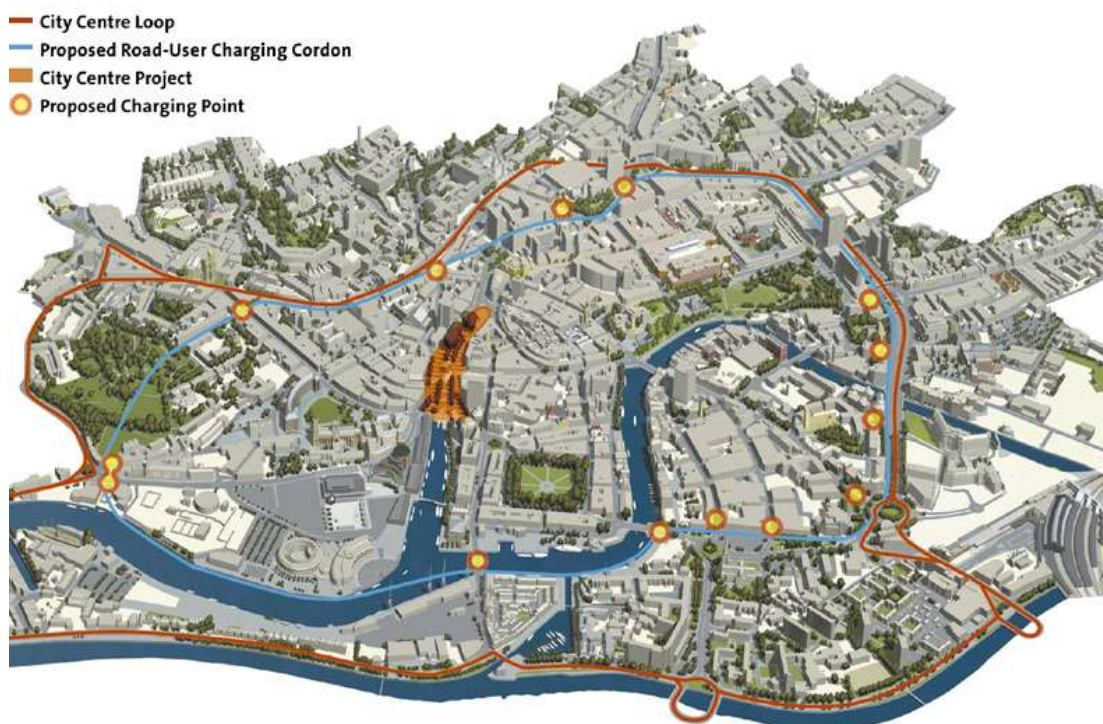


Modelling Studies

Bristol City Council has carried out studies on road user charging since 1991 with the BRITES model. This study showed a combination of road pricing and rapid transit to be the best way of discouraging car trips while maintaining the city's economic vitality. Building upon this work, Bristol City Council was involved in the Bristol Traffic Restraint Study (1993), the Avon Traffic Restraint Study (1995–97), and the Trafficflow Project (1999), all of which involved the investigation of road pricing options in the city.

In advance of the 2000 LTP, consultants TTR carried out the Road User Charging Scheme Definition Study. This outlined the preferred scheme for Bristol city centre that was submitted in the 2000 LTP. An appendix to this document (copy attached) also detailed the background to road user charging policy in Bristol.



Bristol City Council has also participated in a number of European Commission supported projects looking at road user charging. A number of these included trials or demonstrations of charging technology, and are detailed below. The PROGRESS project also included a large modelling project with financial support from the government as well as the EC. This modelling was run by Atkins, using the BATS model to carry out detailed tests on a number of road user charging and complementary measure options in central Bristol.

Trials and Demonstrations

ELGAR

As part of the European Commission CONCERT-ELGAR project (1996–1998), Bristol City Council carried out a road pricing trial on the A4 Bath Road into Bristol. With a pool of 100 members of the public acting as volunteers, tag and beacon (DSRC) technology was trialled with 2 gantries along the route.

Charge levels were varied according to air quality, to which drivers were alerted by VMS, with mode switch to Park and Ride an aim of the project.

The technology worked successfully throughout the trial, and resulted in approximately 3% of people not using their car for each £1 charged.

INTERCEPT

In autumn 2000, a road pricing trial was carried out on the M32 and the Avon Ring Road (A4174) through the INTERCEPT project. The technology used was tag and beacon (DSRC), in association with an on-line trip planner to allow the 100 trial participants to plan their journey by alternative means.

In technological terms, the trial was again successful. Although different pricing levels were used, the elasticity of mode switch values was broadly in line with that found through ELGAR.



