC-based system to achieve its plan for local charging schemes as a step towards its ultimate target of a national, GNSS-based, system, as discussed later.

### **Charges, and paying them**

Shortly after charging started, Livingstone said that he could not '*conceive of any circumstances in the foreseeable future when we would want to increase the charge, although perhaps ten years down the line it might be necessary given inflation*' (*The Times*, 2003a). However, in November 2003 *The Times* reported TfL's Michelle Dix as saying that '*congestion will begin to go up unless the charge is increased over time*' (*The Times*, 2003b), the TfL 2004–5 Business Plan assumed an increase '*in line with RPI [the Retail Price Index] from 2005 onwards*' (TfL, 2004a), and a key provision of the revised Transport Strategy is keeping the charge under review '*should the monitoring programme show that the effectiveness of the . . . scheme is decreasing over time*' (GLA, 2004a).

Early in his first term of office Livingstone made a commitment to freeze bus fares at 70p and to increase Underground fares by no more than the rate of inflation until 2008. Nevertheless, by 2003 the cash bus fare had been increased to £1, although single fares for Oyster Card holders remained at 70p. In announcing these changes, Livingstone pledged that increases over the following four years would not exceed inflation. However, in September 2004 he announced that bus and Underground fares would rise substantially in January 2005, with the single cash bus fare increasing to £1.20, the Oyster single bus fare to £1.00, and Underground fares by inflation plus 1 per cent (GLA, 2004c), with a strong possibility of a further increase in 2006 (*Evening Standard*,

2004b). These increases were intended to finance borrowings of £2.9 billion, to fund part of a £10 billion transport investment package using new 'prudent borrowing' powers granted to TfL by the Treasury (GLA, 2004c, 2004d). Although some saw the Treasury's decision as a coup for Livingstone, Tony Travers, LSE's local government finance expert, commented that the effects of interest payments on the borrowings and the widening bus funding gap meant that '*low-fare Livingstone had become high-fare Livingstone*' (LTT, 2004b), and *Local Transport Today* commented that '*once a champion of low-fares . . . Livingstone is now happy to sacrifice those principles in order to pursue major new investment projects*' (LTT, 2004c). But Livingstone justified the increases, saying: '*we have a once-in-a-lifetime chance to transform our transport system. I have no intention of shying away from the hard short-term choices necessary to seize that opportunity for London*' (Evening Standard, 2004c).

With these increases, it became inevitable that the congestion charge would also increase, if only to prevent a switch back to car from public transport and, although Livingstone admitted that the charge would have to be increased, he initially refused to say by how much, or when. However, interviewed by BBC Radio London in November 2004, he said the increase would be by '*at least £1.00*' (BBC, 2004b). Whilst claiming, '*I have always said it would be in the region of £6 in this term*' (Evening Standard, 2004d), Livingstone appeared to have forgotten that in February 2003 he could not '*conceive of any circumstances in the foreseeable future when we would want to increase the charge*'.

However, within four weeks of suggesting an increase of '*at least £1*' he had instructed TfL to consult on increasing the charge to £8, a 60 per cent increase, saying: '*I am proposing one large increase in this Mayoral term*' (GLA, 2004e). He also proposed:

- (a) providing a 15 per cent discount for monthly and annual payments (equivalent to three free days for monthly payments and 40 for annual);
- (b) limiting the increase for vehicles covered by the automated fleet scheme to £7, removing the previous 50p surcharge which had proved unpopular (see Chapter 12), and providing an equivalent discount to that for the proposed block payments;
- (c) inclusion of cars in the automated fleet scheme;
- (d) reducing the threshold for participation in the fleet schemes from 25 to 10 vehicles;
- (e) freezing the late payment charge (i.e., after 10.00pm on the day of travel) at £10 (TfL, 2004c);

- (f) abolishing the fleet notification scheme, from October 2005 (TfL, 2004b);
- (g) reducing the charges for amending vehicle registrations and registration and amendments under the residents' discount scheme from £5.00 to £2.50.

In the formal documentation, TfL explained that the proposed changes were intended to:

- *maintain and build upon the benefits of the congestion charging scheme*
- *support new investment on measures to further reduce traffic congestion*
- *support new investment on the wider objectives of the Mayor's Transport Strategy* (TfL, 2004c).

Whilst transport and environment campaigners Transport 2000 welcomed the increase, its level was seen by some as being disproportionate, particularly since, as RAC Foundation Executive Director Edmund King told the Commons Transport Committee, it had been made clear that the scheme was introduced *'to reduce congestion and not to raise revenue'* (House of Commons, 2005a). With the RAC supporting road user charging, in principle, King expressed the concern that Livingstone had changed the rules, and that *'if motorists see that happening in London they will be much more cynical about a national scheme'*. Certainly, the clear intent of the enabling legislation is that charges are permitted for the purposes of reducing congestion, not raising revenue, as stated in two of TfL's three objectives for the increase. LSE's Tony Travers saw the proposed increase as *'a victory for the Treasury, by shifting the burden of paying for infrastructure from the national taxpayer on to the London fare and charge payer'* (*Financial Times*, 2004c), and *The Times* concluded, *'Mr Livingstone appears to have decided to make drivers pay for the shortfall in his transport budget'* (*The Times*, 2004). Long-term supporters of congestion charging in London, London First, responded by saying they had *'yet to see the justification for such an increase'* (London First, 2004b). They considered the changes made to administration of the charge were *'totally unsatisfactory and unacceptable in light of this substantial increase'*. The London Chamber of Commerce and Industry, which has challenged TfL's view on the limited impact of the scheme on London's economy, particularly the retail and leisure sectors, expected that the proposed increase would serve to exacerbate problems, *'especially for the marginal businesses which are least able to afford them'* (LCCI,

2004). The Assembly Transport Committee Chair, Lynne Featherstone, was critical of Livingstone for not having mentioned the public transport and congestion charge increases before the June 2004 elections (*Evening Standard*, 2004f).

The introduction of discounts for monthly and annual payments is contrary to the advice of the ROCOL Working Group, on whose work the Mayor's scheme is based. They concluded that season tickets '*would weaken the link between charging and the use of the vehicle*'. Whilst their illustrative scheme assumed season tickets would be available, '*they would not be sold at a discount*' (ROCOL, 2000). However, the proposed discounts were a response to the barrage of criticism about the 'hassle factor' in TfL's payment arrangements.

### **Other UK cities**

Although the Ten-Year Plan included a target that '*8 of our largest towns and cities*' would have introduced congestion charging schemes by 2010, and a further 12 would have workplace parking levies (DETR, 2000a), there has been very limited committed interest within England. By the end of 2004, schemes were in operation in just Durham and London, with Nottingham the only other English city at an advanced stage of implementation.

#### **Durham**

To resolve the conflict between vehicles and pedestrians when accessing the historic city centre and the approach to Durham's cathedral and castle, Durham was the first English local authority to use the charging powers of the 2000 Transport Act (2000). In October 2002, the country council introduced a £2.00 charge for vehicular access to Saddler Street and Market Place, between 10am and 4pm, Monday to Saturday. The charge is paid at a ticket machine, linked to an automatic bollard in the road which is lowered when the charge is paid. Buses, residents, students and the disabled are exempt.

#### **Nottingham**

Nottingham is the only English city that has pursued the workplace parking levies enabled under the 2000 Transport Act, and is planning to introduce them in 2005. It is intended that an initial annual fee of £150 per space (increasing over ten years to £350) will apply to most workplace parking spaces within the city boundaries, raising some £100 million over ten years. The charge will be levied on employers,

who can decide whether to pass all or part of it on to their employees. As well as part-funding the city's LRT, it is hoped the levy will encourage employers to sponsor changes in journeys to work, with discounted charges for employers implementing commuter travel plans. Disabled people, small businesses and emergency vehicles are to be exempt, and spaces used for motorbikes, scooters, mopeds and cycles are excluded from the scheme.

Although the city is committed to the parking levy, major businesses are opposed, preferring a congestion charge if there is to be any form of road user charging.

### **Bristol**

Bristol had been in the forefront of UK cities planning a congestion charge, based on a city centre cordon with an inbound morning peak charge of between £1.00 and £5.00. But (as noted in Chapter 13), following the loss of Labour's overall control in May 2003, the plans were put to one side, but not abandoned, with priority given to obtaining major improvements in local public transport, in part through an LRT scheme. That, however, involves neighbouring South Gloucestershire, with whom there have been some crucial differences on the nature of the scheme, leading to uncertainties about its future.

Bristol had been a partner in the EC-funded Progress project, along with seven other EU cities, with research in Bristol on GPS technology. The research concluded that whilst GPS was not sufficiently reliable for cordon-based urban schemes, its reliability for 'sections' (i.e., distance-based charging) was much higher (Progress, 2004).

### **Edinburgh**

Edinburgh has been considering a congestion charge, as part of a comprehensive package of transport measures, since 1991 when David Begg (later to be Chairman of the Commission for Integrated Transport and a strong proponent of congestion charging) was Convenor (Chair) of the transport committee. Following the loss of a seat, which it was thought could be attributable to the planned charge, the Labour-controlled council decided the final decision on the introduction of charging would depend on a referendum on its transport strategy, held in February 2005. Whilst it has been suggested that the council's determination had also been challenged by the 2003 loss of a Scottish Parliament seat just outside the charged area, Edinburgh Pentlands, held by the Labour Transport Minister, to the Scottish Conservative leader, who was opposed to the charging scheme (*Evening News*, 2003),

other factors (including the cost of the new Scottish Parliament building) probably played a stronger role.

The decision to hold a referendum was seen to be risky, since it provided a single topic on which those opposed to the Labour administration could unite with those opposed to the charging proposals and, as Livingstone noted, the referendum could also be hijacked by other causes (*The Scotsman*, 2005a). Livingstone was also concerned that a 'no' decision would cause the Westminster Government to shelve its plans for a national charging system, and other UK cities to abandon the local schemes which they were developing; Scotland's First Minister, Jack McConnell, urged those planning to vote 'no' to think about the implications for pollution and investment in new transport systems (*Evening News*, 2005). To help counter concerns about the impacts of the proposed charge on city centre shops, and to encourage a 'yes' vote, the council decided to consider free parking for the first hour in the city centre (*The Scotsman*, 2005b).

The wording of the referendum question was: *'The leaflet enclosed with this ballot paper gives information on the Council's transport proposals for Edinburgh. The Council's 'preferred' strategy includes congestion charging and increased transport investment funded by it. Do you support the Council's 'preferred' strategy?'* (Edinburgh, 2004). Voters were asked to vote 'Yes' in favour of, or 'No' against, the proposal. The referendum, by postal ballot, was preceded by, and conditional on, the findings of a public inquiry. This reported in October 2004, concluding: *'subject to consideration of studies of sectoral economic impact . . . the City of Edinburgh Council should "proceed with caution" with a Charging Order amended in regard to exemptions, arrangements for payment of charges, and detailed charging points'* (Scottish Executive Development Department, 2004).

The proposed charging scheme consists of two cordons, one around the city centre, operating between 7am and 6.30pm, and a second around the city, just inside the city bypass, that would operate only between 7 and 10am (both on weekdays only).

There would be a single inbound daily £2.00 charge, regardless of the number of inbound crossings made of either cordon. The charge would increase annually by inflation after the first year. Payment, which would be by variety of methods, including ticket machines, Internet, mobile phones and at shops, would be possible on a daily, weekly, monthly or annual basis. Emergency vehicles, motorcycles, licensed taxis, buses and coaches (including taxibuses and vehicles used for the transport of disabled people), Blue Badge holders, purpose-built break-

down vehicles operated by accredited breakdown and recovery organizations, and registered car club vehicles would be exempt. The charge would be enforced using ANPR, with a penalty charge the same as the city's parking penalty charge (currently £60.00), with a 50 per cent reduction for payment within 14 days, rising to £90.00 if not paid after 28 days.

Despite criticism in the Public Inquiry report, and advice from their officers, the City Council decided to retain its controversial plan to exempt city residents outside the outer cordon (*The Scotsman*, 2004b), a decision which led Fife, Midlothian and West Lothian Councils to mount a legal challenge (*The Scotsman*, 2004c). However, the city did agree to extend the time by which payment had to be made from midnight on the day of travel to midnight on the following day.

It is intended that the charge would reduce congestion in and around Edinburgh to 'school holiday' levels, improve journey times and reduce pollution. The net revenues, estimated to be about £1.5 billion over 15 years, would be used to fund new transport projects in the city and south east Scotland to improve travel choices, being divided between local authorities in proportion to the residences of charge-payers. To progress development of the package of transport measures, the city established an arm's-length company, Transport Initiatives Edinburgh, which would use the charge revenue stream to raise and finance loans. Subject to the referendum, it is intended that the scheme would be implemented in 2006, once some £100 million of local transport improvements have been completed, and would operate for 20 years.

