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Dear London Assembly Member,

London Assembly Transport Committee investigation into cycling in London: TfL's submission

As you will be aware, the Mayor is passionate about cycling in the Capital. He is committed to making London a city famed not only for the number of cyclists, but also for the way in which they are looked after, through the provision of appropriate infrastructure, training for road users and a dedication to cutting the number of cyclist casualties.

Our written submission provides significant detail of the activity undertaken by the Mayor and TfL in recent years to deliver an astonishing increase in the level of cycling -- over 170 per cent on London's main roads (TLRN) in the last 11 years. An evidence based approach has delivered excellent value for money by focussing initiatives such as the flagship Barclays Cycle Superhighways and Cycle Hire on those journeys and individuals most likely to switch to cycling. This approach allied with record levels of investment and supporting measures such as cycle parking and education campaigns has been responsible for the progress so far.

The Mayor has established a target to achieve a 400 per cent increase in cycling by 2026 and growth to date shows that we are on track to achieve this. TfL's aim is to get more people cycling, more safely, more often, and it is this focus on cycle safety in particular, that is the subject of our submission and to which I am personally committed.

The publication of the Mayor's Cycle Safety Action Plan in 2010 set out the prioritised agenda for continuing the downward trend seen in cycle casualties over the last 10 years. Activity to reduce collisions between cyclists and Heavy Goods Vehicles (HGVs) is a priority area of action within the Plan, with half of all cyclist fatalities in 2011 involving an HGV or tipper truck.

As such, a focus on the freight operator industry has seen 5,000 lorry drivers trained in the last two years, improved safety equipment on vehicles, and over 7,000 people taking part in Exchanging Places events to raise awareness of the risks posed to cyclists by large vehicles. Informed by our understanding of the most common collision types, we are fully engaged with the freight industry to work together to improve cyclists safety. We would welcome the Committee's support in promoting further action by the freight industry to address this crucial issue.

In parallel, ensuring that infrastructure is designed to improve safety for cyclists is also a major area of activity. The 'Better Junctions' programme will help to ensure that all junctions on Barclays Cycle Superhighways and major junctions on the Transport for London Road Network (TLRN) are safe for cyclists. We will work closely with key stakeholder groups in delivering this programme to ensure that it is informed by their experience and knowledge.

Over the last ten years the rate of cycling casualties in London has fallen (with the rate of cyclist KSIs relative to cycle flow on the TLRN falling by 55 per cent between 2001 and 2010). Nevertheless, continuing this downward trend remains a key challenge in London. Proposals for meeting this challenge, as well as the overall challenge of increasing cycling in London, are being developed as part of the ongoing work of the Roads Task Force, the Mayor's draft Road Safety Action Plan and will also be considered within TfL's new business plan. Through these processes and resulting delivery programmes, we will continue to drive forward action to improve conditions for cycling through continued investment, strong political backing and a commitment to the safety of London's cyclists.

Yours sincerely,

PP Peter Hendy

Transport for London's written submission to the London Assembly Transport Committee's investigation into cycling in London

September 2012

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Executive Summary

London's Cycling Strategy

The Mayor has made clear his commitment to make London a cycling city, with all the transport, social, economic and environmental benefits this would bring. This transport strategy has an aim to increase cycling by 400 per cent from 2001 levels by 2026. Transport for London (TfL) has worked with a wide range of partners to develop a cycling strategy to achieve this target. This uses a data-led, evidence based approach, to focus initiatives on those areas and groups in the population that demonstrate the greatest potential to cycle. In this way, the sustained investment in cycling has demonstrated the greatest value for money, through matching spend with locations where cycling take-up, or safety improvements would have the greatest effect. Specific initiatives (such as support for cycling in schools and the Community Cycling Fund for London) have also sought to broaden the appeal of cycling to a wider audience.

Supporting this strategy have been record levels of investment in cycling over the last four years. TfL, borough and third party funding has increased to the point where levels of investment are now approaching those of other leading European cycling cities.

The result of this strategy and the accompanying investment has been the delivery of three flagship schemes, forming the centrepiece of the Mayor's cycling approach:

- Barclays Cycle Hire - provides an alternative transport solution for short trips in inner London.
- Barclays Cycle Superhighways – radial commuter routes to central London, incorporating a package of measures to support cycling.
- Biking Boroughs – a locally led programme of 13 Outer London boroughs working to raise the profile of cycling to deliver a step change in mode share.

Alongside and supporting these flagship schemes, is a range of complementary activity such as cycle parking delivery, cycle training, cycle security measures and cycling campaigns that have led to the increases in cycling seen in recent times. Cycling across the Capital has increased by 70 per cent in this time which is also reflected in a wider embracing of cycling into the cultural life of the city.

Improving Cycle Safety in London

Cycle safety is at the forefront of ensuring that London becomes a 'cyclised' city, and the same evidence-led approach is used to ensure the strategy is correctly focussed. Over the last 10 years there has been a downward trend in the rate of

cycle casualties in London (the rate of cyclist KSIs relative to cycle flow on the TLRN fell by 55per cent between 2001 and 2010). However there has been an increase in the number of cycle casualties in recent years. TfL is working to ensure that the longer term trend of a reduction in the rate of cycle casualties continues. The recent increases should be viewed in the context of the high level of growth in cycling over the last 10 years.

The Mayor's Cycle Safety Action Plan was developed in 2010 with cycling and road safety experts drawn from stakeholder organisations and uses a data–led approach to focus safety initiatives on the prevention of collision types most likely to result in cyclists being killed or seriously injured. Activity to reduce collisions between cyclists and Heavy Goods Vehicles (HGVs) is a priority area of focus within the Plan, and London has become a world leader in the way in which it has approached improving safety between these vehicle types. Examples of the activity delivered include:

- A commitment to lorry driver training (4,987 drivers have been trained between 2010 (when training was introduced) and July 2012)
- Working to reduce the blind spots on large vehicles with improved safety equipment (including mirrors, side guards and sensors)
- Reviewing the operation and design of construction vehicles to identify where improvements can be made for cyclists' safety
- Identifying regulatory changes at the national and European level to improve cycle safety, including the fitting of side guards and sensors
- Exchanging Places events to raise awareness of the risks posed to cyclists by large vehicles (over 7,000 people have participated)
- The development of the Freight Journey Planner

Cycle training and education campaigns are important ways of helping new and recent cyclists to become more confident, skilled and aware of how to stay safe and this has formed a central feature of TfL's efforts to improve cycle safety.

Ensuring that infrastructure is designed to improve safety for cyclists is a major area of focus for TfL. The 'Better Junctions' programme is being overseen by a steering group involving a range of external stakeholders and is being delivered to ensure that all junctions on Barclays Cycle Superhighways and major junctions on the Transport for London Road Network (TLRN) are as safe as they can be for cyclists.

There is much that TfL can learn from international and national partners and these learnings have been embedded into scheme design and delivery, such as with Barclays Cycle Hire and the Barclays Cycle Superhighways. TfL continues to urge the Department for Transport (DfT) and the European Commission (EC) to improve regulations and legislation so that conditions for cycling in the Capital can be made better.

Where next?

A great start has been achieved, resulting in significant increases in levels of cycling. Through adopting a collaborative approach with TfL's key delivery partners, especially London Boroughs, this increase in cycling should continue, whilst ensuring a downward trend in the rate of cyclists killed or seriously injured on London's roads. TfL aims to get more people cycling, more safely, more often. Through a continued focus on the flagship schemes with supporting measures alongside, London is on track to become a truly cyclised city.

Introduction

The Mayor's Vision

The Mayor of London has an ambition to create a 'cyclised city'– a civilised city where people can ride their bikes safely, enjoyably and free from harm. He sees cycling as a great way to get around and recognises the enormous social, environmental, health and financial benefits it has to offer. In his transport strategy (2010), the Mayor set out his aim to achieve a 400 per cent increase in cycling journey stages per day between 2001 and 2026, resulting in the bicycle being used for five per cent of all trips within the Capital.

The Capital stands out in the UK as leading the way in its efforts to increase levels of cycling. The Mayor's approach builds on early work through the period 2000-2008 to increase cycling in London and he has taken the investment, commitment and senior Transport for London (TfL) management time dedicated to cycling to unprecedented levels.