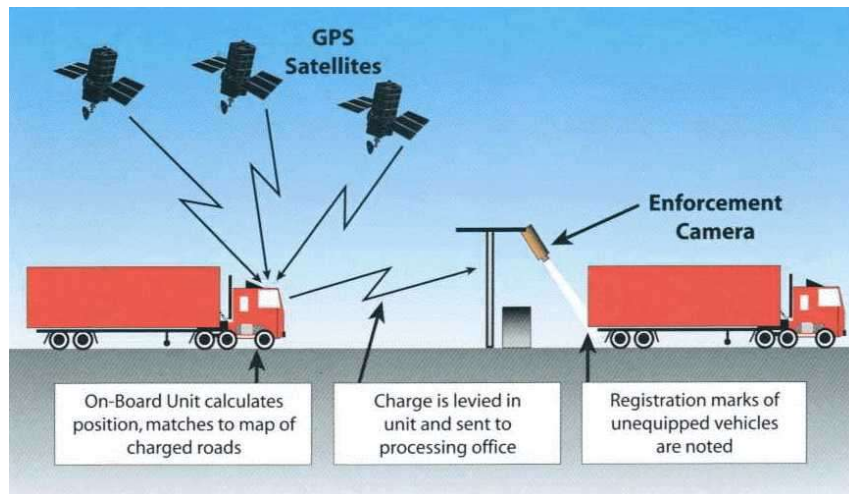
PRoGRESS

The PRoGRESS project ran from June 2000 until May 2004, with 8 European cities researching and demonstrating urban road pricing issues. Bristol City Council were co-ordinators of the project with the aim “to demonstrate and evaluate the effectiveness and acceptance of integrated urban transport pricing schemes to achieve transport goals and raise revenue”.

At a local level, Bristol worked with the DfT to establish a technology demonstration that concentrated on the use of Mobile Positioning System (MPS) based pricing systems in 50 commercial vehicles. Each vehicle was fitted with on-board equipment (OBE) that consists of an on-board unit and an antenna mounted on the roof. The OBE contained a smartcard that held a total of 50 charging transactions in the event of communication with the central control system failing. When a vehicle passed a charge point, the OBE communicated with the MPS system and allocated a charge under one of 3 different charging methods:

- Distance-based corridor charges on the M4 and M5 motorways and two main access roads into the city;
- City centre cordon charges that form the basis of the road pricing scheme detailed in the 2000 Local Transport Plan (100 points were used to define an outer zone and, 200 metres inside, an inner zone; charges were only allocated once a vehicle had passed through both zones);

- Individual virtual gantry charges (50m by 50m rectangles) on each of the main routes in and out of the cordon, activated by a vehicle passing in either direction.



The trial ran for four months in Autumn 2003 with data collected to enable analysis of MPS performance and fleet pattern analysis. In addition, assessment of ANPR for enforcement purposes was carried out, which would be required to complement any full-size scheme.

Results of the GPS trial were that the system worked, but that the technology is not yet mature enough for a city charging scheme – signals were lost in street canyons and the locational accuracy was often compromised. These results were echoed in the trials carried out by Copenhagen and Gothenburg. More information can be found on the website www.progress-project.org. The ANPR system was found to operate well, and encouraging results were obtained from the modelling of charging scenarios in future years.

Future Plans

Although the city centre cordon was proposed in the 2000 LTP, a change in the political make-up of the Council and the cancellation of the first Light Rapid Transit line (the key public transport alternative) meant that the scheme was not introduced. Further political changes meant that road user charging stayed relatively low on the agenda.

In 2004, the UK government recommended that Bristol City Council write the second LTP (2006–2011) jointly with the neighbouring authorities of Bath and North East Somerset, North Somerset, and South Gloucestershire. In addition to preparing and submitting the Joint LTP in March 2006, the 4 authorities jointly submitted a bid for pump-priming funding from the government's new Transport Innovation Fund¹ in November 2005. The bid was one of seven chosen for funding, with the Greater Bristol authorities awarded £1.5m to fund modelling and appraisal of options for demand management and complementary measures over the coming year.

¹ The Transport Innovation Fund was introduced by the UK government in 2005, offering money to local authorities planning to bring in some form of charging alongside high-quality improvements to public transport. Pump-priming funds were made available for the 2006–7 and 2007–8 financial years to allow authorities to prepare bids for 2008 when up to £290m will be available, rising to £2.5b by 2015.

To date, a lot of modelling work has been done at a sub-regional level through the Greater Bristol Strategic Transport Study. During the second half of 2006, more detailed modelling will be done to fully assess the potential impacts of a number of transport packages (demand management/charging and improved public transport). Data collection to support the modelling work has commenced (June 2006) with a number of roadside interview surveys to understand origins and destinations for trips in Bristol, and a series of household travel surveys are planned to follow later in the year. Following government guidance, understanding the social and distributional impacts of potential charging schemes is an important element of the work.

Part of the Joint LTP submission was a bid for 10 "Showcase" bus corridors in the region (the Greater Bristol Bus Network), and development of some Bus Rapid Transit options is currently underway. This will form the backbone of the public transport alternatives that will make up a package with any form of demand management or charging.