### **Elsewhere in the UK**

Although no other UK city has made a commitment to congestion charging, or workplace parking levies, charging is on the agenda in a number, including Cardiff, Cambridge and Southampton, but Birmingham, Leeds, Liverpool and Manchester are among the major cities that have decided charging is not for them, at least for the time being. However, with funding for planned extensions to Manchester's LRT system denied by the government, the adoption of congestion charging might be key to its reinstatement. A user charge system is planned for the Peak District National Park, in which there would be a charge on Sundays and Bank Holidays for the use of Derwent Lane. Scotland's First Minister, Jack McConnell, has come out firmly in favour of charging, saying *'sometime, somewhere in Scotland, somebody has to do something about city congestion, and whether it's Edinburgh or Glasgow or*



*Aberdeen or anywhere else or on our motorways, then I am prepared to look at those options'*, and has expressed his support for those brave enough to address the issue (*The Scotsman*, 2004a).

## Elsewhere around the world

At the beginning of the Dutch EU Presidency in July 2004, the Dutch Minister of Transport predicted that charging would become common across the EU, and besides Stockholm (see Chapter 5), Amsterdam, Copenhagen and Dublin are among EU cities considering charges; in addition, there are discussions on possible trials in selected Swiss cities. Elsewhere, cities from Auckland to Shanghai, from São Paulo to Kuala Lumpur, are at some stage of considering charging, and whilst congestion charging as such seems to be anathema in the USA, cities and states are taking an increased interest in the use of tolling for 'managed lanes', including HOT (High Occupancy Toll) and Express Toll lanes including Arizona, Florida, Georgia, Maryland, North Carolina, Oregon, Pennsylvania, Washington and Virginia. A few are even considering the introduction of distance-based charges as a replacement for state fuel and sales taxes to finance transportation, encouraged by potential reductions in fuel tax revenues, as consumption reduces with increased fuel efficiency and market penetration of alternative fuels.

### Oregon

Oregon State legislature has passed a Bill establishing a Task Force to investigate alternative 'user pays' means of raising revenues (Oregon, 2001). Possible prototypes for a distance-based VMT (vehicle miles travelled) charge have been developed, one based on an on-board unit connected to the vehicle's odometer and two on the use of GPS (Joseph, 2004; Whitty *et al.*, 2005). One of the GPS-based systems used an odometer connection to provide distance data and GPS to locate travel within 'mileage collection zones', between which charge rates could vary. The other depended solely on GPS. Information collected by the OBU is downloaded by wireless connection when the vehicle is refuelled, and the distance-based charge is added to the cost of fuel purchased. Having identified the relative strengths and weaknesses of the different prototypes, with the GPS-plus-odometer performing best, the State concluded there was sufficient potential to move to one-year pilot trials with 280 Oregon residents, starting in mid-2005 and due to report in early 2007, for which the US Department of Transportation is providing funding support.

### **Puget Sound**

As part of an assessment of distance-based charging, the Puget Sound Regional Council, which covers the Seattle region, has initiated a one year pilot scheme involving 500 vehicles fitted with a GPS OBU which identifies the vehicle's location and displays the 'cost' of using a road (Puget Sound, 2004). Participants will be provided with a budget from which the distance-based user costs will be deducted, and they will be allowed to keep any unused balance, in cash.

Other States, including California and Massachusetts, are considering the potential of mileage-based charges.

### **Charges for lorries**

As described in Chapter 5, Austria, Germany and Switzerland have adopted electronic distance-based charging systems for heavy lorries. With the Austrian scheme causing regional diversions of lorries around Austria, a number of other countries, including the Czech and Slovak Republics, Hungary and Poland, are considering some form of distance-based lorry charges, either just for motorways or motorways and expressways. Sweden also has plans to introduce such charges, with the operation integrated with the Stockholm scheme (see Chapter 5).

A factor contributing to the UK fuel protests of 2000 (see Chapter 2) was the level of fuel and vehicle duties incurred by UK lorry operators relative to those of competitors based in a number of other EU countries, who have the freedom to operate within the UK, and can cover considerable distances within the UK on tankfuls of fuel purchased more cheaply outside the UK. Recognizing concerns about the need for a level playing field, in 2002 the Chancellor of the Exchequer launched a consultation on changes in taxation for lorries, setting out two criteria:

- *'for fairness, efficiency and competitiveness, lorry taxes should not discriminate on the basis of nationality . . . [and] should therefore . . . affect everyone who undertakes the taxable activity within the country . . . rather than . . . affect only . . . nationals of the country in which the activity is undertaken.*
- *road-users should contribute towards the true costs that they impose on society, regardless of their nationality.'* (The Treasury, 2001)

The outcome was a decision to introduce a distance-based lorry road user charge, to apply to all goods vehicles in excess of 3.5 tonnes on all

UK roads regardless of nationality (The Treasury, 2002). However, the possibility of excluding some vehicles was raised in a consultation document published in January 2005 (The Treasury, 2005). Although the creation of a level playing field had been the primary reason for the charge, decoupling lorry and car taxation has been given as another reason (House of Commons, 2005a).

As the scheme was initiated as a tax measure, its development is managed by Customs and Excise through a new Lorry Road User Charge (LRUC) Management Authority, rather than the Department for Transport. Anticipating the necessary enabling legislation, planned for inclusion in the 2005 Finance Bill, procurement of the system was initiated in 2004, with the target of pilot tests in 2006–7 and commencing installation and revenue collection in 2007–8 (The Treasury, 2004a).

Under current arrangements, cleaner vehicles with 'Reduced Pollution Certificates' qualify for a discount on Vehicle Excise Duty, and it is expected that the new charges will vary with the European emission standard of the vehicle. Since VED and fuel consumption, and hence duties paid, vary by vehicle weight, reflecting to some degree the wear and tear caused to roads, the charge is also expected to vary by some measure of a vehicle's weight and the number of axles over which that is distributed, with a possible provision for trailers hauled by rigid lorries (The Treasury, 2005). In addition, the system specification requires the ability to vary charges between motorways and other roads, and by time of day.

It is intended that regular users will install an OBU to calculate the charge. This is most likely to be based on satellite positioning, although the tender documents are not prescriptive on this. There will be a special OBU for users with a total annual UK mileage below a yet to be determined threshold, which is likely to require users to input tachograph readings or other information relating to the distance travelled. The scheme will be implemented in phases, initially covering heavier vehicles, and progressively extended to the entire UK fleet of 426,000 commercial vehicles over 3.5 tonnes (DfT, 2004e) over a period of 2 years (House of Commons, 2005a).

Collecting revenue through fuel duties is highly efficient, very low in cost with very little opportunity for evasion. Fuel duty also represents a distance, and efficiency, charge, since consumption is directly related to miles driven and vehicle efficiency. The collection of the proposed distance-based charge will undoubtedly be very much more costly, although there appeared to be a government veil on by how much, with John Healey, Economic Secretary to the Treasury, saying in

December 2003 that, as a number of options were still being considered and bids had yet to be invited, *'the estimated capital and administrative costs are not yet known'* (Hansard, 2003). In June 2004 a Customs and Excise spokesman took a similar line, describing it as premature to speculate about the scheme costs (BBC, 2004a). In January 2005, LRUC Director Mike Shipp told the Commons Transport Committee that he was not able to say who would bear the installation costs for the OBUs, *'until I am in the position of being able to set out with confidence for Treasury ministers exactly what this scheme will cost'*, that he did not expect to be in that position *'until the end of 2005 at the very earliest'* and that he did *'not expect to be in the position of presenting ministers with a full business case until about the end of this year'* (i.e., 2005); although he had *'some estimates, which I have made available to Treasury ministers . . . they are not firm'* (House of Commons, 2005a). With the industry estimating the costs of fitting the German OBU at *'up to £750'*, excluding the cost of the OBU (put at £250), the uncertainty about costs and who pays was beginning to cause concern (House of Commons, 2005a).

To protect the interests of UK operators, the government made a commitment that the charge will be tax-neutral, over the industry as a whole, being offset by a rebate on fuel duty paid (The Treasury, 2004a). An early option of reducing VED was dropped as it could be viewed by the EU as anti-competitive; further, with lower rates introduced in 2001 for lorries, VED represents a very small proportion of total lorry taxation. An option of a distinctly marked low-duty fuel (comparable to the duty-free red diesel used for agricultural vehicles) for participating lorries was considered but discarded.

LRUC Director Shipp has suggested that the basic fuel duty refund might be set to bring fuel duties broadly into line with average EU levels, with the charge selected *'to put that into equilibrium'* (House of Commons, 2005a). He indicated that relating UK fuel duty to an EU average could equate to a rebate of 23p per litre, totalling £2.3 billion a year (compared with some £4.5 billion of duty revenues from lorries); this would require an average charge of 8.5p/km, although that would vary between different weights, emissions, and so on.

While tax-neutral on average, some operators will pay more and others less, but all are likely to incur extra costs in managing the charges, relative to the existing arrangements. Although some operators (UK and foreign) might choose to purchase more of their fuel within the UK, increasing net duty revenues, such additional revenues are not likely to be large, relative to current levels. Given reasonable expecta-

tions of costs, it seems inevitable that there will be a large increase in the costs of collection, relative to fuel duty, and that to achieve tax-neutrality for operators a large part of the costs of implementing and operating the scheme will have to be met from additional revenues from non-UK vehicles and general taxation, with the cost to the latter likely to be substantial (probably several hundred million pounds).

The rationale for the approach adopted by the government has been challenged by Professor Alan McKinnon. He suggested that, based on costs of 20 per cent of charge revenues (as estimated for the German system), the annual costs of the scheme would be more than £700 million (McKinnon, 2004). That might be an underestimate, since the German scheme applies only to motorways and lorries in excess of 12 tonnes, whereas the UK proposals have the additional complexities of applying to all roads and all vehicles in excess of 3.5 tonnes. McKinnon noted that as most foreign vehicles will probably use the limited mileage OBU, given the mileage they drive on UK roads, the complex infrastructure for those driving above the threshold will be almost exclusively for UK vehicles.

Given the responses of Treasury and Customs and Excise when pressed on costs, it is difficult to avoid the impression either that the government made its commitment to the scheme without first assessing the costs and (having done so) decided to continue, regardless of cost, or that the Chancellor was prepared to pay whatever price was necessary as a first step towards a national road user charging system, regardless of any concerns from Downing Street or the Transport Department on the political risks. Indeed, the basic proposals were established before the government decided to establish a study on a national road user charging system (see below), yet they included functionalities in addition to those which would be required as a tax measure for a basic distance charge to replace a part of fuel duty, including an ability to vary charges by road type and time of day. Since foreign registered vehicles only account for some 4 per cent of total goods vehicle km driven on UK roads (or 6 per cent of tonne-km: DfT, 2003b), McKinnon's conclusion that *'the scheme cannot be justified solely as a means of levelling the playing field with foreign operators'* reinforces the impression that the charge is intended to be a major step towards a full national distance- and congestion-based road pricing system, led by the Treasury. (It should be added that the proportion of vehicle and tonne-kms for which foreign lorries compete with UK lorries is higher; the totals include sectors in which there is no such competition, such as municipal services and own account haulage.)

The potential decrease in fuel duty revenues due to increasingly fuel efficient lorries and cars, and higher market penetration of alternative fuels (with low or zero fuel duties) in the car market despite increased annual car mileage (Potter *et al.*, 2004), may well have contributed to a Treasury interest in moving towards a national road user charging system.

### **'Pay-as-you-drive' insurance**

Before considering national road user charging, it is very relevant to record the development of 'pay-as-you-drive' insurance, developed by Progressive, a US car insurer, which has licensed its technology to Norwich Union, a UK insurer. The system is based on an in-car device that records the use made of the vehicle and transmits that information to a control centre, where it is analysed to assess the risks to which the vehicle has been exposed and the insurance premium to be charged. It uses GPS to determine locations, and GSM phones to transmit the information recorded. Analysis includes determining the class of road used, and the time of day of each journey; journeys for which there appears to be an error or uncertainty in the data recorded are deleted. The system also provides precise location information for breakdown and accident recovery. By relating the insurance premium to factors related to accident risk exposure, including the amount of driving, the type of road used and the time of day, pay-as-you-drive insurance could also influence travel behaviour. A UK trial with 5,000 drivers was initiated in Autumn 2004, following initial trials with 400, and in January 2005 Norwich Union launched a scheme for younger drivers, who will have to pay £199 for installation of the OBUs (*Financial Times*, 2005b).

Although not road user charging as such, the principles applied are essentially the same as those of a charging scheme, and the technology might form the basis for the development of a single OBU incorporating vehicle identification, insurance and road user charges, as well as services such as route guidance and emergency service call-out, in a single in-vehicle unit; '*what is merely a box to automate the collection of road tolls today could turn into the car's control centre and communications hub tomorrow*' (*The Economist*, 2004a).

