

London's Congestion Charging Scheme

Report of the joint Institution of Civil Engineers/ALDES autumn conference fringe meeting

"When looking at the supply and demand for roads, UK engineers and politicians concentrated, until 4 years ago, almost exclusively on supply. Then, in 2000, Ken Livingstone newly elected mayor of London, had the political courage to decide to limit demand". So began Derek Turner on whose shoulders fell responsibility for designing, installing and operating London's congestion scheme, the first in Europe and second in the world only to the administratively simpler scheme in Singapore.

Until then, unlike other utilities in the UK, road use had invariably been free at the point of use. However, limiting demand by imposing a charge on congestion, had been considered for London on and off for 40 years and the technology had been available from the '70s. The political problem was, first, that charging would be electorally unpopular and, second, that failure of the scheme would inevitably lead to political annihilation.

London's scheme therefore had to recognise two separate sets of objectives. The technical objectives were to reduce traffic and increase speeds by 10-15%, cut bus delays by 15-25% and raise revenue which could improve public transport. The first political objective was to implement a scheme within one political cycle. Often construction projects take a long time and politicians who take correct but unpopular decisions frequently don't get the credit for the end result. Because initial stages of work are usually difficult and messy doom mongers have free rein. Elections which fall half way through a project leave the politician nakedly exposed. He or she can only offer promises that "things will get better in due course" and, as we know, electoral promises deal in suspect currency. The lesson, emphasized Derek, is to break large schemes into 'electoral' sized chunks where possible. The mayor wanted the scheme implemented within 18 months. A feasibility study said 4 years were needed. Derek agreed to complete within 2 1/2 years and did so on time and within budget (£230M).

The second political objective was that the scheme *must not fail*. Failure would put back the option of managing traffic in cities *across the world* by decades - and Ken would lose in 2004. In consequence the London design was deliberately 'low tech' or, more precisely, relies on

standard, proven technology. The charging area is about 21 sq kms. Its boundary runs from the Marylebone and Euston Roads round to Tower Bridge, down to the Elephant and Castle and across Vauxhall Bridge, and then up Park Lane to Marble Arch. There are 203 camera sites each with a colour and black and white camera which produce high quality video signals read by Automatic Number Plate Recognition software. Numbers are checked against a data base of payers. Where a driver appears not to have paid by midnight of the day in question, the picture of the vehicle is checked manually before a £100 penalty notice is posted. The average vehicle passes 2.5 camera sites which achieve 95% accuracy.



Derek Turner (left) with Rowland Morgan at the ALDES/ICE meeting

Most of the missing 5% will have paid so revenue loss is small. The cameras are small and neatly sited. Forecasts they would disfigure streets were not borne out. Charges, £5 initially, are levied for vehicles using the area between 7 am and 6.30 pm, Monday to Friday. Local residents enjoy a 90% discount and "green" vehicles 100% even though, despite hopes to the contrary, the air quality has not measurably improved. London resides in a 'bowl'. The scheme area is too small to have an independent effect and in any case is affected by air pollution arising from as far away as mainland Europe.

With the technology considered robust, attention turned to administration, principally that motorists should find it easy to pay. Every pay route was open, from cash at shops to text messaging, call centres, and the internet. Research was done to establish how motorists would pay so that sufficient capacity would be provided. For example provision was made for 35% of motorists to pay by phone. In fact only 20% do so but as a result there are no delays.

There was openness and extensive consultation. Despite this the media, especially the Evening Standard, were vituperative in their opposition. Partly this was due to historic enmity towards 'Red Ken' and partly because it was so easy to mount an anti-charge populist campaign. TfL (Transport for

London) did its best to get its message across. Derek explained the benefit would be that "every day would be a school holiday day". Residents knew what that meant. Mere figures would have left them cold.

The triumph was that all the objectives, bar one, were achieved and some exceeded. Traffic is one of those areas where a small reduction gives disproportionate improvements. A modal shift to bus use occurred. In the event, whereas 300 more buses (10% of the fleet) were available, only 50 were needed because efficiency improved overnight by one third. In fact bus timetables will be speeded up. Traffic was cut by 30% enabling Trafalga Square to be pedestrianised. Average speeds increased by 20%, a significant economic gain. The missed objective was revenue. Charges raised £68M: half the £130M predicted.

Introduction of the scheme had a number of side effects. Cycling generally is less attractive because average vehicle speeds have increased. Car parking revenue has declined. Westminster Council was hostile because this had become a valuable milch cow. The effect on sales at retail outlets has still to be calculated though John Lewis believes it to be adverse. Civil liberties groups were concerned about "spy" cameras although these had previously been installed in buses to provide evidence to enforce bus lanes. Currently a protocol exists between the GLA and the Police so that suspicious information can be shared. Relatively few false number plates have been detected though one such belonged to an 1890 Bentley museum piece. However 3 sets of cars were found to be 'dead ringers'. Not only did their number plates match, but so did the model, colour, and *engine number!* Presumably these were used to support alibis.

The future is encouraging. The reduced demand is 'locked in'. Charges can be raised if necessary. The existing software can be used to triple the present area and charging for road use in Kensington and Chelsea is under active consideration. The West Midlands conurbation and Leeds are potential candidates for similar schemes as are many cities overseas.

It was a truly excellent presentation meeting, very well attended with high quality questions. It was excellent particularly for the insights it gave into the interaction between engineer and politician. London's scheme was successful in part because this interaction worked well. Even the title of the scheme was chosen with care. It imposed a charge on congestion - a 'bad' rather than road use itself - something most of us want more of.