

Congestion Charging Ahead

10 Feb 2003

...towards sustainable transport for London?

Although drivers already pay dearly for a trip through London in time lost waiting in traffic queues, parking expenses and stress, from 17th of February 2003 driving in central London will hit motorists' pockets also.

Motorist will pay £5 if they wish to drive in the central London 'zone' between 7am and 6.30pm Monday-Friday.



Why has **Ken Livingston**, London's Mayor, decided to introduce this scheme?

- Every weekday morning 40,000 vehicles an hour drive into the congestion charging zone.
- Traffic congestion in London is the worst in the UK and amongst the worst in Europe.
- Motorists spend 50% of their time in jams.
- Average speeds in the centre of the capital are now lower than 10mph.
- It has been estimated that London loses between £2-4 million every week in terms of lost time caused by congestion.

The proposed benefits of the scheme indicate that an improved public transport service with particular emphasis on bus services will shorten journey time with the reduction in traffic at peak times.

There has been controversy over the boundary for the charging zone.

Part of the reason for the controversy is because of the impact that the zone will have on those living around the boundary and the impacts on landuse in and around the zone. Many businesses inside the zone say that the extra cost incurred by the charge will result in higher prices for their customers.

Improvement in air quality is also a key element of the Mayor's plans for congestion charging.

Other schemes aimed at reducing congestion are found in other parts of the world such as Singapore, Toronto and Melbourne.



What is the proposed scheme?



There is a £5 daily charge, 7am - 6.30pm Monday to Friday, except public holidays.

- The charge is per vehicle, per day. This allows more than one trip by the same vehicle within the day.
- There are weekly, monthly and yearly passes available, but there are no extra discounts for these. The payment can be made by phone, internet, post or at retail outlets.
- The 'Boundary' of zone is formed by the Inner Ring Road of London, on which there will be no charge. This boundary comprises: Marylebone Road, Euston Road, Pentonville Road, City Road, Great Eastern Street, Commercial Street, Tower Bridge Road, New Kent Road, Kennington Lane, Vauxhall Bridge Road, Grosvenor Place, Park Lane and Edgware Road.
- It is not a 'cordon' scheme that is based solely on cameras at points along the boundary; any vehicle moving within the zone, whether or not crossing boundary, will be monitored by cameras.
- The Zone is 8 square miles, or 21 square kilometres, in size. It represents 1.3% of the total 617 sq miles (or 1579 sq kms) of Greater London. There are 174 entry and exit boundary points around zone.
- There is an £80 penalty for failure to pay the congestion charge, reduced to £40 if paid within two weeks. The penalty rises to £120 is not paid on time.
- The total budget to set up the scheme is £200 million, including £100 million spent on other traffic management measures across Greater London.
- The scheme is expected to raise £130 million per year - all of which must, by law, be spent on transport improvements in Greater London.
- Congestion charging in central London is scheduled to start on 17 February 2003.

From <https://www.cclondon.com>

What are the proposed benefits of the scheme?

Benefits for London

- Congestion charging in central London is predicted to cut traffic levels inside the charging zone by 10-15% and congestion by 20-30%.
- Central London's traffic will return to "summer holiday" levels all year round.
- Journey times and deliveries will be quieter and more reliable for those making essential journeys within the charging zone.
- Drivers are predicted to save 2-3 million hours within the zone and a further 4-7 million hours on roads between the zone and within the North and South Circulars each year.
- The scheme will have paid for itself within 18 months of starting up.
- Congestion charging in central London will generate more than £1.3bn over the first ten years to re-invest in transport improvements across Greater London.

Bus improvements

- London Buses to provide more than 10,000 extra spaces for passengers in the busiest hour (8am-9am).
- This is achieved through a combination of 200 extra buses, introducing new routes, putting more buses on some of the busiest routes, and some routes currently served by single-deckers will be served by double-deckers.



- In addition to extra capacity and the introduction of some new routes, a major project, BusPlus, is underway to improve reliability, journey times and access to buses on busiest routes, as well as providing better passenger information, security, safety and comfort.
- The frequency of night services will also be increased considerably and enforcement of bus lanes will be stepped up to ensure a faster traffic flow and more reliable journey times.