### **On the way to a national charging system for the UK?**

Although the Ten-Year Plan, published in 2000, had a target of reducing congestion on the inter-urban road network and in large urban

areas 'below current levels by 2010', it ruled out charging on the national, inter-urban network (DETR, 2000a). This distinction was followed by the 2000 Transport Act, which included provisions for urban charging schemes but made no provision for charges on the national network, except as part of an urban scheme.

With Prescott moved from the transport portfolio following the 2001 elections, the drive behind these, and other, Ten-Year Plan targets was dissipated. The left of centre think tank, IPPR, has suggested that '*the disintegration of transport policy can be traced to departmental reorganisation and reshuffles*' (Grayling, 2004). As reported in Chapter 12, the Commons Transport Committee accused the government of failing to take the lead in promoting the use of charging as a '*powerful tool*' (House of Commons, 2003b), reinforcing this by concluding, in another report, '*without wide-area road user charging, reductions in congestion are only possible in the short-term*' (House of Commons, 2003a). Yet, reporting Birmingham's decision in December 2003 not to consider charging until extensive public transport improvements had been put in place, the *Birmingham Post* stated: '*the Government has dropped plans to encourage major UK cities . . . to adopt congestion charging schemes by the end of the decade*' (*Birmingham Post*, 2003).

With it becoming increasingly clear that the good intentions of the Ten-Year Plan were not going to be realized, that Britain's transport system was getting worse rather than better, Blair commissioned Lord Birt (a former BBC Director General appointed by 10 Downing Street to lead 'blue skies thinking') to develop a longer-term transport plan. Although never published, a widely publicized element of Birt's plan was the creation of a national network of tolled 'supermotorways' (*The Guardian*, 2002a), an idea rejected by Alistair Darling just weeks after his appointment as Secretary of State for Transport (*The Guardian*, 2002b).

Contrary to the objectives of the Ten-Year Plan, it is evident from the 2004 transport White Paper, *The Future of Transport: A Network for 2030*, that the government expects traffic congestion to worsen over the next decade (DfT, 2004c). Based on the 2000 Ten-Year Plan assumptions, it forecast that traffic would increase by 26 per cent between 2000 and 2010, and by 31 per cent by 2015. Yet those forecasts made assumptions about congestion reduction that are likely to prove highly optimistic, and the policies set out in the White Paper are likely to have only limited impacts on reducing car use, at least within the next 5 to 10 years. Thus, without strong action, these may well prove to be underestimates.

Both Blair and Darling had expressed doubts about Livingstone's congestion charging scheme. However, having observed its success and general acceptance, Darling was persuaded that:

*'road user charging has to be considered as part of sensible management of our roads. It could provide a far better deal for motorists, giving them choice as to how and when they travel . . . we would be failing future generations if we did not find out if this is feasible and examine what gains could come from it.'* (DfT, 2003b)

Darling then established a road charging feasibility study (DfT, 2003a). The study, overseen by a Steering Group of stakeholders and civil servants, was charged with advising *'the Secretary of State on practical options for the design and implementation of a new system for charging for road use in the UK'*, and was required to take into account the need for any system to:

- *'deliver a more efficient approach to the structure of transport pricing*
- *be fair, respect privacy, and promote social inclusion and accessibility*
- *deliver higher economic growth and productivity for all regions of the UK*
- *deliver environmental benefits'*

The Steering Group's report was published in July 2004 (DfT, 2004a), complementing *The Future of Transport*, which stated that *'Government will lead the debate on road pricing, working with stakeholders to establish and explain how and when pricing might provide the reliability and standards road users want'*; in its Foreword, Blair explained that: *'the key is how, not how much, motorists pay for road use. We will do the work necessary to allow the hard decisions to be taken nearer the time.'* Thus it seemed the Blair Government had finally got off the fence which the Commons Transport Committee had accused it of sitting on. The need for action was emphasized by a National Audit Office report on the work of the Highways Agency in tackling congestion on England's motorways and trunk roads, which concluded: *'action is needed in the near term to deal with immediate problems on key routes and at congestion blackspots on the network'* (NAO, 2004).

### **The incidence of regular congestion**

Although traffic congestion is widely seen to be a serious and growing problem, adversely affecting the quality of life, the environment and



the economy, the incidence of regular congestion when demand reaches capacity, as opposed to that caused by incidents and weather, is relatively limited, in network terms. Research for the Ten-Year Plan found that only London and the other conurbations and large urban areas experienced delays above the national average (=100), whilst other urban areas (98), the rest of the country (35) and the inter-urban network (57) were all below it (DETR, 2000b). However, congestion in London was high (357) as well as in other conurbations and large urban areas (212). Looking forward to 2010, congestion was expected to grow by 15 per cent, getting particularly worse on the inter-urban network (+28 per cent) and elsewhere outside the urban areas (+36 per cent). Model-based research by the Leeds Institute of Transport Studies (ITS) provided an analysis of congestion (and other costs) by area and road type (Table 14.1: see Institute of Transport Studies, 2001). This showed that the primary congested urban areas are London and the inner parts of other conurbations. Inter-urban congestion tends to be worst in and around the major urban areas and the inter-connecting corridors, particularly the M1 and M6, with Glaister and Graham finding that it is in these inter-urban corridors that much of the growth in congestion can be expected (Glaister and Graham, 2003).

*Table 14.1* Congestion costs by area and road type, 1998 (pence per km)

| Area                        | Motorways | Trunk and primary roads | Other roads |
|-----------------------------|-----------|-------------------------|-------------|
| Central London              | 53.75     | 71.09                   | 187.79      |
| Inner London                | 20.10     | 54.13                   | 94.48       |
| Outer London                | 31.09     | 28.03                   | 39.66       |
| Inner conurbations          | 53.90     | 33.97                   | 60.25       |
| Outer conurbations          | 35.23     | 12.28                   | 0.00        |
| Urban, larger than 25 sq.km | –         | 10.13                   | 0.72        |
| Urban, 15–25 sq.km          | –         | 7.01                    | 0.00        |
| Urban, 10–15 sq.km          | –         | 0.00                    | 0.00        |
| Urban, 5–10 sq.km           | –         | 2.94                    | 0.00        |
| Urban, 0.1–5 sq.km          | –         | 1.37                    | 0.00        |
| Rural                       | 4.01      | 8.48                    | 1.28        |

*Source:* Institute of Transport Studies (2001).

A model-based analysis of marginal social costs (of which congestion can be the largest component) by area type for the Steering Group, given in Table 14.2, found a somewhat similar pattern to the Institute of Transport Studies for charges set to approximate to marginal social

Table 14.2 Marginal social costs by area, 2010 (pence per km)

| Area  | Average charge |
|---|----------------|
| Average, overall  | 1.9            |
| London<br>(in addition to the central London congestion charge) | 14             |
| Inner conurbations  | 13             |
| Outer conurbations  | 3              |
| Urban areas >250,000  | 5              |
| Urban areas >100,000  | 5              |
| Urban areas >25,000   | 4              |
| Urban areas >10,000   | 2              |
| Rural roads, Highways Agency                                    | 0              |
| Rural roads, others   | -1             |

Source: DfT (2004c).

costs, in ten bands and a maximum of 80 p/km, although the constraint limits the range of charges (DfT, 2004a).

The concentration of congestion is illustrated in Figure 14.2 which, using the same assumptions as for Table 14.2, shows that less than 20 per cent of vehicle km would incur a charge greater than 5p/km, and only some 3 per cent would pay a charge in excess of 20 p/km;

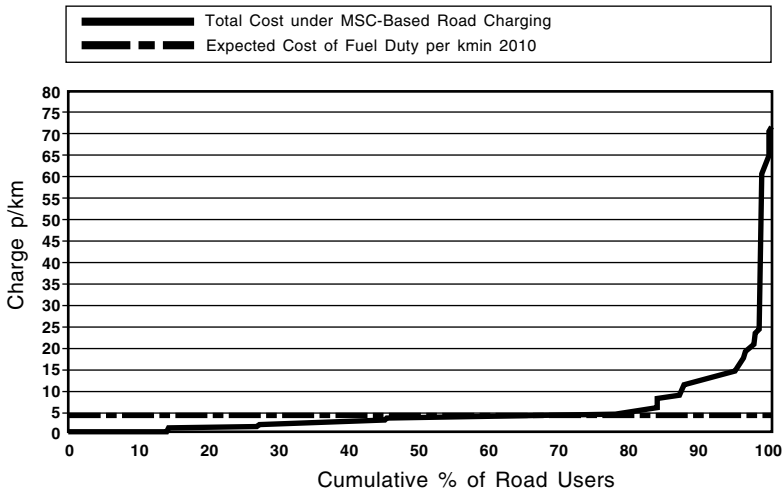


Figure 14.2 Proportion of 2010 traffic paying, given marginal social cost charges

Figure 14.2 also compares charges with average fuel duty costs per km (DfT, 2004a).

### The politics of introducing a national charge

Despite the statements of both Blair and Darling in support of charging, *The Economist* was not convinced of the government's determination, accusing it of '*short term cowardice and long term courage*' in announcing its plans in the same week it deferred a planned increase in fuel duty, and of being timid '*when facing down the noisy motoring lobby*' (*The Economist*, 2004b).

Although it had been expected that the White Paper and Steering Group's report would be followed by a government initiative in Autumn 2004, it became evident that action had been postponed until '*well after polling day*', expected to be in May 2005 (*Financial Times*, 2004b). Given Darling's reputed brief '*to keep transport out of the headlines*', press coverage in November and December 2004 probably ensured this. An interview with the *Evening Standard*, covering a wide range of transport issues, resulted in a double-page inner headline, '*Pay every time you drive your car*', and an Editorial view, under the heading '*Transport is still a mess, Mr Darling*', that '*the proposal will infuriate drivers . . . when it is still far from clear that there will be proper alternatives to car use by way of improved public transport*' (*Evening Standard*, 2004e). And, following an address by Darling to a Local Government Association conference, the *Daily Express* had a front-page headline '*£1.34 a mile driving tax*', with an inner headline, '*it's just another stealth tax – this time on drivers*', and an Editorial headed '*pay-as-you-go motoring will take away our liberty*' (*Daily Express*, 2004). The *Daily Mirror* and *Daily Mail* pursued similarly antagonistic lines (LTT, 2004d). Perhaps with this in mind, when called by the Commons Transport Committee Darling was more guarded: '*I would be very wary about saying it is inevitable. What is probably true is that there will be road pricing schemes that will start . . . regionally . . . there is still an awful lot of things . . . to sort out before you can say, "Yes, we are definitely doing road pricing and, what is more, the scheme will look like this"*' (House of Commons, 2005c).

Whilst the Blair Government might have been concerned about the political risks of a commitment to national road user charges, a powerful alliance of oil companies and motor manufacturers, including BP, Shell, Daimler-Chrysler, Ford, General Motors, Honda, Nissan, Renault and Toyota, in a study on sustainability and mobility, concluded: '*today's system of mobility is not sustainable. Nor is it likely to become so if*

*present trends continue'* (World Business Council, 2004). They identified '*mitigating congestion*' as one of '*seven goals that will improve the outlook for sustainable mobility*', and as one way of doing that they explain '*externalising the cost and shifting it to road users provides a financial incentive to adjust travel times, choose alternate routes, ride sharing, combine trips, or eliminate them entirely*', concluding '*road pricing appears to be effective in reducing peak-hour congestion in some situations*'.

Even if Darling and his Cabinet colleagues (and, crucially, the Downing Street advisers) support the principle, successful implementation depends on political stability throughout the period in which the scheme is being developed, which the Steering Group suggested would be between 10 and 15 years. As David Holmes, Chairman of the RAC Foundation (and former senior member of the Transport Department), noted, '*[during this period] there will be three general elections . . . and several Secretaries of State*' (House of Commons, 2005a). Even if some of the pundits are right and the UK is in for a long spell of Labour government, the prospect of policy stability over that period seems remote, given the policy swings since 1997. Further, as discussed later, establishing a national charge is not solely a matter for Westminster: it is also one for the devolved Northern Irish, Scottish and Welsh administrations.

The prospects would be greatly enhanced if there were a political consensus. However, the Conservatives are opposed to user charges, other than tolls for new capacity. At the 2004 Party Conference, transport spokesman Tim Yeo declared that the Conservatives would scrap the LRUC scheme, and the Conservative Leader in the Scottish Parliament, David McLetchie, was strongly opposed to the Edinburgh scheme. Although the Liberal Democrats support the principle of charging, their Edinburgh councillors decided to oppose the city's congestion charging proposals, repeating the policy of their party colleagues in Bristol who fought the 2003 local elections by campaigning against the charging proposals developed by the then Labour city administration. In both cases, although they claimed they supported the principle of charging but were opposed to the particular scheme, their moves were seen as local opportunism.