More people cycling, more safely, more often

The Mayor, TfL and its delivery partners are working to make cycling a 'mainstream' form of transport and to make it safer through the implementation of a varied package of measures across its programmes. These include:

- **Build:** the building of infrastructure that improves safety, caters for the needs of cyclists and the types of trips they make, ensuring they are fully considered in all scheme designs and provided for with key facilities such as parking;
- **Support:** supporting existing and new cyclists through training, education and information resources;
- **Promote:** encouraging Londoners and visitors to consider cycling through promotional activity and ensure they know how to avoid collisions and stay safe.

To ensure that these programmes are as effective as possible and represent good value for money, resources are concentrated on encouraging people with the greatest potential to cycle and on improving cycle safely.

As a result of this work, the last decade has seen a reversal of decades of decline in cycling and good progress is being made towards achieving the Mayor's target for a

five per cent mode share by 2026. Between 2001 and 2010[1] the number of cycling journey stages made each day across London increased by 70 per cent and cycle flows on London's main roads have increased by 173 per cent between 2001 and 2011. This phenomenal growth has broken the mould of the national picture, where cycling in much of the UK continues to decline.

The progress made has been brought about by joint working between TfL and the boroughs, the Metropolitan (Met) Police and non-government organisations such as Sustrans, the London Cycling Campaign, Road Peace and Freight Transport Association, and through the enthusiastic efforts of London's cycling retailers and manufacturers.

Section one *of this report will describe the above activity in detail.*

Safety

Work to improve cycle safety has underpinned all of the Mayor and TfL's work to improve cycling in London. TfL's draft Road Safety Action Plan sets out our ambition in this regard. The target is to reduce the number of people killed or seriously injured in London by 40 per cent by 2020. The Plan particularly focuses on how the number of collisions involving vulnerable road users will be reduced, and builds on the actions set out in the Mayor's Cycle Safety Action Plan which was published in 2010.

Section two *of this report will describe the above in detail.*

Future plans

We now aim to build further on our achievements to sustain the cultural and behavioural changes that support the growth of cycling and lead to safety, environmental, health and economic benefits for the Capital. This will be brought about through investment to improve cycle routes and junctions, improve safety and get more people on their bikes.

Achieving the Mayor's vision presents some significant challenges and these will only be overcome through TfL, the DfT, boroughs, schools, the Met and non-government organisations all working together to achieve this common goal. While TfL needs to set the strategic direction on cycling, provide appropriate levels of

[1] 2010 is the most recent year for which this type of data is available. Data for 2011 will be available late 2012/early 2013.

resources and improve its own road network, changes to London's physical, environment and transport culture can not be achieved by TfL alone.

With responsibility for 95 per cent of London's roads, boroughs will play a particularly important role in transforming spaces in our city so they are welcoming to cyclists. As such, working with the boroughs on their Local Implementation Plans (LIPs) and prioritising cycle safety through the Biking Boroughs programme will be as important as ever.

Government also needs to play a stronger role by bringing forward changes to legislation and regulations so that TfL and London boroughs can implement innovative new ways of improving safety and so enforcement against anti-social road user behaviour can be made easier for the police.

The purpose of this report

This report is submitted as evidence by TfL to the London Assembly's Transport Committee to inform their investigation into cycling in London.

The purpose of the Transport Committee's investigation is threefold:

1. To identify the issues facing current cyclists, and the barriers to potential cyclists;
2. To examine the plans proposed by the Mayor and TfL to improve cycle safety and increase cycling modal share; and
3. To generate recommendations to the Mayor and TfL to improve the cycling environment and cycle safety in London.

The Transport Committee will meet twice during the course of its investigation. The first meeting was on 12th July at which the London Cycling Campaign, Sustrans, British Cycling, CTC National Cyclists Organisation and the London Borough Cycling Officers Group (BCOG) formed a panel to provide verbal evidence to the committee. These and other stakeholder organisations were also asked to submit written evidence to the committee. In addition, members of the public were invited to make comments at the committee meeting and to submit written evidence.

The Transport Committee will meet again in September. The committee have asked TfL, the Dutch Cycling Embassy; an academic from UEL, the Freight Transport Association and a representative from Copenhagen Traffic Department to form a panel and be questioned.

The structure of this report

This report is laid out in three parts:

Section 1: provides an overview of TfL's evidence-led approach to increasing levels of cycling in London.
Section 2: provides detailed information about the work of TfL and its delivery partners to improve cycle safety.
Section 3: summarises some of the key points in this document and describes how TfL plans to take forward its work to encourage more people to cycle more safely and more often in the Capital.

The report includes:

- Contextual information about TfL's approach to increasing levels of cycling and making it safer over the last 10 years
- Specific information requested by the London Assembly. **Table 1** below indicates in which sections of this report the information can be found.
- TfL's response to the committee's summary of evidence submitted to them verbally and in writing by stakeholders and members of the public in July 2012 (see **Table 2**)

Table 1: Information requested by committee

Information requested by committee	**Section number**
Overview of current and future action being taken to improve cyclists' safety	-
A summary of all TfL's current and planned cycle safety physical infrastructure measures	Section 2.6
A summary of all other measures that TfL has implemented or will implement to improve cyclists safety	Section 2
Any international and/or national examples of good practice in cycling safety that TfL is learning from	Section 2.7
Increasing cycling and cycling safety – cycle superhighways	Section 2.6
The average number of cyclists using the four Cycle Superhighways per day	Section 1.6

The number of casualties/cyclists killed or seriously injured (KSIs) each year on the superhighways	Section 2.1 Appendix 2
The lessons learned from the first four superhighways with respect to: the numbers of cyclists using the routes; profile of cyclists using the route (gender, age, ethnicity, disability); and the number of casualties and cyclists KSIs	Section 1.5, 1.6 and 2.6
How lessons learned to date from the superhighways are being applied to the future superhighways	Section 1.5, 1.6 and 2.6
Road junctions review	-
The criteria for determining the priority order for the junctions to be tackled	Section 2.6
The criteria for determining the solutions to be implemented at each junction	Section 2.6
The steps, and timescales, in the junction review process i.e. from modelling potential options to a course of action being agreed and implemented.	Section 2.6
Other junctions that TfL is planning to redevelop not covered by the junction review	Section 2.6
The steps TfL has taken to develop proposals for the flagship sites at Vauxhall Cross and Greenwich as per the Mayor's commitment to the 'Love London Go Dutch' principles	Section 2.7
The process used when possible cycling improvements are judged to be in conflict with traffic flow	Section 2.6
Engaging cyclists	-
Details of the stakeholder groups which have been involved in the junctions review	Section 2.6
The extent of TfL's engagement with local communities in the areas identified as having high cycling potential in the Analysis of Cycling Potential report (2010)	Section 1.5
The ways in which TfL uses the Analysis of Cycling Potential report to decide where to deliver measures designed to improve cycling and cycling safety	Section 1.2
The work currently underway to increase cycling modal share in areas identified as having high potential i.e. Inner London beyond the Cycle Hire Zone, the Olympic area, Inner South London etc	Section 1.2 and 1.5
Expenditure and performance on cycling	-
The actual and planned TfL expenditure on cycling each year from 2008 to 2015. The total should be split between revenue and capital expenditure and broken down by different measures, such as: • Infrastructure/ engineering measures; • Freight/ logistics engagement; • Cycling training; • Business engagement; and • Other improvements.	Section 1.3 and Appendix 1
For the same period 2008 to 2015, all TfL's cycling performance indicators, such as: • KSI, and other casualties (and targets); • Cycling modal share (please provide both absolute numbers of cycle journeys and as a proportion of all journeys); and	Section 1.6 Section 2.1

• Proportion of TfL's total revenue and capital budget spent on cycling programmes, together with how this compares to transport authorities in other cities where known.	