Money for local schemes to complement congestion charging

- 'Transport for London' has set aside £100 million over three years for local traffic-management schemes to benefit drivers and residents throughout London.
- £51 million of this has already been approved on schemes put forward by local boroughs such as traffic calming measures, improved pedestrian facilities and adjusting signal timings.

Why is London congested?



People entering central London during the 7am to 10am morning peak period

1998 to 2001 (000s)

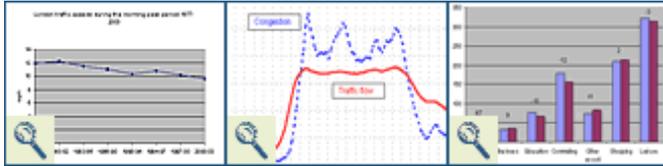
	1998	1999	2000	2001
National Rail	448	460	465	467
All Tube	547	555	568	572
Less people also counted on Rail /DLR	196	201	196	204
Just the Tube	351	354	372	368
Docklands Light Railway	9	9	11	11
Bus	68	68	73	81
Coach/Minibus	17	15	15	10
Total Public Transport	892	905	935	936

Private car	140	135	137	122
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Source: Transport for London

The figures above show that every morning many more people enter London by public transport than by car and that the number of car users is decreasing every year.

However the line graph below shows that traffic speeds are getting slower suggesting that congestion is becoming worse year by year.



The above line graph of week day traffic flow and congestion in London (courtesy of Transport for London) shows that congestion is linked to traffic flow and at certain times of the day. Despite fewer cars on the road the flow into London at particular times of the day is a factor in causing congestion. Although numbers of people entering London by car is decreasing, roughly 250,000 vehicles make 450,000 movements into the charging zone during the period 7am-6.30pm causing congestion as illustrated in the graphic.

Who is using the car more in rush hour?



The bar graph above shows the number of journeys taken for different purposes and how they changed between the mid 1980s and the beginning of the 2000s

According to this graph, the largest growth in the last 15 years in journeys by car in London is for the purpose of running children to school.

Where to put the zone?

Where to draw the boundary for the zone?

Perhaps the most controversial element of the congestion charging scheme involves the definition of the boundary zone. There were several possibilities for zone as outlined in the graphic below.



It was thought that because a quarter of the traffic in and around Central London passes through the areas bordered by the Inner Ring and that it was a logical boundary for a central area congestion charge scheme.

A smaller area, such as is contained by the inner Ring Road north of the Thames and the Thames itself to the south was proposed. This has the advantage of excluding significant residential areas from charging. However it was thought that there could be difficulties with traffic using the embankment routes, north and south of the River Thames and proposals for pedestrianisation along these routes, such as Parliament Square and Trafalgar Square and improvements on the South Bank, Waterloo and Vauxhall would affect capacity for displaced traffic.



Some people suggested that the charging zone be increased to incorporate all of the inner and central London Borough areas, or alternatively extended eastwards towards the Blackwall Tunnel, or westwards to embrace the Royal Borough of Kensington and Chelsea. Transport for London had to consider whether public transport provision in areas outside the Inner Ring Road were sufficient enough to warrant an extension of the zone.

What are the possible impacts on Landuse?

There is uncertainty over what the effects of congestion charging will actually be, particularly on land use.

The short term impacts of congestion charging in London

For businesses: within the cordon area, the numbers and size of vehicles might be reviewed along with more efficient route planning. If the costs are high, relocation is a possibility, but this option is more likely to affect new businesses wishing to locate in Central London. The effect is likely to be a reduction in transport intensive activities within the cordon.

For workers: the travel to work costs increase for car drivers and for those who switch to public transport, as that mode is currently more expensive for them. But as car congestion falls, those willing to pay the charge may benefit. Current public transport users may see a loss of service quality as public transport becomes more crowded, but quality and reliability should improve as delays are reduced and as additional investment takes place. For other travellers (e.g. shoppers and theatre visitors), there will be little change as most of these people already use public transport or come after the cordon charging scheme ends (18.30hrs) or at the weekend. For transport suppliers, their transport costs will rise, but these increases can be passed on to the customer or even recouped through better reliability and time savings. They may also reschedule and reroute services to reduce the numbers of vehicles crossing the cordon.