This strongly suggests that a phased approach, with charging introduced first for a small number of well-prepared schemes where there is a clear need for action, coupled with strong local leadership, is likely to be much less susceptible to political and policy risk than a 'big bang' national approach, as Darling has acknowledged (House of Commons, 2005c). It would also present fewer technology and project risks, which

are very real, particularly in the public sector. Furthermore, the limited evidence available suggests that public acceptability is likely to be greater if an initial limited scheme is later expanded as recognition of the benefits increases, as has usually been the case. Thus, such an approach would also help build political confidence. Indeed, as Mackie has noted, progress requires a union of political willingness, public opinion and technology (Mackie, 2002), or, to use the words of the Local Government Association (LGA, 2004b):

*'success will rely on all the stakeholders, central and local government, the motor industry and the business community ensuring that road pricing is not seen as a question of "government v motorist" or "environment v industry", but as part of a package of measures giving road users and local communities real choices about travel and lifestyle, providing a level playing field.'*

### **The technology**

The Steering Group concluded that a national charging system would need to relate charges to location, the time of day and the distance travelled – *'the more precisely congestion can be targeted, the better it can be tackled'* – but that appropriate satellite-based GNSS systems would not be available at an affordable price *'until at least 2014'* (DfT, 2004a). They noted that with distance-based charges that vary by time and location, *'charging relates much more closely to the use made of the network and the real contribution that a vehicle makes to congestion and other environmental effects . . . as a result much better use is made of road capacity'*.

With some 26 million vehicles in the UK, implementing any national system that requires the fitting of OBUs, particularly those required for GNSS based system, will present great challenges, as will the management of the information on each of the millions of vehicles on the road at one time. However, with satellite-based navigation systems becoming increasingly common in cars, the Steering Group suggested that it might be possible for the government, working through the EU, to ensure that these have the functionality required for a charging system (DfT, 2004a). Indeed, given their expectations of the costs of retrofitting complex GNSS-based OBUs, the Steering Group saw benefits if the OBUs were required to be factory fitted in all new vehicles. Factory fitting would avoid interference between other functions of the car and the OBU, and would be less expensive than retrofitting.

However, factory fitting has some real disadvantages. It would first require the agreement of manufacturers and the EU (a time-consuming process: agreeing the CEN standard for DSRC took a decade). It would then be several years before a high proportion of the fleet was equipped, making implementation by 2014 look highly ambitious. Even then, there would be no guarantee that the older OBUs would function properly, and there would still be a need to accommodate older vehicles without factory fitted OBUs. In addition, fixing on a particular technology several years ahead of bringing it into use is fraught with dangers, not least the risk of the chosen technology having been overtaken by more recent developments.

If the use of GNSS does require factory fitting of the OBUs (a requirement not shared by the German or Swiss lorry schemes, or the Progressive and Norwich Union pay-as-you-drive insurance schemes) there must be serious questions as to whether GNSS is the ideal it might appear to be. However, the Transport Department's Road Charging Division Manager, David Lamberti, has suggested that the key difference is that lorry tachographs can be used as a '*robust distance measuring device*' whereas there is nothing comparable with cars, and Darling has argued that bringing the various components together for use in cars is '*not possible within the timescale I am talking about*' (House of Commons, 2005c).

Nevertheless, as the Chartered Institute of Logistics and Transport said in a submission to the Commons Transport Committee: '*the best can be the enemy of the good. We should not wait to have perfect technology before making some progress, provided that interim solutions can be upgraded later. Worthwhile schemes could be implemented using technology that is available now, probably including GPS*' (CILT, 2004). Professor Phil Goodwin described the Steering Group's suggested implementation timescale as '*wicked*', defined as '*close enough not to be fantasy, distant enough to be on some other government's agenda . . . and outside the investment timescale that would generate real R&D*' (LTT, 2005). As Goodwin explains, the politics must drive the technology, as so clearly demonstrated by Livingstone in London. If we let technology drive the politics, there will always be something better on the horizon, a reason to defer difficult decisions. This, after all, is the message of successive UK governments since Barbara Castle considered the Smeed Report 40 years ago (see Chapter 4). However, if congestion charging is to play a key role in UK transport policy, as seems inevitable given the inadequacies of the network relative to demand, it is vitally important to avoid failures, which would delay its introduction.

If the government of the day is truly committed to introducing road user charges, it will do so with the technology then available, possibly advanced by short-term development funding, as in Singapore (see Chapter 5). That could make use of GPS or simpler tag and beacon (DSRC) technology, with the charging structure being designed to make good use of whatever technology is deemed appropriate, and defining it so as to foster continued technical development and the progressive incorporation of improved technology over time. So long as the good is good enough (although not ideal), it should be used. What is important is to define the functions the system is required to provide, including the communications standards, and encourage progressive development such that older and newer pieces of kit can function successfully together.

A phased introduction might start with the DSRC tag and beacon system, as planned for London. Tags can be readily fitted, and are relatively cheap; indeed, the Florida Turnpike is planning to introduce 'throw away' tags which will take the form of a thin sticker attached to the inside of the windscreen, providing \$*n* worth of travel, similar in concept to 'pay-as-you-go' phone cards (*Sun-Sentinel*, 2005). However, tags require fairly substantial roadside infrastructure (including the 'beacons') and communications links with a control centre. They are therefore best suited to discrete systems, such as point charge (including cordon) schemes and charges for particular sections of road. As the application broadens, so GNSS based systems – with their higher cost OBUs but lower cost roadside infrastructure – are likely to be more financially efficient. However, so long as not all vehicles have an OBU, be it tag or GNSS, there will be a need for an alternative. With tag and beacon, that could be ANPR, using the roadside infrastructure required for the DSRC transaction and its enforcement. However, as such infrastructure is not required for GNSS systems, other (possibly more complex and expensive) arrangements would be required. This serves to strengthen the case for the initial adoption of tag and beacon based systems.

As the Steering Group noted, enforcement of charging systems is costly. At present enforcement, almost universally, depends on ANPR, photographing potential offending vehicles and tracking their owner (or keeper) through licence records. Their report suggests that costs could be reduced if an EU study of Electronic Vehicle Identification (EVI), which would provide all vehicles registered within the EU with a unique identifier, led to the timely adoption of such a system. EVI would also facilitate improved enforcement of annual vehicle registration, and thus the

accuracy of ownership records for charge and other traffic enforcement. However, as noted in Chapter 3, EVI as the norm is unlikely for many years, particularly if it requires EU approval, moving it into Goodwin's 'wicked' timescale.

With a DSRC-based cordon or link charge (toll), enforcement is focused on whether a vehicle has completed a valid payment transaction as it passes a charge point. With a distance-based charge covering an open network using GNSS, enforcement becomes much more complex, since the critical requirement is that the OBU is functioning so that the correct rate of charge is being incurred at any point on the charged network throughout the trip. Since vehicles can enter and leave that network at an extremely large number of points, and fixed enforcement points on a sample of (readily known) links would facilitate avoidance and evasion, mobile enforcement units would be essential, even though their use costs considerably more than fixed, automated, points. Development of a cost-effective enforcement strategy, balancing the probability of offenders being identified, the penalty for an offence and the probability of ultimately collecting the charge plus penalty, with the costs of both enforcement and penalty collection able to achieve an acceptable level of compliance, will be another challenge in the national deployment of GNSS technology.

Inter-operability from day one will be central to the acceptability, and thus success, of a phased approach. Users must need only one OBU (whether tag or GNSS) and to pay only one charging authority to travel anywhere within the UK, including existing tolled roads and crossings. Efficiency will probably require the use of a single, or a limited number of, 'back-office' facilities by the different charging authorities. Arranging for the establishment of the necessary arrangements should be a priority for the government.

### **Costs**

The costs of implementing and operating a national charge system will be substantial. Whether borne by road users or from general taxation, the target should be to specify a system for which the annualized (implementation plus operating and enforcement) costs are modest relative to revenues. The Norwegian city 'toll' systems typically have costs of some 20 per cent of revenues, and the Austrian and Swiss lorry charging schemes are in the range of 7 per cent to 15 per cent (see Chapter 5). The Dutch Government has set 20 per cent as the maximum cost ratio for a charging scheme (Tip and Wittebols, 2004),



the same as the scheduled cost for the German scheme. That is probably a reasonable target.

Recognizing the Steering Group's caveat that *'it is not possible to predict with any certainty what a national scheme using positioning technology would cost in the middle of the next decade'* (DfT, 2004a), their consultants estimated the total start-up costs would be between £10 and £27 billion without optimism bias, increasing to between £23 and £62 billion when allowing for optimism (DfT, 2004d). However, much of that cost might fall to the user, rather than the government, particularly if OBU provision became mandatory on new vehicles, or vehicle owners were responsible for the costs of retrofitted OBUs. Although the OBUs are expected to be the major part of the start-up costs, there will be considerable other direct set-up costs which will, in the first instance at least, be a public sector charge. These include the roadside infrastructure, back-office functions, public information and proving the whole system. In addition, public (and thus political) acceptance will almost certainly depend on investment in complementary transport measures. The potential costs of up to £62 billion can be set in the context of the total planned Ten-Year Plan expenditure, both public and private and across all modes, of £181 billion between 2001 and 2011 (DETR, 2000a).

The Steering Group's consultants estimated the annual operating costs, once the full system is up and running, at between £2 billion and £3 billion, but possibly as high as £5 billion with optimism bias (DfT, 2004a), costs which many commentators see as high and which the RAC has described as *'unacceptable'* (House of Commons, 2005a). 2004/5 DfT expenditure on roads and local transport is some £3.5 billion: (DfT, 2003c). Whilst acknowledging that the estimates produced *'very large numbers'*, the Steering Group noted they are *'lower than the potential value of the benefits'* and that they should be set against the £60 billion spent a year on private motoring (DfT, 2004a).

With total 2003/4 revenues from fuel duties and VED of £28 billion excluding VAT (The Treasury, 2004b) and on the simple (but not necessarily valid) assumption that the distance-based charge would replace the total of VED and fuel duty revenues for all motor vehicles, annual operating costs of £5 billion would represent 18 per cent of revenues (excluding amortization of set-up costs). VAT is excluded for two reasons: first, because it is a consumption tax applied to most goods or services, as part of general revenue; and second, there is no accurate estimate of income from VAT in fuel, because a retailer's VAT returns

include all VATable goods. However, the Steering Group reported that for charges set to equate to marginal social costs, the DfT National Model gave gross 2010 revenues of £9 billion, in 1998 prices. With those revenues, operating costs would exceed 50 per cent, giving a relatively poor cost efficiency (particularly in comparison with current duty collection costs), although the analyses suggest there would be net social benefits. The inefficiency is emphasized by an analysis that comparable net benefits could be obtained from an increase in fuel duties of £11 billion, at a very small fraction of the collection cost. However, that would increase costs for all users, regardless of the extent of congestion, or where and when they travel. An analysis for IPPR (by Glaister and Graham) of a revenue-raising scenario suggests that some £16 billion (in 2010 prices) of extra revenues could be obtained, reducing traffic by 7 per cent, relative to a 7 per cent increase for a revenue-neutral scenario (Grayling, Sansom and Foley, 2004). Provided a proportion of fuel duties were also replaced by the charge, the cost of collection could be below 20 per cent of revenues (assuming costs of £5 billion) for that scenario. Whilst increasing the charges, and thus revenues, would reduce the relative size of the costs, it is difficult to deny that the system costs estimated for the Steering Group are very substantial.

Given the total costs of the system, implementation and annual, there must be real doubts about the financial efficiency of a truly nationwide system, covering the entire road network. The costs of implementing, operating and enforcing charges using advanced in-vehicle technology on those parts of the network that experience congestion only as a result of an incident or weather seem difficult to justify, given the revenues likely to be obtained. This strongly suggests a case for a two-level system, using fuel duty for the greater part of the network, and for uncongested times of the day (and week), topped up by a congestion charge on those parts of the network where regular congestion occurs and it is efficient to collect and enforce charges. However, the Steering Group took a different view: *'either there is a national distance charge collected electronically and varied to reflect time and place, or there is a rough distance-related charge such as fuel duty, augmented by local congestion charging schemes'*. On the assumption that it would be difficult to restructure VED and duties unless the new (distance-based) charging system applied across the whole network, they favoured a new national electronic charge system. That argument, however, appears to ignore the very high probability that any system

would be phased in, precluding an early restructuring of VED and duties, probably by several years.

### **Tax, cost and revenue-neutrality**

Given the precedent set by the commitment to tax-neutrality for operators of the LRUC, it is likely that there will be pressure for a similar commitment for a national charging system, unless, by the time the national system is introduced, the tax-neutrality principle of the lorry charge has been abandoned. Although such a policy change might have a transport policy rationale, it would be likely to affect the credibility of any similar commitment for a national scheme, and thus the scheme's acceptability. Yet, as Glaister and Graham (2004) have noted, *'The current set of taxes has developed over the decades and has no economic rationale . . . the various taxes imposed upon motorists have not been developed to ensure that the total costs of motoring reflect the marginal social cost of vehicle use.'*

As with the LRUC, tax-(or cost-) neutrality implies that if the total tax costs of vehicle use (across all users and the country) are not to be increased, the substantial scheme implementation and operation costs will have to be met from other government revenues. In stating that *'major benefits could be obtained without road users overall paying more than they otherwise would in fuel duty. But additional revenue could fund more transport infrastructure or services, as well as providing higher environmental benefits'* (DfT, 2004a), the Steering Group gives the impression that they, too, expect the scheme costs to be met from other government revenues, or to be irrelevant. But, given the very substantial implementation and operating costs they identified, that seems improbable, despite the LRUC precedent to which the government seems committed (with the possible exception of the OBUs and/or their fitting).