Table 2: Further information covered by the committee in 12 July discussion

Committee discussion topic	Section number
There could be a range of reasons for the recent increase in cycling casualties in London	• 2.1 Cycle safety over time • 2.2 Cycle Safety Action Plan
The TfL junction review presents opportunities for wider safety improvements	• 2.6.4 Better junctions • 2.8 Work with the DfT and Europe to change regulations
Further work is needed to reduce the risks posed by HGVs to cyclists in London	• 2.3 Improving safety between HGVs and cyclists
Encouraging more cyclists may require rethinking road space for cyclists and others, including pedestrians	• Section 2.6 • 1.5.2 Barclays Cycle Superhighways
Cycling policy needs to be designed for all Londoners	• 1.2 The strategic approach to planning cycling delivery
More political and financial support may be needed to boost cycling	• 2.7 Learning from international good practice

Section 1 – London's Cycling Strategy

1.1 Introduction

The following section sets out TfL's cycling strategy. It describes how TfL uses quantitative and qualitative research to determine its priorities and to design where new cycling schemes should be implemented. It also provides information about the record levels of investment and human resources dedicated to cycling which are enabling efforts by TfL and the London boroughs to 'cycle–ise' London. Finally it describes what has been achieved so far.

1.2 The strategic approach to planning cycling delivery

This section answers the Transport Committee's questions relating to:

Engaging cyclists

- The ways in which TfL uses the Analysis of Cycling Potential report to decide where to deliver measures designed to improve cycling and cycling safety
- The work currently underway to increase cycling modal share in areas identified as having high potential i.e. Inner London beyond the Cycle Hire Zone, the Olympic area, Inner South London etc

As with other areas of transport planning, TfL's approach to cycling is based on detailed and robust data, analysis and market and customer research.

The approach involves:

- **Understanding the potential for cycling in London.** This has been done by firstly reviewing the number of trips currently undertaken in London by other modes that could be cycled, and where these trips are undertaken. Secondly, the analysis identified who currently cycles, and who would be most and least likely to cycle in the future.

- **Understanding the barriers preventing people from cycling.** The analysis predominantly looks at attitudinal data to understand what people feel about cycling, including why they do and do not cycle at present.

This research is described in detail below.

1.2.1 Cycling potential and cycle market segmentation

Two new tools have been developed in order to help TfL understand which trips could be cycled and who is most likely to make them.

The first tool is an analysis of cycling potential looking at the types of trips currently made by Londoners and where these are made. The second tool segments the cycle market and categorises people making potentially cycle-able trips according to socio-economic data. The tools are particularly effective when they are used in combination.

1.2.2 Analysis of cycling potential

The first tool, the analysis of cycling potential, is derived from TfL's London Travel Demand Survey (LTDS). The LTDS provides an insight into how Londoners travel and includes 19,000 households and 42,000 residents.

Using data from the LTDS, the analysis of cycling potential seeks to quantify the nature and extent of the potential for cycling in London, by identifying trips that are not cycled at present (as they are made by other modes) but which *could reasonably be cycled all the way* in the future.

Between 2005/06 and 2007/08, London residents made an average of 18.5 million trips per day by all modes. Of these, around 300,000 were already cycled and 5.8 million walked. The remainder, 12.4 million trips, were made by mechanised modes, primarily car, bus, underground and rail. The analysis explored whether or not these trips currently made by mechanised modes could potentially be cycled.

The assessment of the potential for these mechanised trips to be cycled in the future was completed according to set criteria or filters about the person and the trip. The criteria about both the person and the trip were based on the characteristics of currently cycled trips. **Table 3** describes the filters applied to the analysis. All trips that fell into these filter categories were excluded from the analysis because they would be unlikely to be cycled.

Table 3: Filters applied to trips made by mechanised modes

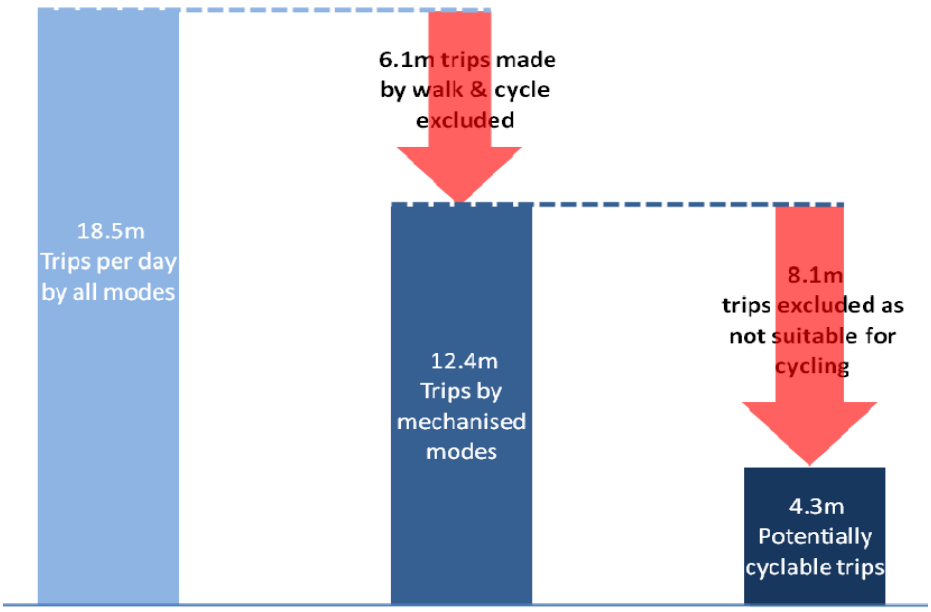
Filter - excluded trips	**Proportion of currently cycled trips**
Person carrying a heavy or bulky load	70 per cent of current cycle trips are unencumbered
Trip is longer than 8km	94 per cent of current cycle trips are currently below 8km

Trip would take over 20 per cent more time to cycle than by current mode	Based on a reasonable value of time estimate
Traveller is over 5 and under 64	95 per cent of current cycle trips are made by people in this age group
Trip is made between 6am and 8pm	93 per cent of current cycle trips are between 6am and 8pm
Traveller has a disability affecting their travel	96 per cent of current cycle trips made by those without a disability
Trip made by van, dial-a-ride, plane or boat	Trips by these modes not considered switchable

The analysis found that more than a third of journeys currently made by car or public transport could potentially be cycled, based on the characteristics of the trip and the person making it; 4.3 million potentially cyclable trips in total (**Figure 1**).

It should be noted that whilst 4.3 million potentially cyclable trips have been identified through this analysis, TfL recognises that many of the trips excluded by the filters could and would be cycled. Equally, there is much we do not know about the trips and it is likely that many of the trips identified here as potentially cyclable could not in fact be cycled in practice.

Figure 1: Process to identify potentially cyclable trips

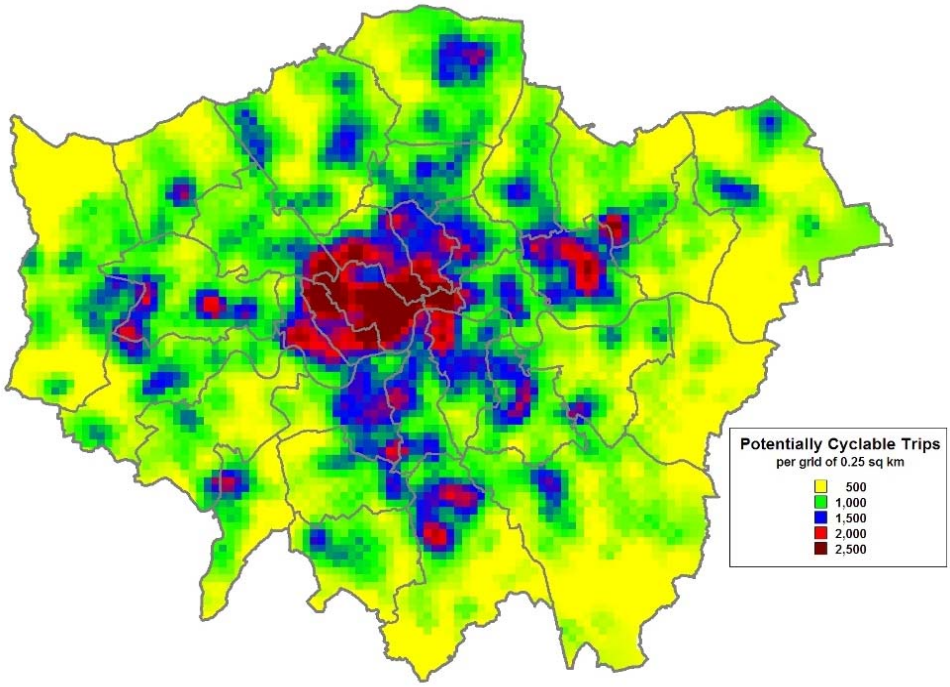


The geography of potentially cyclable trips

The potentially cyclable trips were plotted geographically to show the density of potentially cyclable trips by origin. **Figure 2** below demonstrates the results of this analysis. This allows TfL to consider where it may be best to focus its resources in encouraging people to take up cycling.