The longer term impacts

- It is necessary to look at land use and property changes.



Theory of change that links transport change to Economic development effects:

1. How important are transport costs in land use in central London?

Transport costs are often very small and other factors such as the availability of skilled labour, suitable sites, government grants, and the quality of the environment may all be more important than transport. Any increases in transport costs may reduce industry profits but employees may still demand higher wages to compensate for higher travel costs.

2. How will it affect location of businesses?

Although transport costs are being raised, it is expected that accessibility will be improved so there is an argument that increasing transport costs will actually help concentrate businesses in central London. For this to happen the benefits from time saving (and reliability) must be greater than the additional costs imposed through congestion charging.

3. What will be the effect of changes in land rent and building development in central London?

With congestion charging in London, there may be an increase in demand for commercial property in the CBD. Some businesses with their own premises may relocate to release the increased capital value. However it is hard to say whether congestion charging will increase attractiveness to central London to developers through reduced travel times, or decrease the attractiveness through increased travel costs. The net effect might well be no change.

4. What will be the effect on house prices and affordability?

In London, the direct effect is likely to be small as residents are entitled to a 90% reduction in the congestion charge. It may encourage infill, higher densities, mixed uses of land and compacting development. Land use changes far more rapidly than the physical urban built environment, though changes of use, subdivision of property and reuse of currently unused buildings.

Will the charge have an effect on Air Quality in London?

Why is London's Air Polluted?



Emissions from cars are responsible for most air pollution in London

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Percentage of emissions within Greater London and nationally from road transport and industry

Pollutant	Total emissions in tonnes/year, Greater London	% of emissions Greater London		%of national emissions	
		Road Transport	Industry	Road Transport	Industry
Nitrogen Oxides (NOx)	68,126	58.2	8.9	44	37
Fine Particles (PM)	2,747	67.9	22.3	20	44
Sulphur Dioxide (SO2)	3,555	38.3	39.1	1	89
Carbon Monoxide (CO)	173,381	93.7	1.4	69	16
Benzene	1,643	73.6	7.1	71	12
1,3-Butadiene	430	92.6	0.0	85	6

Source: GLA

Pollutants from road Transport in London are far more significant than air pollutants from industrial sources compared with the rest of the UK where although high, air pollution from industrial sources accounts for more of the pollutants than in London.

Will the congestion charge reduce air pollution?

According to research it is thought that the scheme will have little impact on the air quality.

This is because the congestion charging scheme will affect only a proportion of car activity during the working day. It will have little effect on vans or Lorries but may result in increased bus and taxi activity, two categories of vehicle with higher levels of emissions.



It is thought that more increased taxi and bus journeys will add to air pollution

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It is thought possible that the proposed discounts for alternative-fuel vehicles may encourage more of these vehicles to be used for journeys into the charging zone and consequently for trips elsewhere in London. In the longer term this could produce additional air quality benefits.

An alternative in Singapore



Key facts:

- Population 3,665,920
- City covers 647.5 sq km
- Total vehicles in city number about 707,000
- Charging area is much smaller than London. The scheme operates in two areas: the central business districts - where the scheme applies from 7.30am to 7.00pm; and expressways/outer ring roads - where charges apply in the morning between 7.30am and 9.30am
- ERP (Electronic Road Pricing) system was introduced in 1998. It replaced a manual road-pricing system (with officers making visual checks at each entry point) that was in place from 1975
- CashCard, which is fixed to vehicle windscreen, can be bought or topped up at retail outlets, banks, petrol stations and automatic machines
- Different charges operate for different roads at various times: they are automatically deducted from the CashCard as the vehicle passes under gantries

Benefits:

- Immediate reduction of 24,700 cars during peak times and a 22% increase in average traffic speed
- Traffic in the zone reduced by 13% during charging period
- Total vehicles cut from 270,000 to 235,100
- Car pooling has increased and there are fewer solo drivers
- Vehicle trips shifted from peak to non-peak times
- ERP system cuts down on the old paper-heavy system

Singapore: <http://www.lta.gov.sg>