Leaving aside the issue of who bears the implementation and operating costs, the principle of neutrality has significant policy implications. With relatively high charges in congested areas and at times of greatest congestion, charges would be low, possibly very low, in areas where traffic flows are light. That would encourage greater use of roads in those areas, due in part to diversion from higher cost areas and increased demand for development. Some might argue that this would properly reflect market forces, but any such consequence of one particular policy should be understood and planned, not unintentional. Furthermore, it is unlikely that a policy which was cost-neutral for road users would be the most efficient for society as a whole.

If the overall impact of the charge is to be tax-neutral, in direct user terms, there will be no additional funding generated by the scheme for complementary transport improvements to ease the impacts of the charges in those areas, at those times, where and when they are highest. Yet not only will there be an economic need for alternatives, but public acceptance is likely to be highly dependent on the timely delivery of such measures. Indeed, their provision would probably require additional investment in anticipation of the start of charging.

Although the LRUC has set one precedent, London has set another. Here there is a real increase in the costs of using cars, vans and lorries, but with the operating costs of the scheme met from revenues (the start-up costs were funded from TfL's general revenues) and the surplus reinvested in transport, including improved bus services. This may well be the more realistic model for a national scheme, with a net increase in total costs of road use. Although those in uncongested areas would pay less than at present, those in the most highly congested areas would pay considerably more, and the net increase in revenues would be reinvested in transport, primarily in those areas where the highest charges are paid, and the need for extra investment, logically, greatest. The key word is 'extra'. Such an arrangement is only likely to obtain general acceptance if:

- (a) it is clear what the 'base' (i.e. without charging) level of investment is; *and*
- (b) it is very clear what the extra investment is; *and*
- (c) the Chancellor cannot claw back 'base' funds, given the existence of 'extra' funds; *and*
- (d) there is a reasonably well-defined relationship between where the extra revenues accrue and where they are spent.

Even then, politicians may well balk at the increase in the total costs of road use such an approach would entail, however well justified in transport, economic and environmental terms.

Although reductions in fuel duty and/or VED are unlikely to be viable until the national scheme is fully in place, it will be necessary to provide signals about the ultimate policy. There can be little doubt that a commitment to reducing one or both would improve acceptability, even if full tax-, or revenue-, neutrality cannot be achieved, provided the time scale for such reductions are not in Goodwin's 'wicked' period.

This brings us to the issue of setting the charges and managing the costs and revenues.

## Charging and devolution

First, however, it is important to note that whilst the Chancellor sets fuel duty for the whole of the UK, the UK Parliament only has the ability to introduce a 'national' road user charging system for England and Wales. Responsibility for Scotland and Northern Ireland rests with the devolved administrations (although Westminster can pass legislation overruling that of the devolved administrations, such action seems most unlikely). Even in Wales, Westminster's powers are limited, since the installation of any equipment within the highway falls under the jurisdiction of the Welsh Assembly. Thus, whilst the LRUC, which is a taxation matter, applies to the whole of the United Kingdom, Scotland (for example) could decide not to participate in a general road user charging system, leading to the ultimate possibility of differences in fuel duty, and thus the cost of fuel, between England and Scotland. That would reintroduce the arguments about a level playing field that led to the introduction of the LRUC. And even if the Scottish Parliament were to agree to participate, it would undoubtedly want control of revenues within its jurisdiction, if not costs and the basic charge level too.

The issue of devolution also serves to emphasize the need for a political consensus across the UK, and not just between the main Westminster parties. With each parliament/assembly having its own election cycle, an accord reached across the UK could be put at risk by a change of control and/or policy in any of one of the seats of government.

## Setting and regulating charges

If road pricing, or congestion charging, is to be effective in influencing travel decisions, the charge structure must be both predictable and easy to understand, two of the criteria set out by Smeed in 1964 (Ministry of Transport, 1964: see Chapter 3). If the charges are to be acceptable to users, they must be seen to be fair and reasonable. Closely related to these requirements are their relationship with fuel duty and VED, the use of revenues, and their regulation.

Indeed, research undertaken for the Steering Group found that acceptance, compliance and effectiveness will be influenced by users' ability to understand the charge structure, with research suggesting *'It is impossible to separate . . . acceptance of the concept of road pricing from their ability to respond to the price signals it seeks to send'* (Institute of Transport Studies, 2004). The research also concluded that drivers will not be able, or willing, to calculate the precise charge they will incur, and the *'best*

*that can be hoped'* is that they understand the charge structure, and are able to assess the relative costs of options, suggesting a need for a charge structure capable of being represented by the statement, '*charges will be highest when and where traffic is expected to be heaviest*'.

If the government is to successfully encourage local authorities to introduce local congestion charging schemes, both to address local problems and to act as pathfinders for a national system, there will be several areas with local charging schemes before the national charging system is introduced. But the government should not stand back and wait for local authorities to introduce schemes. Congestion is a serious issue in key inter-urban corridors, as explained in the NAO report (NAO, 2004), and the government could and should provide a lead by enacting the necessary enabling legislation and introducing pathfinding schemes on parts of its network. Indeed, the introduction of charges on the inter-urban network adjacent to urban areas where local charges are planned would help deter decentralization of economic activities.

Although it might be argued that an essential part of the pathfinding is to gain experience of different charging structures and levels, there is a risk of confusion if there is considerable variation in charging systems across the country, frustrating the Smeed principle of charges being readily understood and increasing the likelihood of bringing the basic principle into disrepute. This is not just an issue of charge structures and levels; it is also one of exemptions and discounts.

Given the precedent set in London of a 90 per cent discount for residents and, later, a discount for block payments, it would be surprising if road users elsewhere did not seek comparable benefits, and if local politicians seeking acceptance of their schemes did not follow Livingstone's example and make various concessions. Although it might be argued that decisions on such arrangements for local charging schemes are properly the responsibility of the local authority, not only might the practicalities of inter-operability restrict their nature but they are also likely to require consistency (as is satisfaction of the principle of comprehension).

There is, therefore, a clear need for a national framework, established to guide the design of local and inter-urban schemes, which recognizes that local authorities will be adopting schemes designed to provide net revenues to invest in local transport measures to complement their congestion charges, influenced by the provision that they can retain the net revenues for ten years at least (as provided by the 2000 Transport Act). In implementing a charging scheme, they will have

made political, and possibly also contractual, commitments. Recognizing the need *'to avoid a piecemeal development'*, Darling acknowledged that the government must lead (House of Commons, 2005c).

For a national scheme, the Steering Group stressed the importance of local knowledge in setting charges. Further, as the highway authority for 97.5 per cent of the English road network, local authorities would have a direct interest in charges affecting the use of their roads, particularly those authorities with complementary local congestion charges, and the Local Government Association (the body representing English local authorities) has stated that *'any national road pricing scheme needs to have the facility for local decision making about the level and coverage of the charge'* (LGA, 2004b). There is, therefore, a strong case for the creation of an authority representing central, regional and local government to determine the key decisions, such as setting the charges (including exemptions and discounts) and the allocation of net revenues, in a transparent manner.

Demonstrating transparency, and that the principles of the charging regime will continue to be honoured, are likely to be crucial to achieving an adequate level of public acceptability. An NCE poll among civil engineers found that only 16 per cent *'would trust the government to put money from road user charging back into roads'* (NCE, 2004); the RAC Motoring Foundation found that 74 per cent of respondents to a survey wanted an independent inspector to represent the interests of road users, with only 10 per cent of motorists trusting the government to *'deliver fair solutions'* without an independent inspector, a proportion that increases to 60 per cent with an inspector (RAC, 2004). This lack of trust undoubtedly reflects a much wider lack of trust in government.

The case for independent regulation, or oversight, raises a critical institutional issue identified by the Steering Group. Under current (English and Welsh) legislation, the Secretary of State has a quasi-judicial role in approving local charging schemes (outside London). However, this could be in conflict with his role as the advocate for, and provider of, the national system. This situation would be complicated if existing local charging schemes, sanctioned by the Secretary of State, are later subsumed within the national scheme, as will inevitably happen once a national scheme is operational.

The Steering Group examined a range of charge structures and levels, including setting charges equal to the marginal social costs and providing revenue-neutrality, and also ranging from 10 to 75 different charge levels; the average charges levied under the marginal social cost scenario with 10 charge levels are given in Table 14.2. With that system, as

shown in Figure 14.2, over half of all road users would pay a charge less than incurred through fuel duty (assuming fuel duty were abolished), and some 80 per cent would pay no more than 5p per km.

Whilst economic objectives, such as setting charges to match the marginal social costs, have a strong justification, they are likely to prove rather opaque to users, and may well generate concerns about the case for changes (which is not helped by Livingstone's 60 per cent increase in the London charge). The 'level of service' approaches adopted in Singapore, where charges are set to achieve an average speed on expressways of between 45 kph and 65 kph and between 20 kph and 30 kph on arterials and within the CBD (see Chapter 5), and for the US HOT lanes, where charges are set to maintain free flow, have much merit.

Setting level of service targets, whether average speeds for time periods and areas (or specific routes) or some other straightforward measure of performance would be a political/policy decision, whilst their interpretation into charges to achieve them would be a technical task, and an independent regulator would be asked *'to make sure that level of charge had been applied correctly and . . . the proceeds of the charge were applied to the purposes which Parliament had decided'* (House of Commons, 2005a). Such targets would provide a transparent principle, readily understood by road users, and would provide political accountability whilst avoiding intervention in the detail charging levels. There is also the potential 'acceptability' advantage, which is that if the charges and other measures reduce demand, charges would decrease.

However, there is a perverse effect of any charge related to congestion: when capacity is increased as a result of investment and congestion decreases, the charge would also decrease. So those users where there is no investment incur higher charges than those where there has been investment. That investment might not be in that specific corridor or even in roads; it could be in a new public transport line which attracts road users out of their cars. This suggests a need to include a 'surcharge' for additional capacity. Whilst necessary, it would add a degree of opacity to the relatively straightforward level of service concept.

As the Steering Group suggested, it would also be beneficial to structure the charge to encourage the use of more efficient (less polluting) vehicles, as with the London congestion charge and LRUC. However, the environmental benefits of a charge set at the marginal social costs would be very limited; charges would have to be very much higher to have a major impact.



### Impacts on other modes

The introduction of congestion-related charges can be expected to cause some journeys to be switched to public transport, increasing demand but, depending on how that demand is met, not necessarily improving the financial viability of those services requiring public subsidy. Given the small share of rail, and the capacity problems that exist on parts of the rail network, a relatively small shift from car to rail could represent a relatively large increase in rail use, creating serious capacity problems, many of which could not be overcome in the short to medium term, and most of which would require substantial investment.

A charge equating to the marginal social costs would call into question the justification for those subsidies intended to encourage the use of public transport rather than private road transport (Glaister and Graham, 2004). However, the greatest subsidies tend to be in rural areas, where there is limited traffic congestion, and thus where, with a redistribution from fuel duties to distance and congestion-based charges, car use costs could well be reduced, with the possible consequence of reducing public transport use and thereby increasing the cost of public subsidy, if pre-charge services were to be maintained. As Glaister and Graham concluded, this is not an argument against the introduction of congestion-based road user charges but an identification of the need to think through and respond to the possible consequences of such charges for public transport policy.

### Public acceptance, privacy and equity

Public acceptance of any scheme is likely to be highly influenced by the perception of the logic and fairness of the charge, and the use of the net revenues. Any notion that the revenues will disappear into general Exchequer revenues will almost certainly increase resistance to charging; as Darling has said:

*'I think it is terribly important if you are going to win hearts and minds . . . people can see there is a difference to them. If it just looks as though you are paying a contribution and some unspecified third party gains from it, then it is rather more difficult to persuade people that it is actually a better deal for them.'* (House of Commons, 2005c)

Indeed, not only is it likely to be important to demonstrate that a substantial part of the revenues will be dedicated to transport, but not necessarily roads, it is also likely to be highly desirable to demonstrate

that they are, at least in large part, additional funds, over and above those that might otherwise have been allocated to transport, emphasizing the need for some form of independent regulation, given the low level of trust in the government.

Recognizing the comparisons that have been drawn between road user charges and the Poll Tax (community charge) that contributed to Thatcher's downfall, the RAC has noted that with the Poll Tax there were more losers than winners (RAC, 2004). Acceptance will be enhanced if the charges are set so that there are more winners than losers and, where there are losers, there must be improvements they can recognize, through reduced congestion, greater journey time reliability and better alternatives. The Poll Tax was seen as a cost with no benefits.