Those areas in dark red represent the areas of highest density of cycling potential with 2,500 potentially cyclable trips originating within 0.25sq km. More than half of all of the potentially cyclable trips identified are local trips which are dispersed across inner and outer London, marked in yellow and green on the heat maps.

Figure 2: Density of potentially cyclable trips by trip origin



1.2.3 Cycle market segmentation

The second tool TfL has used in understanding London's cycling potential is 'Cycle Market Segmentation'. The segmentation classifies the London population into seven segments in order to identify households most likely to cycle, or to be amenable to cycling in the future.

The segmentation was carried out using a range of socio-economic data sources that include information about people's behaviour and attitudes by postcode. The data sources included London's Travel Demand Survey, attitudes to cycling surveys and consumer classification data used extensively in mainstream market research. .

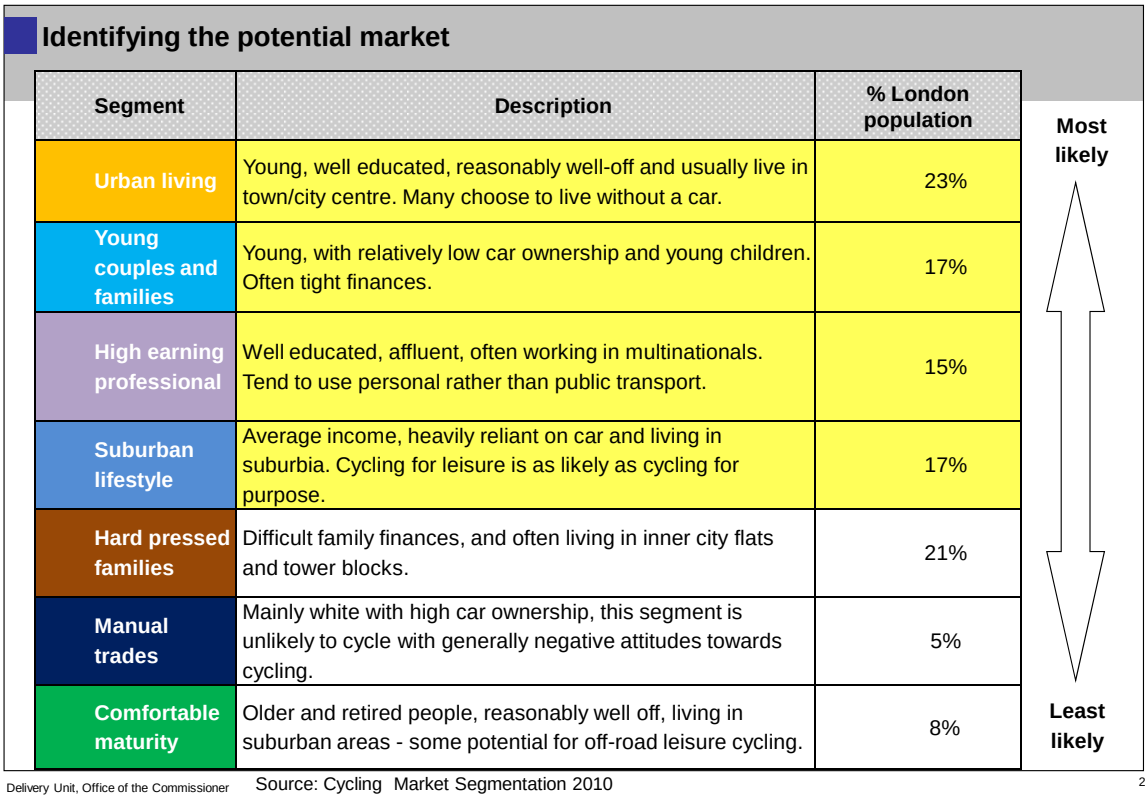
Each postcode in London is classified according to the average characteristics of its residents derived from the combined datasets. Because postcode zones are very small, resident populations tend to be highly homogeneous and therefore such classifications can be used with a reasonable degree of accuracy to predict behaviours, characteristics or attitudes.

The strongest influences on the segmentation were travel behaviour choices and demographics such as age, life stage and income. The segmentation examined the extent to which cycling frequency varies by demographic characteristics.

Cycle market segmentation - results

The seven segments identified, their definitions and the proportion of the London population within each segment, are presented in **Figure 3** in order of their propensity to cycle. For example, the 'urban living' category (made up of young professionals living in town and city centres) and 'young couples and families' (families with children, often from ethnic minority groups, living on the fringes of inner London) are the nearest market for cycling, whilst 'comfortable maturity' (older people living in the suburbs) are the least likely to consider cycling. The four segments shaded in yellow represent the 'near market' for cycling i.e. those groups who are most likely to cycle, or be amenable to cycling in the future. The three unshaded segments represent the 'far market' and would be likely to need more 'priming' to encourage them to consider cycling. As with the location of potentially cyclable trips, the nature of these different population segments suggests the need for different approaches to be used in order to reach different groups in the population. .

Figure 3: Description of London's Cycle Market Segments



Identifying the potential market

Segment	Description	% London population
Urban living	Young, well educated, reasonably well-off and usually live in town/city centre. Many choose to live without a car.	23%
Young couples and families	Young, with relatively low car ownership and young children. Often tight finances.	17%
High earning professional	Well educated, affluent, often working in multinationals. Tend to use personal rather than public transport.	15%
Suburban lifestyle	Average income, heavily reliant on car and living in suburbia. Cycling for leisure is as likely as cycling for purpose.	17%
Hard pressed families	Difficult family finances, and often living in inner city flats and tower blocks.	21%
Manual trades	Mainly white with high car ownership, this segment is unlikely to cycle with generally negative attitudes towards cycling.	5%
Comfortable maturity	Older and retired people, reasonably well off, living in suburban areas - some potential for off-road leisure cycling.	8%

Most likely

Least likely

Delivery Unit, Office of the Commissioner

Source: Cycling Market Segmentation 2010

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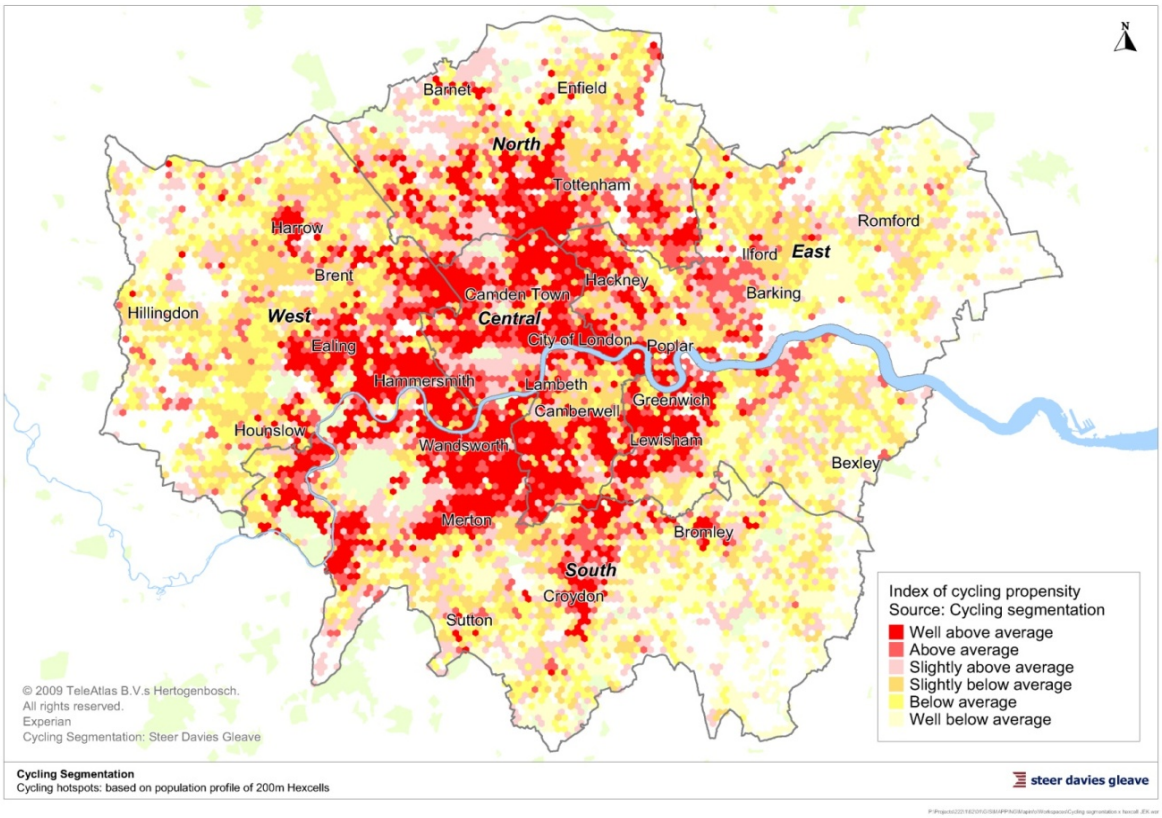
These groups were also mapped geographically to show where people with the highest propensity to cycle live across London. This is shown in **Figure 4.**