It is generally assumed that public attitudes are influenced by the media, and the evidence from London, Edinburgh and the initial ideas for a national system, on balance, is that the media have tended to be hostile, although even the *Evening Standard* is now prepared to acknowledge the benefits of the London scheme. The need for a champion, with a high public profile, who will make the case with commitment but also balance, is essential to the successful promotion of any charging scheme, at least in offsetting any hostility if not avoiding it. The media also have a crucial role in creating the confidence in the system as being error-free and fraud and evasion proof which is likely to be essential for general public acceptability; media challenges, particularly when not well founded, can be particularly damaging.

Public acceptance will also be affected by concerns about both civil liberties or, more specifically, privacy and equity. Privacy – concern that vehicles are being tracked and data on movements stored – has often been seen to be a potential problem with almost any form of electronic road pricing. But the possibility that a satellite-based system could be used for a variety of other traffic enforcement purposes, together with control of access to the records, are concerns for the civil liberties action group, Liberty (*Traffic Technology International*, 2004). Although privacy for some might be protected by the immediate destruction of records for which payment transactions have been successfully completed so far as the charging authority is concerned, that would prevent users from identifying, checking and possibly challenging any potentially erroneous charges. Whilst research for the Steering Group showed that 62 per cent of survey respondents '*did not regard it [privacy] as a major issue*', the Steering Group noted that '*the sizeable minority who do have concerns about issues of privacy have strongly held*

*beliefs'* (DfT, 2004a). However, as the research found little understanding about how such a system would work, it is possible that many of those concerns could be addressed through design and information. But they considered that overcoming all concerns is unlikely to be easy, and concluded '*the importance of privacy . . . means that it will be at the forefront of policy making*'. Research for the Steering Group also found '*some initial evidence . . . that concerns over privacy are in some way mollified when an independent third party is proposed as responsible for managing schemes*'.

Although it has been argued that the central London charge has benefited, *on average*, those on lower incomes as they are more likely to be bus users, there can be little doubt that it has adversely affected those who need to use a car. With less ubiquitous public transport elsewhere, given the impacts of poor access to work, education, health and shopping on social exclusion (Lucas, 2004), there may well be much greater concern about the impacts of charging on those with lower incomes. The nature and extent of those impacts is likely to depend on local circumstances: the locations of homes, jobs and key services in relation to public transport services, as well as accessibility by foot and cycle. However, there is some evidence that these impacts could be alleviated if the fixed cost of VED were to be replaced by a usage charge and if distance-related insurance schemes, such as the Norwich Union Pay-As-You-Drive, were also available (Grayling, Sansom and Foley, 2004). Yet, if the car owner had to pay the costs of the necessary in-car equipment (capital and/or installation), there would be a particularly severe impact on those with lower incomes. However, reductions in fuel duties as a complement to a congestion charge would benefit those car users on lower incomes who do not need to use congested roads, and thus particularly those in rural areas where public transport alternatives rarely exist, and walking or cycling is not a feasible option.

The payment arrangements will need to easily accommodate those users without credit cards or bank accounts, which includes a significant proportion of those on lower incomes, who were found from research in London to be particularly inconvenienced (see Chapter 12; see also CfIT, 2003).

### **Local charging schemes**

With implementation of a national system not seen to be feasible until the mid-2010s, at the earliest, the government planned to leave the immediate action to local authorities, as it did the Ten-Year Plan. These, the Steering Group suggested, could '*provide a trajectory*' towards

a national system, both through the use of different charging technologies and increasing the acceptability of pricing (DfT, 2004a). Anticipating that charging '*will start locally*', Darling told the Commons Transport Committee that he wanted '*to look at a sufficiently large area to have an effect . . . areas where you could get some advantage from it*', and that that could be done '*within maybe five or six years*' (House of Commons, 2005c).

Despite the expectations that London's success, reinforced later by Livingstone's re-election, would encourage other local authorities to develop charging schemes, there was very little interest to begin with; in November 2003, BBC *Newsnight* found only one of the 49 English unitary and metropolitan authorities responding to a poll was considering the use congestion charges, and 26 thought there would only be a few more schemes over the next ten years (BBC, 2003b). Notice began to be paid when Darling announced the creation of the Transport Innovation Fund, '*to support the costs of . . . packages . . . which . . . include road pricing, modal shift, and better bus services*' (DfT, 2004c); but the adoption of congestion charging will not be a prerequisite for access to the Fund. The Fund will start in 2008/9 with an expected budget of some £250 million and will grow to '*about £2.5 billion when it is fully developed*' (House of Commons, 2005c). However, the actual level of funding will depend on future Comprehensive Spending Reviews and stemming the voracious appetite of the railways for public funds. It therefore seems more of an aspiration than a firm commitment.

Important though funding might be, it is not the main barrier to the local pursuit of charging schemes, and neither is technology; according to the Local Government Association, it is '*political will*' (LGA, 2004a). Indeed, the Steering Group acknowledged that local voters and local authorities presently see insufficient benefits to '*take the plunge*', and suggested that government needed to provide '*greater encouragement and leadership*', as well as helping local authorities more directly. Given the government's record since the Ten-Year Plan was launched, so clearly exposed by the Commons Transport Committee (House of Commons, 2003b), local authorities will probably require much convincing that they are not being used as the fall guy before the government makes its final decision on a national charging system, reflecting the suggestion of Mark Mardell, the BBC's Political Correspondent, that Livingstone's scheme was '*a stalking horse, something the government can deplore and then introduce in every city in the land when Ken has suffered the political pain and teething troubles*' (BBC, 2003a).

Whilst access to additional finances might encourage the adoption of policies which include congestion charging, it is unlikely to do so unless there is general recognition locally that congestion is a serious problem, and that charging is a reasonable measure within a package of measures designed to alleviate it. But even then, a key concern of local authorities is the possible impact of charging on local competitiveness, on driving trade and economic development away to other areas, a concern that is almost inevitable with the current structure of English local government. Although the 1997 Blair government was committed to creating a regional government for London, it did not seek to replace the metropolitan counties abolished in 1986 along with the GLC, leaving policy in Greater Manchester, Merseyside, South and West Yorkshire, Tyne and Wear, and the West Midlands divided between several local, unitary, councils, a structure in the north-west which Sir Peter Hall has described as 'crazy' (*Regeneration and Renewal*, 2005a). Although they all have regional Passenger Transport Authorities and Executives which prepare the Local Transport Plans for their conurbation, power remains with the local councils, who would need to agree on an area-wide scheme, a probability much reduced in those conurbations with councils controlled by different parties or groups of parties.

Commons Transport Committee member, and former Manchester City Council leader and Government Whip, Graham Stringer, strongly favours the creation of city regions outside London, with a directly elected Mayor (*Regeneration and Renewal*, 2005b), an idea which is supported in principle by the Local Government Minister, Nick Raynsford (*Regeneration and Renewal*, 2005c). However, whilst a consultation paper on the future of local government (ODPM, 2004) raises the possibility of more elected mayors, the prospects of achieving any reform in time to facilitate implementation of local charging schemes within the conurbations within a decade must be small. Indeed, the Head of the ODPM's Urban Policy Unit is reported to have resigned in November 2004 in frustration over the government's slow progress in the development of city regions (*Regeneration and Renewal*, 2004). The pattern of local government jurisdictions, with boundaries bearing 'little relation to travel to work areas', is also seen by the Local Government Association as a barrier to congestion charging (House of Commons, 2005b).

There are also concerns about the financial benefits, and risks. It is unlikely that other cities would be able to support a charge of £5, yet alone Livingstone's planned £8, or for as many hours a day; Edinburgh's plan is for £2, with the outer cordon operating for only 3 hours

a day. However, the costs of collection and enforcement will not be reduced commensurately, as noted in Chapter 13. With UK local authorities very largely dependent on funding from central government (local taxes under their control account for a quarter of their revenues), one potential use of the Transport Innovation Fund would be to underwrite the full costs of implementing the charge collection and enforcement system; it has been reported that the planned Bristol scheme depended on an assumption that the government would provide grant funding to cover these costs. Local authorities are also likely to seek a binding arrangement which ensures that there are no local cost or revenue penalties associated with having been a government pathfinder. In addition, there is the need to invest in local complementary measures, to accommodate both the traffic and modal switch consequences of a congestion charge. With tight transport budgets, the funding of these is likely to depend on government funding.

But funding is only a part of the need. With deregulated bus services outside London, local authorities are unable to deliver the type of improvement provided by Livingstone. However, the government has made it clear that a return to regulation outside London is not an option (DfT, 2004c; Hansard, 2004). Instead, the 2004 White Paper stresses the use of statutory quality partnerships and quality contracts to achieve bus service improvements. Yet the Local Government Association has made it clear that it believes that as the *'powers that exist in London . . . do not exist elsewhere in the country . . . change is fundamental to making any road pricing system work'*, and they doubt whether any schemes will be implemented *'until there is a change in the regulatory framework'* (House of Commons, 2005b). But there may be a ray of hope, however small. Darling is reported to have suggested in discussions with the Greater Manchester Passenger Transport Executive (PTE) that a return to a degree of regulation in Manchester was a possibility as a part of a package to secure the future of the PTE's light rail extension plans (*Evening News*, 2004). If this becomes a reality for Manchester *'a degree of regulation'* might, possibly, become a part of *'radical'* policies – including charging – elsewhere.

If local authorities are to be expected to act as pathfinders, they must have a clear understanding of how their local schemes will relate to the possible future national scheme, in terms of the technology of charging (how, for example, local ANPR and tag and beacon, DSRC, schemes will be integrated with or migrate to the national scheme) and how revenues from pre-existing local schemes will be managed. Assurance that increases in local income, through the hypothecated net revenue

stream, are real and will not be offset, in any way, by reductions in government funding is also likely to be critical.

Early decisions on the type approval for charging technologies, and on the provision of inter-operable 'back-office' (and, ideally, shared) services to enable users to pay charges for different authorities through a single agency, are also necessary.

Although the 2000 Transport Act provides the basic powers to enable local authorities to implement schemes, the potential for intervention, and delay, by the Secretary of State is very much greater than in London, under the GLA Act. If the Mayor of London is deemed by Parliament competent to make decisions, it is difficult to understand why authorities elsewhere, accountable to *their* electorates, are not competent to make comparable decisions without the Secretary of State having the power to intervene. There are also doubts about whether the Act enables area-wide schemes, of the type which might be required to reduce concerns about competitive disadvantage, and to obtain the necessary political agreement; the Act must also be revised to permit charging on trunk roads (including motorways) other than as part of a local authority scheme. This indicates an early need for a detailed review of, and revisions to, existing legislation, to improve the ease with which schemes can be authorized, as well as to allow for charging on motorways and trunk roads.

As noted in Chapter 13, stability is a key requirement for the pursuit of radical, longer-term strategies such as congestion charging. Yet, in many local authorities, the election cycle is such that one-third of the members stand for re-election in each of three years out of every four. A common four-year term for all members, which the Office of the Deputy Prime Minister is considering, might overcome some timidity caused by frequent elections.

Despite the emphasis on the role of local authorities as pathfinders, delivery may well depend on the effectiveness of the government's 'New Localism', in providing both the incentives and opportunities to develop local leadership stifled by the centralist policies of recent governments, both Conservative and Labour. The signs might be thought to be hopeful. In The Smith Institute (a left-leaning think tank) paper *Ed Balls*, Gordon Brown's former Chief Economic Adviser, wrote:

*'we need to be ready to go further in enabling local people to do more to make local decisions about meeting local needs. The successful introduction of the congestion charge in London shows how this can be made to work in a fair and accountable way. And we should be prepared to consider*

*other radical options to ensure devolution of power and responsibility can go hand in hand.'* (Balls, 2003).

Gordon Brown has said:

*'the next decade will see the biggest ever shift of power from Whitehall and Westminster to regions, localities and communities moving Britain from the old style "Whitehall knows best" culture to a Britain of not one but many centres of initiative and power.'* (Brown, 2003)

However, it would seem that his interest is in decentralizing *'decision-making to much smaller localised bodies'* rather than city regions, and his biographer implies that the driving force is a desire to rebut *'the consistent charge against him that he is an incorrigible centralist and "control freak"'* (Peston 2005).

In an analysis of Victorian cities, where local leaders like Birmingham's Chamberlain achieved vast improvements, Tristram Hunt concluded: *'the history of the 19th century clearly shows that devolved power attracts local talent'* (Hunt, 2004). However, even if the government does plan to decentralize power, it does not seem convinced that the necessary talent is there, yet. In draft guidance on Local Transport Plans, the Transport Department said it would be *'particularly interested in any evidence that local authorities have sought to exercise strategic leadership to achieve local support for potentially controversial LTP proposals (eg, congestion charging or other demand management measures)'* (DfT, 2004b). But, so long as governments continue to manage from Whitehall, depriving local politicians of real power, it will be difficult to attract real talent into local government, except as a stepping stone to Westminster; as Travers has noted, *'there is only one way to make local government more powerful, give it more power . . . a real decentralisation should be the objective of any reform'* (*The Times*, 2005a). But that means giving local authorities more control over finance, and local taxation, and it seems unlikely that the Treasury will relinquish the power it has gained over recent decades. Even the Welsh were not allowed tax-raising powers, and Scotland was given only minimal powers.

### **The policy vacuum**

Until there is a clear answer to questions such as, *'Will we or will we not have a national distance based user charge? When will we have it? How will the charges affect demand?'*, there will be uncertainty. The uncertainty will affect how medium to longer term policies, plans and schemes are



developed and programmed: 'Will charging make this scheme less necessary, or this one more necessary?'; how they are appraised: 'What will future demand be?'; and how they are financed: 'What are the likely revenue streams?'

Although the decision on whether and how to progress a national system is complex, the longer it is delayed, the greater the difficulties caused by that delay are likely to be. Just to give one example, the Department for Transport launched a consultation in 2004 on whether extra capacity in the West Midlands/Manchester corridor would best be provided by widening the existing M6 or by constructing a new, parallel, tolled road. As the Chartered Institute of Logistics and Transport noted, if procurement of the tolled option were to proceed before decisions on 'the when? how? how much?' had been taken by government, potential concessionaires would 'not be able to assess the impact of the proposed general charge . . . on their potential revenues or the cost of providing and managing toll collection, there is likely to be a risk premium unless . . . Government agrees to an acceptable arrangement for underwriting these risks' (Focus, 2005).

The policy vacuum can also be expected to cause caution in local authorities which might be interested in considering the use of congestion charging.

### **Making progress**

To make progress there is a need for the government to set out a clear path to the proposed national system, indicating key options and decision points, in the form of a Green Paper so that all interested parties have the opportunity to set out their views. That Green Paper should set out programmed plans for any changes in the existing (2000) Transport Act, enabling legislation, and for the new legislation which will undoubtedly be necessary, as Darling recognized when he cited the existing legislation as being 'nothing like comprehensive enough to go down this road' (House of Commons, 2005c). Addressing legal objections can be time-consuming and costly, and the threat of such action can deter the pursuit of policies, such as congestion charging. Perhaps by good fortune rather than design, the GLA Act gives the Mayor considerable authority, provided he complies with the Act. Any revisions to the 2000 Transport Act, as well as new legislation, should provide similar protection for authorities outside London.

If Darling is right in saying that it will be 5–6 years from 2005 before any additional schemes are implemented (in England, outside London), compared with the 3 years in London (which had the benefit of the

one-year ROCOL study), this means that if such schemes are to act as useful pathfinders for a national scheme *and* if that is to be in place by the earliest date suggested by the Steering Group, 2014, *and* address some of the growth in congestion, they need to be initiated without delay. Yet that seems unlikely, given the various barriers. Perhaps that is why Darling has talked about 2020 for the national scheme.

### **A commentary**

With Ken Livingstone's re-election as Mayor, the London congestion charging scheme is likely to be further developed, both in the area covered and in the charging technology. However, extending the charged area and increasing the charge to £8 have not, generally, been well received by residents or business.

The success of the initial London scheme has spurred others to consider the adoption of congestion charging policies, although there continues to be a reluctance among UK local authorities, with only Edinburgh committed to congestion charging and Nottingham to workplace parking levies. But having sat on the fence whilst the London scheme was being developed, the government has made an initial commitment to move towards a national distance-based road user charging system for the mid-2010s, by which time, it suggests, satellite positioning should be sufficiently accurate and the associated equipment sufficiently cheap to make such a system feasible. Tellingly, the willingness of Norwich Union to apply existing GPS technology as a basis for a new approach to its business, recording where and when policy-holders travel, contrasts with the government's caution. There is a very real danger that 'best' is being used to keep difficult decisions beyond the 2001/5 government and its successor, when the 'good' provides real opportunities for early action. However, in seeking to rely on local authorities for that action, when their structure and powers makes them ill-suited, might indicate a failure of Westminster and Whitehall to understand the real issues; in particular, important though money is, it is not the primary reason for the reluctance of local authorities to embrace congestion charging.

That said, the government is pressing ahead with a distance-based charge for lorries which will probably use GPS, although Livingstone's fears that a 'no' in the Edinburgh referendum would cause the government and other local authorities to abandon charging plans may well be right. But that would demonstrate a real weakness, a lack of resolve to address the very serious problems, national and local, that congestion causes, contrasting strongly with Livingstone's commitment.

Despite Blair's initial antipathy, Livingstone has shown the way. But, with a few notable exceptions, it seems likely to be some time before he is followed elsewhere, except for lorries. Government and its mandarins remain both schizophrenic and cautious; not willing to take radical steps themselves, they are also unwilling to decentralize power to enable local authorities to show the way.

## References

- ALG (2004). *Report to Leaders' Committee*, Item 13, 20 April.
- Balls, E. (2003). 'Making economic policy local: how we can deliver full employment and rising prosperity for all', in E. Balls, J. Healey and C. Koester (eds), *Growing the Economy, The Local Dimension*, London: The Smith Institute.
- BBC (2003a). 'Thorny issue of congestion charges', 11 February, 09:32 GMT.
- BBC (2003b). *Newsnight Survey Suggests Strong Opposition to Congestion Charging outside London*, BBC Press Office, 22 December.
- BBC (2004a). 'Road Charge "Costly and Complex"', 1 June, BBC News.
- BBC (2004b). 'Road toll up by "at least £1"', 1 November, BBC News.
- Birmingham Post* (2003). 'Reverse gear over congestion', 1 December.
- Brown, G. (2003). *New Localism Empowers Local Communities*; Treasury Newsroom & Speeches, 7 February.
- CfIT (2003). *The Impact of Congestion Charging on Specified Economic Sectors and Workers*, report by FaberMaunsell, London: Commission for Integrated Transport.
- CILT (2004). *Response to Transport Select Committee: Road Pricing: Should all roads be toll roads?*, London: Chartered Institute of Logistics and Transport. (Also due to be published in the Transport Committee's report on its inquiries.)
- Conservative Party (2004). *A Safer London. It Can Be Done*, Manifesto for Steve Norris, London: Conservative Party.
- Daily Express* (2004). '£1.34 a mile driving tax, and Pay-as-you-go motoring will take away our liberty', 15 December.
- DETR (2000a). *Transport 2010, The 10 Year Plan*, London: Department of the Environment, Transport and the Regions.
- DETR (2000b). *Transport 2010, The Background Analyses*, London: Department of the Environment, Transport and the Regions.
- DfT (2002). *DIRECTS Road User Charging Research*, London: Department for Transport.
- DfT (2003a). *Managing our Roads*, London: Department for Transport.
- DfT (2003b). *News Release 20030085, 9 July 2003*, London: Department for Transport.
- DfT (2003c). *Departmental Investment Strategy 2003-04 to 2005-06*, London: Department for Transport.
- DfT (2004a). *Feasibility Study of Road Pricing in the UK*, London: Department for Transport.
- DfT (2004b). *Full Guidance on Local Transport Plans*, 2nd edn (Draft for consultation, July 2004), London: Department for Transport.
- DfT (2004c). *The Future of Transport: A Network for 2030*, London: Department for Transport.
- DfT (2004d). *Road User Charging Feasibility Study, Implementation Workstream, Report on Implementation Feasibility of DfT Road Pricing Policy Scenarios and*

- Proposed Business Architecture*, Deloitte Consulting, London: Department for Transport.
- DfT (2004e). *Transport Statistic Bulletin: Vehicle Licensing Statistics 2003*, London: Department for Transport.
- DTLR (2001). *Road User Charging and Associated Technology, Roads and Local Transport Research Programme: Research compendium 2000–2001*, London: Department of Transport, Local Government and the Regions.
- Edinburgh (2004). *Council Approves Arrangements for Transport Referendum*, News Release, 9 December, The City of Edinburgh Council.
- Evening News* (2003). 'Conservatives set to take swing at Gray', Edinburgh, 25 April.
- Evening News* (2004). 'Delegates 'tram talks raise hopes'', Manchester, 27 September.
- Evening News* (2005). 'Jack's honesty plea on tolls', 28 January.
- Evening Standard* (2004a). 'Voters reject C-charge', 11 May.
- Evening Standard* (2004b). 'Fares rise on bus and tube', 21 September.
- Evening Standard* (2004c). 'It's a once-in-a-lifetime choice', 11 October.
- Evening Standard* (2004d). '£6 C-charge on way', 1 November.
- Evening Standard* (2004e). 'Pay every time you drive your car', and 'Transport is still a mess Mr Darling', 28 November.
- Evening Standard* (2004f). '£8 charge could ruin firms', 1 December.
- Evening Standard* (2005a). 'Discounts offer in "buffer-zone" for C-charge', 18 January.
- Evening Standard* (2005b). 'WinDSRCreen sensors will pay the C-charge', 21 January.
- Financial Times* (2004a). 'Livingstone determined to charge ahead', 12 August.
- Financial Times* (2004b). 'Sensitive issue swept under the carpet', 14 October.
- Financial Times* (2004c). 'Congestion charge to £8 planned by London mayor', 1 December.
- Financial Times* (2005a). 'Capita to get congestion charge contract extended', 12 January.
- Financial Times* (2005b). 'Pay-as-you-drive plan to lower young motorists' premiums', 12 January.
- Focus* (2005). 'M6: giving motorists a choice', *Focus*, February, Chartered Institute of Logistics and Transport.
- GLA Act (1999). *Greater London Authority Act 1999*, London: Her Majesty's Stationery Office.
- GLA (2004a). *The Mayor's Transport Strategy Revision*, London: Greater London Authority.
- GLA (2004b). *Statement by the Mayor Concerning his Decision to Publish his Revised Transport Strategy*, London: Greater London Authority.
- GLA (2004c). *New Fares Policy will Secure £3bn Investment in Transport*, Press Release, 21 September, London: Greater London Authority.
- GLA (2004d). *Mayor Unveils £10bn Investment Programme to Transform London's Transport Network*, Press Release, 12 October, London: Greater London Authority.
- GLA (2004e). *Mayor to ask TfL to consult on £8 congestion charge*, Press Release, 30 November, London: Greater London Authority.
- Glaister, S. and D. Graham (2003). *Transport Pricing and Investment in England: Technical Report*, Southampton: Independent Transport Commission.

- Glaister, S. and D. Graham (2004). *Pricing Our Roads: Vision and Reality*, London: Institute of Economic Affairs.
- Grayling, T. (2004). 'Whatever happened to integrated transport?', *The Political Quarterly*, vol. 75, no. 1, pp. 26–34, Oxford: Blackwell.
- Grayling, T., N. Sansom and J. Foley (2004). *In The Fast Lane: Fair and Effective Road User Charging in Britain*, London: Institute for Public Policy Research.
- Hansard (2003). *Lorry Road Users Charge*, Column 493W, 10 December.
- Hansard (2004). *Bus Regulation*, Column 619, 4 February 2004.
- House of Commons (2003a). *Jam Tomorrow? The Multi Modal Study Investment Plans*, House of Commons Transport Committee, London: The Stationery Office.
- House of Commons (2003b). *Urban Charging Schemes, First Report of Session 2002–03*, House of Commons Transport Committee, London: The Stationery Office.
- House of Commons (2005a). Uncorrected transcript of oral evidence, to be published as HC 218–1, Minutes of Evidence taken before Transport Committee, 12 January.
- House of Commons (2005b). Uncorrected transcript of oral evidence, to be published as HC 218–1, Minutes of Evidence taken before Transport Committee, 19 January.
- House of Commons (2005c). Uncorrected transcript of oral evidence, to be published as HC 218–I, Minutes of Evidence taken before Transport Committee, 2 February.
- Hunt, T. (2004). *Building Jerusalem: The Rise and Fall of the Victorian City*, London: Weidenfeld & Nicolson.
- Institute of Transport Studies (2001). *Surface Transport Costs and Charges*, Leeds: Institute for Transport Studies, University of Leeds.
- Institute of Transport Studies (2004). *Road User Charges – Pricing Structures*, Leeds: Institute for Transport Studies, University of Leeds.
- Joseph, J. (2004). 'No distance left to run: two US states' novel idea of road user fairness', *Traffic Technology International*, Tolltrans supplement.
- Kensington and Chelsea (2004). *Key Decision Report, 22 April 2004, by Director of Transportation and Highways*, London: The Royal Borough of Kensington and Chelsea.
- Labour Party (2004). *A Manifesto 4 London: London Mayoral and London Assembly elections 2004*, London: Labour Party.
- LCCI (2004). 'Mayor's £8 C-Charge Plan Troubling' Says London Chamber of Commerce, Press Release, 30 November.
- LGA (2004a). *The Future of Transport: A Network for 2030*, LGA briefing, London: Local Government Association.
- LGA (2004b). *Road Pricing – Evidence of the Local Government Association to the House of Commons Transport Committee*, London: Local Government Association.
- London Assembly (2000). *Congestion Charging: London Assembly Scrutiny Report*, London: Greater London Authority.
- London Assembly (2003a). *Mayor Must Do More to Sell Congestion Charging to Londoners*, Press Release, 24 July.
- London Assembly (2003b). Transport Committee, 26 November, Transcript of Evidentiary Hearing.