Figure 4: Propensity to cycle by postcode – from Cycling Market Segmentation



Combining analysis of potentially cycle trips and market segmentation

The next step in understanding London's cycling potential was to combine the findings from both of these tools and look at how many of the 4.3 million potentially cyclable trips were made by each of the seven segments.

Table 4 summarises the number and proportion of the 4.3 million potentially cyclable trips by market segment; the 'near market' segments are shaded. The table lists the propensity to cycle of each segment, indexed against average use so that 100 is average, above 100 is above average and below 100 is below average. The table shows that over 2.8 million of the potentially cyclable trips are made by the four 'near market' segments. This allows TfL to efficiently plan its products and services so they are attractive to those people most likely to take up cycling.

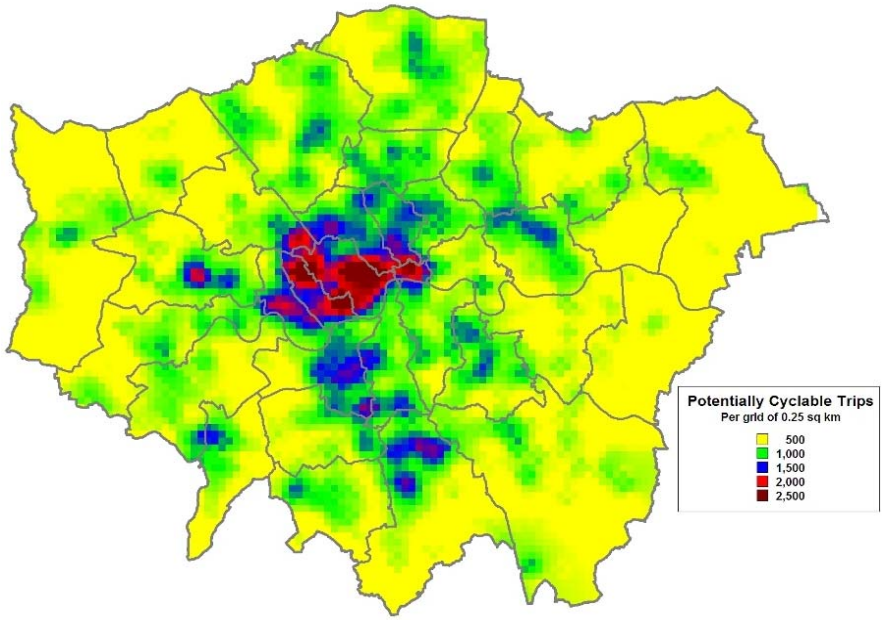
Table 4: Potentially cyclable journeys and propensity to cycle by segment

Segment	Propensity to cycle	Potentially cyclable trips	
		Number	Percentage
Urban living	140	903,500	21%
Young couples and families	113	632,800	15%
High earning professionals	106	546,700	13%
Suburban lifestyle	102	811,700	19%
Hard pressed families	85	839,600	19%
Manual trades	42	276,400	6%
Comfortable maturity	30	310,300	7%
Total	100 (average)	4,321,000	100%

Geography of the near market

Both the potentially cyclable trips and people with the highest cycling potential were also mapped geographically to show the areas with the highest density of cycling propensity across London. **Figure 5** shows the potentially cyclable trips made by people in the Urban living, High earning professionals, Young families and couples, and Suburban lifestyle segments by trip origin

Figure 5: Potentially cyclable trips by origin made by the four segments with an above average propensity to cycle.



Cycling potential and the Mayor's target for cycling

The Mayor has an aim to increase cycling by 400 per cent to a five per cent cycling mode share London wide by 2026 compared to 2001 levels. Meeting this aim requires approximately 1.5 million cycling journey stages to be made in London each day.

In 2010 (the most recent data available) 544,000 cycling journey stages were made each day in London. Therefore, to meet the Mayor's aim, nearly 1 million additional cycling journey stages are required each day. It is expected that many of the additional 1 million journey stages will come from the 4.3 million potentially cyclable trips identified through TfL's analysis of cycling potential, through people switching to cycling from a mechanised mode. One in seven of these trips would need to be cycled in order for the Mayor's target to be achieved. As described above only 2.9 million of these potentially cyclable trips are made by people with a high propensity to cycle. Of these, a third would need to be cycled to deliver the Mayor's target to increase cycling by 400% by 2026, compared to 2001 levels. It is unlikely that every one of these trips would convert to cycling – even someone who has taken up cycling is unlikely to make all of the trips they could by bike. Therefore, achieving the Mayor's target is considered to be a challenging but realistic ambition.

As new areas of the city develop and grow, London's population will change. New development areas will provide high quality facilities for cycling. As a result, these areas are expected to generate higher cycling mode shares than some other areas of the Capital and will make an important contribution to achieving the Mayor's aim for cycling to account for five per cent of all journeys made in London each day.

This analysis has shown that the potential is there to meet the target, though this will not be possible without targeted interventions to encourage existing cyclists to cycle more and non-cyclists to take up cycling.

The full *Analysis of Cycling Potential in London* report, published in 2010 is available online: http://www.tfl.gov.uk/assets/downloads/corporate/analysis-of-cycling-potential.pdf.pdf

1.2.4 Understanding the barriers to cycling

In parallel with understanding where the cycling potential is in London and the types of people who are most amenable to cycling, TfL has also undertaken research to understand the barriers to people cycling. TfL used its annual *Attitudes to Cycling* reports and other customer research to identify these barriers, and found a number of physical barriers to cycling, as well as attitudinal or perceived barriers. These are summarised in **Table 5.**

Table 5: Barriers to people cycling in London

Physical Barriers	Attitudinal Barriers
• Access to a bicycle • Lack of cycle parking • Lack of changing facilities • High traffic speeds • Provision for cyclists – lanes and at junctions • Severance, e.g. major roads • Poor road surface	• Perception of safety • Lack of confidence • Convenience of the car • Not seen as compatible with complicated lifestyles • Poor image of cyclists • Getting hot and sweaty • Fear of theft/security issues • Traffic volumes

TfL's cycling delivery strategy uses a range of different measures to overcome each of these barriers to cycling as well as finding ways of giving people a positive incentive to start cycling or cycle more. **Section 1.5 sets out the** range of programmes which have been designed to tackle these barriers.

1.2.5 Using cycling potential analysis to inform TfL's cycling programme

Drawing on TfL's demographic and geographic analysis, three areas for focus were identified that could create a step-change in cycling:

1) Short hops in central London

Central London needed a scheme that could help people get around town quickly for short trips. Barclays Cycle Hire has met some of this need, with around 30,000 journeys made by hire bicycle every weekday. From commuters travelling onwards from the major rail termini, to tourists exploring London's parks and historic attractions, the scheme has encouraged many people to give cycling a try for the first time, with nearly half of all cycle hire members new to cycling in London. The cycling potential analysis has also informed the proposed expansion into west and southwest London. **See section 1.5.1** for more details on Barclays Cycle Hire.