- London Assembly (2003c). Transport Committee, 11 December, Draft Mayor's Transport Strategy revision: central London congestion charging – westwards extension, Response from the London Assembly.
- London Assembly (2004). *Minutes of Meeting of Transport Committee*, 11 November, Appendix A.
- London First (2004a). *Submission to Transport for London*, 6 April.
- London First (2004b). *London First Alarmed at Congestion Charge Increase*, Press Release, 30 November.
- LTT (2004a). 'Heathrow roads charge ruled out as mayor consults on extension', *Local Transport Today*, 26 February.
- LTT (2004b). 'High fares the price of Treasury support for TfL/PTE investment', *Local Transport Today*, 9 September.
- LTT (2004c). 'The price of Ken's ambitions', *Local Transport Today*, 9 September.
- LTT (2004d). 'Papers reprise opposition to nationwide road user charging', *Local Transport Today*, 16 December.
- LTT (2005). 'Road use charging: don't wait for the big bang', *Local Transport Today*, 20 January.
- Lucas, K. (2004). 'Transport and Social Exclusion', in K. Lucas (ed.), *Running on Empty: Transport, Social Exclusion and Environmental Justice*, Bristol: The Policy Press.
- Mackie, P. (2002). *The Political Economy of Road User Charging*, Leeds: Institute for Transport Studies, University of Leeds.
- McKinnon, A. (2004). *Lorry Road User Charging: A Review of the UK Government's Proposals*, Heriot Watt University, Edinburgh, <http://www.sml.hw.ac.uk/logistics>. (See also A. McKinnon and D. McClelland (2004). *Taxing Trucks: An Alternative Method of Road User Charging*, Edinburgh: Heriot Watt University.)
- Ministry of Transport (1964). *Road Pricing: The Economic and Technical Possibilities*, London: HMSO.
- NAO (2004). *Tackling Congestion by Making Better Use of England's Motorways and Trunk Roads*, London: National Audit Office.
- NCE (2004). 'NCE 500', *New Civil Engineer*, 8 December.
- ODPM (2004). *The Future of Local Government: Developing a 10-year Vision*, London: Office of the Deputy Prime Minister.
- Oregon (2001). *House Bill 3946*, 71st Oregon Legislative Assembly, 2001 Regular Session, State of Oregon.
- Peston, R. (2005). *Brown's Britain*, London: Short Books.
- Potter, S., M. Enoch, B. Lane, G. Parkhurst and B. Ubbels (2004). *Taxation Futures for Sustainable Mobility*, Economic and Social Research Council, Swindon: 'New Opportunities on the Environment and Human Behaviour' Programme.
- Progress (2004). *Progress Project, Main Project Report*.
- Puget Sound (2004). *The Traffic Choices Study*, Seattle: Puget Sound Regional Council.
- RAC (2004). *Road Pricing*, Press Release, 7 December.
- Regeneration and Renewal* (2004). 'Lunts quits ODPM over city regions', Ben Walker, 19 November.
- Regeneration and Renewal* (2005a). 'New Year's solutions: a 2005 wish list', Ben Walker, 7 January.

- Regeneration and Renewal* (2005b). 'The mayor maker of Manchester', Ben Walker, 21 January.
- Regeneration and Renewal* (2005c). 'Minister backs core city mayors', Ben Walker, 4 February.
- ROCOL (2000). *Road Charging Options for London: A Technical Assessment*, London: The Stationery Office.
- Scottish Executive Development Department (2004). *Inquiry into Proposed Congestion Charging Scheme*,
- Simon 4 Mayor (2004). *Policies for London*, info@simon4mayor.org.uk.
- Sun-Sentinel* (2005). 'SunPass getting new look', *South Florida Sun-Sentinel*, 24 January.
- TfL (2004a). *Business Plan, 2004–5*, London: Transport for London.
- TfL (2004b). *Greater London (Central Zone) Congestion Charging Variation (No. 4) Order 2004, Supplementary Information*, London: Transport for London.
- TfL (2004c). *Greater London (Central Zone) Congestion Charging Variation (No. 5) Order 2004, Supplementary Information*, London: Transport for London.
- TfL (2004d). *Minutes of Board Meeting, 22 July 2004*, London: Transport for London.
- TfL (2004e). *A Proposal to Extend the Central London Congestion Charging Scheme to Cover most of Kensington & Chelsea and Westminster: Your Opportunity to Comment*, London: Transport for London.
- The Economist* (2004a). 'The Road tolls for thee', *The Economist Technology Quarterly*, 12 June.
- The Economist* (2004b). 'Stop-go', 24 July.
- The Economist* (2004c). 'The zoney war', 14 August.
- The Green Party (2004). *Quality Life for a Quality London: The Green Party Manifesto for London 2004*, www.london.greenparty.org.uk.
- The Guardian* (2002a). 'Blair urged to reject Birt Plan for new motorways', 20 May.
- The Guardian* (2002b). 'Number 10 defends Birt after dig by Darling', 3 June.
- The Guardian* (2004). 'Target Zones', 14 August.
- The Scotsman* (2004a). 'Executive backs traffic tolls for every Scottish city', 4 June.
- The Scotsman* (2004b). 'Labour leadership vows to keep congestion charge exemptions', 3 December.
- The Scotsman* (2004c). 'City hit by legal fight on road toll poll plan', 22 December.
- The Scotsman* (2005a). 'Britain's transport strategy depends on Edinburgh "yes" vote on road tolls', 20 January.
- The Scotsman* (2005b). 'Free parking; the price of congestion charge', 22 January.
- The Times* (2003a). 'Mayor pledges to peg congestion charge for a decade', 26 February.
- The Times* (2003b). 'Bigger zone "to increase congestion and debts"', 3 November.
- The Times* (2004). 'Congestion Charge to be £8', 1 December.
- The Times* (2005a). 'Winds of change must give power back to town halls', Tony Travers, 1 January.
- The Times* (2005b). 'London leads the way to make drivers pay on all busy roads', 25 January.
- The Treasury (2001). *Modernising the Taxation of the Haulage Industry: A Consultation Document*, London: The Treasury.
- The Treasury (2002). *Modernising the Taxation of the Haulage Industry: Progress report one*, London: The Treasury.

- The Treasury (2004a). *Modernising the Taxation of the Haulage Industry: Lorry Road User-charge*, Progress report 3, London: The Treasury.
- The Treasury (2004b). *Public Sector Finances Databank*, 21 October, Table C4, London: The Treasury.
- The Treasury (2005). *Modernising the Taxation of the Haulage Industry: Lorry Road User-Charge*, A discussion paper, London: The Treasury.
- Tip, A. and A. Wittebols (2004). 'The key to success', Annual Review, *Traffic Technology International*.
- Traffic Technology International* (2004). 'Charging into trouble', August/September 2004.
- Transport Act (2000). London: Her Majesty's Stationery Office.
- Westminster (2004). *Congestion Charging Update*, Report to Transport and Infrastructure Overview and Scrutiny Committee, 2 March, City of Westminster.
- Whitty, Jim, Jack Svadlenak, Norman C. Larsen, Charles B. Sexton, Darel F. Capps, J. David Porter, David S. Kim and Hector A. Vergara (2005). 'Development and performance evaluation of a vehicle-miles-travelled revenue collection system', paper presented at the 85th Annual Meeting, January 2005, Washington, DC: Transportation Research Board.
- World Business Council (2004). *Mobility 2030: Meeting the Challenges of Sustainability*, World Business Council for Sustainable Development.



# 15

## Finally

By the time this book has been published, the London charge will have increased to £8 and the Order for the westwards extension of the scheme will have been confirmed; the people of Edinburgh will have decided whether they are to have congestion charging; and procurement for the Lorry Road User Charge scheme will be well under way. There will also have been a UK general election (in May 2005).

Whoever is in government will continue to face the challenge of matching demand for movement by road with the feasible capacity of the road system, given all the difficulties of increasing that capacity in line with demand, wherever it occurs, as well as containing the environmental consequences of increasing demand. And, whatever the arguments against congestion charging, congestion itself is not an efficient way of controlling demand, as a broad alliance of business, motoring and environmental interests readily acknowledge. These views are likely to be increasingly reflected by an electorate having to endure increasing congestion, realizing that recent UK transport policy has not worked, and recognizing a need to rethink how we use, and pay for, transport.

It therefore seems inevitable that, at some stage, a government will have to demonstrate the boldness of Ken Livingstone and make a clear, total, commitment to the introduction of congestion-related road user charges, coming out from behind the protective veil of claiming that the technology is not yet right.

Technology should be the enabler, not the driver of the policy. If technology is allowed to drive the policy, and politics, there will always be another, higher, level, just around the corner that timid leadership will argue is worth waiting for. Determined leadership using the available technology can deliver real benefits in the areas where

they are most needed, before congestion becomes chronic with all the consequences for the quality of life and business efficiency, and thus international competitiveness. Doing something now, or very soon, is likely to serve the community better than deferring action until we can do it 'better'.

Indeed, the more ambitious the scheme, the greater the risk of technology failure. There can be little doubt that the difficulties encountered by Toll Collect in delivering Germany's highly complex lorry charging system on schedule have raised serious questions about the feasibility of large-scale road pricing schemes. Successful implementation of a UK Lorry Road User Charge scheme, to specification, on schedule and within budget will be crucial to the future of other UK charging schemes.

However, Singapore, Austria and Switzerland reinforce the London lesson, demonstrating what can be achieved if sights are not set too high. 'Good enough' *can* be the basis of good policy; indeed, the very substantial cost estimates for implementing and operating 'the best', the national GNSS-based system recommended by the DfT's Road Pricing Feasibility Study Steering Group, makes its full implementation seem highly unlikely.

There can therefore be little doubt that the Steering Group was right in suggesting that it would be preferable to commence with local schemes. But rather than being seen as pathfinders, implying uncertainty and risk, they should be seen as steps in a planned programme, using the available technology to address the greatest need, soon, and backed by local commitment.

However, if the government is to overcome its initial failure, since the publication of the Ten-Year Plan in 2000, to persuade local authorities to adopt charging schemes (it can claim little, if any, credit for either London or Edinburgh), it is going to have to make major changes in its approaches to local government. It must recognize the importance of being able to deliver and maintain local public transport – predominantly bus – improvements. That is the first of the many powers it must return to local councils, if they are to attract talented local champions who have the conviction and the leadership to persuade their community that radical policies, such as congestion charging, make good sense.

Whilst fostering local leaders, government must back them to the hilt with all that is necessary in the way of legal, financial or political aid to facilitate the implementation and operation of sound schemes. If the Mayor of London has the sole power to determine the need for,

and the structure of, a public inquiry, why not the councils of other authorities? Does the Secretary of State really need all the controls over local charging schemes in England outside London which were provided under the 2000 Transport Act?

Government cannot expect local councils to make all the running, however. Congestion on some motorways and trunk roads, roads for which it is directly responsible, is as much a problem as in many urban areas. Government should make it a priority to complement local authority schemes with charging on these routes, legislating to permit it.

Neither should it think that road pricing is an alternative to investment, or is a useful new source of public revenue. Pricing will only be feasible when it is but one part of a broad set of transport policies which include investment in additional capacity. In urban areas, that will predominantly, but not exclusively, be in public transport, as well as in encouraging more (safe) cycling and walking. There will also be a need for investment in improved traffic control and management, and there may well be a need to address particular highway capacity additions. In areas around major cities and conurbations and in inter-urban corridors, much of the investment is likely to be in making better use of existing highways, as well as in selective additional capacity. It will only be acceptable if it is seen to benefit transport users and local communities, rather than simply as another tax.

Widespread adoption of congestion-related road user charges will have effects beyond the use of motor vehicles, providing both opportunities and threats, across the community. It is essential that government takes the leadership in providing the 'joined up thinking' that proper planning for, and management of, the full range of consequences will demand. Yet, worryingly, even within the confines of transport policy the theme of 'integration' that underpinned the Ten Year Plan is absent from the White Paper, *The Future of Transport*.

Ken Livingstone has shown that charging can work and, through his re-election as Mayor, he has also shown that charging need not be as great a political risk as politicians of left and right have assumed. But there is little evidence to suggest that other political leaders, whether national or local, are ready to follow his example elsewhere in the UK, except in Edinburgh, in the immediate future (writing early in 2005). This suggests that congestion is going to get worse, much worse in some areas, before leaders have Livingstone's determination and guts to take effective action to reduce it, yet few will benefit and most will suffer from delays in action.

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