2) Commuter journeys from Outer to Inner London

The potentially cyclable trips analysis also found that nearly 400,000 of the 4.3 million trips that could be made by cycle per day were made every day involved commuter travel between inner and outer London and the centre. Once complete in 2015, the Barclays Cycle Superhighways will comprise 12 radial routes, providing cyclists with a safer, faster, more direct and continuous way into central London. In

addition to building the routes, potential customers are supported to use them through training and parking facilities provided both within their home borough and their workplace. The routes are also promoted to potential users commuting along similar routes by other modes, such as London Underground lines that run parallel to the routes.

Four routes have opened to date, and cyclists using them typically report their journey to be better and safer, and as a result have increased the amount that they cycle. Forty-seven per cent of Route 8 users and 35 per cent of Route 2 users did not cycle as often before these routes were opened. **See section 1.5.1** for more detail**.**

3) Cycling in Outer London

Fifty four per cent of the 4.3 million potentially cyclable trips are made in Outer London. These include more than one million journeys that would take less than 10 minutes to cycle every day. A number of town centres in outer London were found to have a particularly high density of cycling potential, for example Ealing and Croydon. However, the particular challenge that was faced was that unlike many of the trips in central and Inner London, a large proportion of the trips in Outer London were identified as dispersed across broad geographical areas. The Mayor's Biking Borough programme is designed to unlock these potential cycling trips. Thirteen boroughs are part of the programme and all are combining measures to 'build', 'support' and 'promote' enhanced cycling environments.

Wider use of TfL's analysis of cycling potential

These 'flagship' schemes have been supported by a wide variety of other cycling initiatives and supporting measures, to overcome the barriers to cycling and to support the Mayor's aim to increase levels of cycling without a corresponding increase in the number of cycling collisions.

TfL has presented and shared its findings and data with the London boroughs in order for them to effectively use the findings to inform their LIP programmes. This has enabled the boroughs to develop their projects and schemes that meet the needs of cyclists, effectively target particular geographical areas and groups of people to encourage more cycling trips. **See section 1.5.1** for more detail.

1.3 Investment in cycling

This section contains answers to the following of the committee's questions:

Expenditure on cycling

The actual and planned TfL expenditure on cycling each year from 2008 to 2015. The total should be split between revenue and capital expenditure and broken down by different measures, such as:

- Infrastructure/ engineering measures;
- Freight/ logistics engagement;
- Cycling training;
- Business engagement; and
- Other improvements.

1.3.1 Record levels of investment

In recent years London has benefited from unprecedented levels of investment in cycling, which has enabled the delivery of many new and exciting programmes. This is helping to transform cycling from a transport mode used by the minority into a major transport mode. These projects and programmes are detailed in **section 1.5**.

The level of financial support for cycling has increased significantly in the last four years compared to the early years of TfL's existence.

TfL's annual direct investment in cycling increased nearly forty-fold between 2003/4 and 2010/11. In 2010/11, £99.3m was invested in cycling, compared to £2.6m in 2003/04. In 2003/04 cycling spend only represented 0.38 per cent of TfL Surface Transport's total spend, compared to 7.95 per cent in 2010/11.

Between April 2008 and March 2012 TfL spent over £230m directly on cycling (see appendix 1). This compares with £43.8 million spent on cycling in the previous four year period (April 2004 – March 2008).

The allocations for the current financial year 2012/13 include funding for better junctions for cycling; cycle parking; Superhighways, Biking Boroughs; cycling routes and schemes (including Greenways) and safety schemes. The full breakdown can be found in **appendix 1**.

Unfortunately TfL has not been able to provide information about investment plans for future years because discussions about TfL's new business plan are ongoing. TfL is happy to update the committee with information about budget for future years as soon as this information becomes available.

1.3.2 Borough funding

Up until March 2010, TfL provided boroughs with ring-fenced funding for cycling. Between the financial years of 2003/04 and 2009/10, TfL increased their 'ring-fenced' cycling scheme funding allocations to boroughs from £11m to £16.8m.

In 2009 London Councils and the Mayor of London signed the City Charter, a central tenet of which was to give the boroughs greater flexibility over how to spend local transport funding and to allow them to make spending decisions in line with local priorities while delivering the goals in the Mayor's Transport Strategy (MTS). Consequently, TfL has significantly simplified the number of funding streams and removed any 'ring-fencing'. As a result, it is now down to the discretion of the London boroughs to decide what proportion of LIP funding should be invested in cycling (since 2010/11).

Boroughs now provide TfL with an annual estimate of the total LIP expenditure on projects which have contributed to improving conditions for cycling. For the financial year 2011/12, this amount was estimated to be £10.9m, with £28.1m allocated for the financial year 2012/13.

Appendix 1 breaks down all the cycling investment by TfL and the boroughs since 2003.

Many other aspects of TfL's delivery programmes also contribute to improving conditions for cyclists, from road surfacing to engagement with the freight industry.

In addition to TfL's work to improve conditions for cyclists, further funding and resources are leveraged in through a network of partnership working. Notable examples include:

- Barclays Bank multi-million pound sponsorship of the Cycle Hire and Cycle Superhighways schemes
- £10m ODA funding for the Olympic Walking and Cycling Routes
- Network Rail Cycle parking funding of £700k over two years. This funding is in addition to TfL's allocation of £2.3m this financial year, and will be administered by TfL through a joint programme
- Joint working with NHS London
- £15m extra funding from central government to support work to make London's junctions safer
- Offers from London's Retailers and Manufacturers Forum

1.3.3 Spend per head in London compared with European cities

TfL's expenditure on cycling has significantly increased over the past ten years, with levels of investment now approaching those of other leading European cycling cities.

London's cycling funding in the 2011/12 financial year equates to an estimated £10.21 per head compared to £1.70 per head in 2003/04. This can be compared to estimated figures for other European cities, as provided by the European Cyclists Federation:

- Copenhagen – £20 per head
- The Netherlands – 25 Euros (c.£20) per head (based on the combined investment of all Dutch transport authorities)
- Germany – between 8 to 19 Euros (c.£6 - £15) per head as recommended by the newly drafted German National Master Plan 2013–2020 and determined by the 'status of the cycling city' (starter, climber and champion cycling cities)

These record levels of investment in London's cycling infrastructure and in programmes to support people to start cycling have been sustained, even in the context of the economic downturn and demonstrate that the Mayor, TfL, the boroughs and central Government remain committed to transforming London into a cyclised city.

1.4 Governance

1.4.1 TfL team structure

One of the most important changes that has occurred in TfL since in the last few years in relation to cycling is the range of teams who are now engaged in activities that support cycling and the amount of senior management effort devoted to this issue. From 2004 to 2010 the primary responsibility for cycling lay with the Cycling, Walking and Accessibility team within Surface Strategy. This team achieved significant results with the resources available to them, but the level of organisational and management resources now devoted to cycling has grown out of all recognition when compared to TfL's early years.

Table 6 below shows the senior managers across TfL whose teams contribute to the delivery of the Mayor's cycling agenda.

Table 6: Senior management responsibility for cycling within Transport for London

Name	Title	Directorate	Role in Cycling
Leon Daniels	Managing Director	Surface Transport	Responsible for all Surface Transport business areas, directorates and modes
Garrett Emerson	Chief Operating Officer	Surface Transport	Responsible for Traffic, Roads, Congestion Charging and Traffic Enforcement, Barclays Cycle Hire and Taxi and Private Hire directorates within TfL
Ben Plowden	Director of Planning	Surface Transport	Responsible for planning and overseeing delivery of programmes designed to improve cycle safety and increase the numbers of people cycling in London, including work with schools, workplaces and the freight industry
Alan Bristow	Director, Traffic	Surface Transport	As TfL's Traffic Manager, responsible for the performance of the Transport for London Road Network (TLRN) and the safe design, operation and maintenance of all traffic signals in London, including those on borough roads.
Dana Skelley	Director, Roads	Surface Transport	Responsible for the design and delivery of all engineering schemes on the Transport for London Road Network, including all cycling schemes and the Better Junctions Review. Also responsible for the Barclays Cycle Superhighways programme.
Nick Aldworth	General Manager, Cycle Hire	Surface Transport	Responsible for the delivery and operation of Barclays Cycle Hire.
Richard De Cani	Director	Transport Strategy and	Responsible for the long term transport planning for London, including cycling's role in meeting travel demand in

		Policy	planning for the growth of the city, and TfL's statutory role in commenting on the transport elements of planning applications.
Chris Macleod	Director	Marketing	Responsible for all of TfL's marketing and promotional activity relating to cycling
Stuart Ross	Director	Press Office	Responsible for all press and media relations, including those relating to cycling
Steve Burton	Director Community Safety, Enforcement and Policing	Surface Transport	Responsible for specifying the strategic direction and performance management of TfL funded transport policing resources including the Metropolitan Police Service (MPS) Safer Transport Command (including it's roads policing resources and the Cycle Task Force), production of the Cycle Security Action Plan and for co-ordinating TfL's overall relationship with the MPS.

1.4.2 Cycling Programme Delivery Steering Group

The TfL cycling programme is governed by the Cycling Programme Delivery Steering Group (CPSG) which meets on a monthly basis. This group is formed of senior managers from across TfL whose departments are directly or indirectly involved in the delivery of cycling related programmes and includes the following areas of representation:

- Cycling policy
- Cycling research and data analysis
- Cycling infrastructure (including Barclays Cycle Hire and Cycle Superhighways)
- Security and policing
- Marketing and communications
- Behaviour change
- Press

The CPSG is chaired by Surface Transport's Director of Planning, who is ultimately responsible for the delivery of cycling related outcomes.

TfL also reports regularly to the Deputy Mayor for Transport on cycling issues through the weekly meeting she holds with TfL's Managing Director for Surface Transport.

1.4.3 TfL Cycling Working Groups

Supporting the CPSG are a number of working groups that govern and oversee the delivery of specific cycling related work areas, and which include both internal and external stakeholders. These groups include the Cycle Safety Working Group, which oversees the delivery of the Cycle Safety Action Plan[2] (please **see section 2.2** under the Cycle Safety Action Plan), Barclays Cycle Superhighways and Cycle Hire project boards, Cycling Junction Review Group and Cycle Security and Cycle Parking Programme groups. These groups report into the CPSG.

TfL cannot achieve the changes needed to turn London into a cyclised city alone. Many of these working groups include membership from organisations outside of TfL such as boroughs, the Met, charities and trade bodies. The contribution these organisations make is vital to achieving the Mayor's objectives to improve cycling and make it safer. Their continued support, together with director-level leadership from TfL and record levels of investment are driving forward the changes needed to transform the Capital into a cyclised city. The following section will summarise what has been delivered with this investment.

[2] http://www.tfl.gov.uk/corporate/projectsandschemes/15480.aspx

1.5 Overview of delivery and outputs 2000-2011

This section answers the Transport Committee's questions relating to:

Engaging cyclists:

- The extent of TfL's engagement with local communities in the areas identified as having high cycling potential in the Analysis of Cycling Potential report (2010)

Increasing cycling and cycling safety – cycle superhighways:

- The lessons learned from the first four superhighways with respect to: the numbers of cyclists using the routes; profile of cyclists using the route (gender, age, ethnicity, disability);
- How lessons learned to date from the superhighways are being applied to the future superhighways

The level of delivery of cycling improvements has ramped up significantly in recent years. As outlined in earlier sections of this report, the analysis of cycling potential enabled TfL to focus its resources on areas where there was the highest potential. The unprecedented level of investment has enabled a broad range of cycling projects to be delivered to unlock new cycling trips and make cycling safer.

TfL has developed an integrated combination of measures including infrastructure, training, safety, security and communication projects in order to increase levels of cycling in areas of high potential and to reduce the number of collisions involving cyclists.

1.5.1 Major schemes to harness potential

TfL is delivering three major schemes across three main geographical areas as identified through the analysis of cycling potential to encouraging shorter hop trips in central London, radial commute trips from inner and outer London to the centre and more cycling trips in outer London.

Barclays Cycle Hire

Barclays Cycle Hire provides an alternative transport solution for short trips in central and inner London. Its aim is to make bikes easily available for all and to break down some of the barriers which stop people taking to two wheels. The approach was to build the scheme, support those who wish to use it and ensure a wide reaching marketing campaign supported and encouraged bikes to be hired and used specifically for the short hops the scheme was intended for.

The scheme launched on 30 July 2010 and initially covered 45 sq km of central London, roughly within the Zone 1 area. It was extended eastward in time for the 2012 Olympic and Paralympic Games and the expanded area adds a further 20 sq km, to cover Canary Wharf and most of the London Borough of Tower Hamlets and north Shoreditch, with additional small extensions north to Camden Town and west through Notting Hill to Westfield London in White City. The scheme now covers around 65 sq km of the Capital with some 560 docking stations and 8,300 bikes available to the public.

Over 16 million journeys have now been made by hire bikes, with 30,000 hires per day on average and a recent record high of 47,000 trips in one day (10 August 2012). Over 160,000 people have joined the scheme as members since its inception. Casual usage of the scheme has increased over time, with weekends and public holidays seeing around 50 per cent of all bikes being hired by non-members.

Other benefits of the cycle hire scheme include:

- Normalising cycling in everyday clothes: From the mudguards and chain-guard to the step-through frame, cargo basket and onboard lights, Barclays Cycle Hire bikes were designed to be used in everyday clothing – no specialist cycling kit needed.

- Getting people on a bike: Nearly half (47 per cent) of Barclays Cycle Hire members have reported in customer surveys that they started cycling in London as a result of the scheme's introduction

- Contributing to the growth in cycling: Currently at 30,000 trips per day, Barclays Cycle Hire accounts for more than five per cent of all cycling trips in London.

- Encouraging cyclists on to their own bikes: At least six per cent of members have bought a bicycle as a result of using Barclays Cycle Hire, and a further 29 per cent of members have increased the amount they cycle on their own bicycle as a result of the scheme.

- Providing an alternative to motorised modes: 63 per cent of members use it instead of motorised modes

- Offering the opportunity to use a cycle where the household has none: some 30 per cent of members have none

- Providing bikes as a backup to a cyclist's own bike: for example when their own bike is being serviced or gets a flat during the journey

- Providing an affordable transport option: At £1 a day, £5 a week or £45 a year (which equates to just 12p a day), Barclays Cycle Hire is a very cost-effective option for getting around central and inner London, thereby breaking down barriers to cycling arising from the cost and initial outlay for a bike.

To support the launch of the Hire scheme, TfL funded 2,070 additional cycle parking spaces and the provision of free cycle training, in recognition of the number of people who may have been new to cycling in London. The scheme was promoted through a number of channels including through businesses and partner organisations.

TfL is now planning the future of the scheme and is working closely with partner boroughs. TfL is particularly keen to broaden the range of customers that make use of the scheme, making cycle hire a mode of transport that everyone enjoys using.

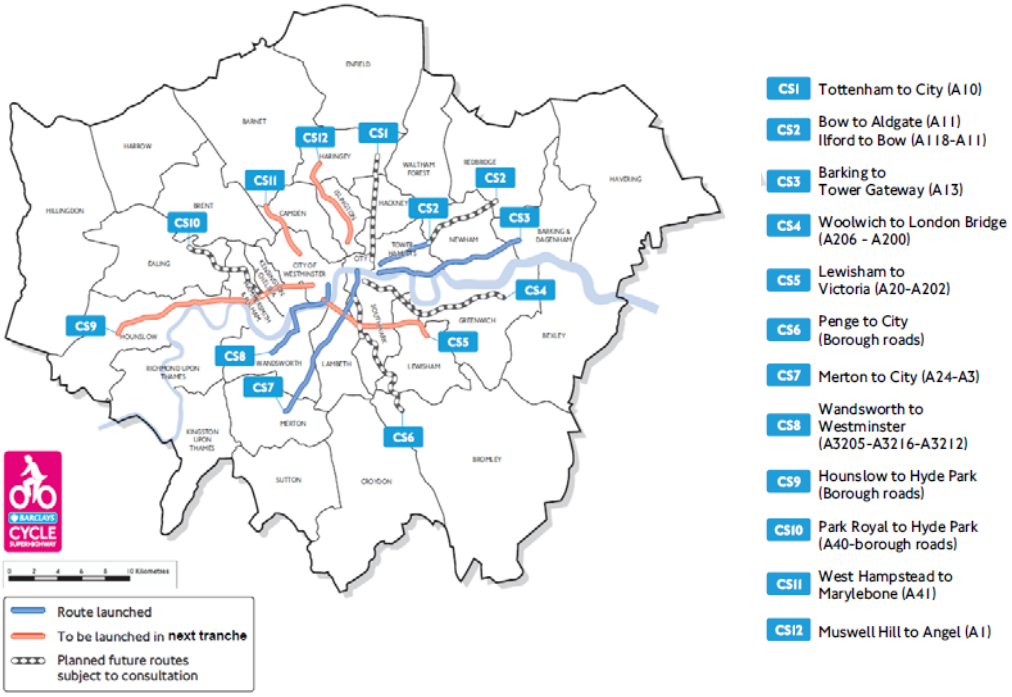
Barclays Cycle Superhighways

The Barclays Cycle Superhighways programme is a package of measures encompassing infrastructure improvements and measures to support people living and working along the routes to take up cycling and cycle more. This is the first time that a major infrastructure programme has been delivered alongside marketing and support initiatives in this way.

The routes are designed to provide for radial commute journeys to and from central London, harnessing the user demand identified through TfL's analysis - nearly 400,000 potentially cyclable journeys are made every day involving commuter travel between inner/outer London and the centre.

The infrastructure has been designed and planned in close liaison with the boroughs and stakeholders and the routes provide safer, more direct, continuous and comfortable riding surfaces to get from outer and inner to central London by bicycle along recognised commuter routes.

Figure 6: Map to show the route of the 12 Barclays Cycle Superhighways



Four routes have been introduced so far and include safety improvements at junctions, resurfacing sections of carriageway to provide a comfortable riding surface, distinctive wayfinding measures to help cyclists navigate, and innovative improvements such as safety mirrors at left-turn junctions. For example, the construction of CS2 involved major improvements at key points such as the Cambridge Heath Road junction with Mile End Road, making the area more easily negotiable for cyclists and pedestrians while also improving the junction for traffic. A further eight routes will be complete by 2015 (see **figure 6**).

In addition to the routes themselves, the programme includes supporting measures designed to encourage more people to take up cycling and use the routes safely. This includes working with businesses along the routes to offer cycle training, parking and promotional tools to encourage greater numbers of employees to start cycling to work, and supporting people living at the 'home end' of the routes by providing cycle training and parking delivered through the boroughs.

At the time of writing, the Cycle Superhighways supporting measures programme has delivered 8,155 cycle parking spaces, provided cycle training for 6,900 people and carried out 8,600 cycle safety checks on bicycles.

Barclays Cycle Superhighways Lessons Learned

TfL has been carefully monitoring the programme and there have been a number of lessons learned from the four existing routes both in relation to the design and delivery of the highway infrastructure and in relation to the supporting measures programme. These lessons will be fed into the design and development of future schemes and programmes, and includes:

Infrastructure, junctions and routes

- Tailor the length and alignment of each route using demand analysis
- Provide improved connectivity to and around the route, including reviewing signage
- Significantly improve major junctions where possible to provide direct cycling routes. Where this is not possible, provide an alternative route
- Provide improved conditions for cycling by extending times of operation of bus lanes, mandatory cycle lanes and parking and loading restrictions. However, this needs to be considered in the context of attaining a good balance in level of service for all road users, local businesses, and residents
- Recognise the key role of continuous coloured surfacing and branded signage in cyclists' wayfinding
- Ensure Cycle Superhighways Design Guidance is updated to reflect knowledge gained from emerging research into cyclists' road positioning, with the aim of guiding cyclists to the recommended position in line with national standard cycle training advice
- Ensure all locations are considered on a site by site basis and designed accordingly, taking into account the competing demands from cyclists, motor traffic, freight and pedestrians
- Owing to the sharp increases in usage of Cycle Superhighway routes post-launch, facilities should be appropriately designed for predicted cycle flows and journey time expectations

Supporting measures

- Providing additional hands-on support to make it easier for businesses to sign up to workplace offerings, thus reducing drop out rates
- Changing the eligibility criteria so that smaller businesses can also access what is on offer in terms of cycle parking spaces, safety checks and cycle training for their employees
- Reviewing the range of interventions offered to Boroughs for residential and on-street cycle parking, cycle safety checks and cycle training to ensure that only those packages of measures that offer the greatest value are offered
- Planned development of a residential cycle parking guide to ease the delivery of residential cycle parking and overcome some of the barriers to

getting it delivered. This will ensure lessons learnt and best practice is captured for the benefit of other boroughs going through the programme
- In order to increase cycle training uptake, best practice from boroughs that have high uptake of training is being shared across the London boroughs and a new online cycle training module available from late September 2012 will be promoted
- Uptake of courses for commercial drivers focusing on vulnerable road users has been significant. As a result, the budget for training has been increased

Customers

- The majority of cyclists using the routes are commuting (85 per cent) compared to 37 per cent of all cyclists in London
- The vast majority of cyclists on the routes are of working age. 73 per cent of those cycling on all four routes were aged 25 to 44, and 21 per cent were aged 45 to 59
- 79 per cent of those cycling on the routes are male and 21 per cent female
- On all four routes, around nine in ten cyclists were of White British, Irish or other White ethnic origin: 85 per cent on Barclays Cycle Superhighways Route 3 (CS3), 88 per cent on route CS2, 91 per cent on Barclays Cycle Superhighways Route 7 (CS7) and 96 per cent on Route CS8. For comparison, 70 per cent of all London's commuters are White British, Irish or other White ethnic origin.

Barclays Cycle Superhighways - next steps

The next Superhighways to be constructed will be the CS2 extension to Stratford Town Centre in Newham and Route 5 (Lewisham to Victoria). These will be closely followed by Route 9 (Hounslow to Hyde Park) and Route 11 (West Hampstead to Marylebone).

Outer London and the Biking Boroughs

There are 2.4 million 'cyclable' journeys made in outer London every day. In fact, about half of all car trips in outer London are two miles or less - partly because these areas are not as well served by public transport as in central London. This creates an ideal opportunity to encourage more cycling for short journeys. Much of the growth in cycling in outer London is expected to come from trips currently undertaken by car with the potential to reduce congestion in this area of London.

To make the most of the opportunity, Outer London boroughs are transforming themselves into Biking Boroughs.

The objectives of the Biking Borough programme are to:

1. Increase levels of cycling in Biking Boroughs, while supporting a downward trend in collisions
2. Achieve significant change, embedding cycling in local priorities and activities, through strong political leadership
3. Develop effective partnership working and share best practice among Biking Boroughs and more widely

Increasing cycling in Outer London is very much locally led. The Biking Borough programme has been designed to be responsive to the requirements of the boroughs and TfL supports the programme with relatively small amounts of additional funding which boroughs can use to bolster the investment in cycling that they are making through their LIPs and with the support of local partners. Funding was awarded on the basis of bids submitted to TfL in 2010.

Outer London trip patterns are quite different to those in inner and central London because they are more dispersed over a larger geographical area. The Biking Borough programme is designed to cater for these, with a strong emphasis on supporting new cyclists to make trips in environments where they can feel safe and build confidence. Investment is focused on three areas:

1. Transforming local town centres and areas of high cycling potential into cycle 'hubs'
2. Creating 'cycling communities' where local people work together to create safe, pleasant and fun cycling environments
3. Raising the profile of cycling across Outer London with events and promotional activity

The programme has developed successfully over the last few years and has delivered benefits in the 13 Outer London boroughs identified as Biking Boroughs.

Examples of what the programme is delivering are set out in **Table 7** below:

Table 7: Examples of Scheme Delivery in each Biking Borough

Biking Borough	Examples of Scheme Delivery
Bexley	Bexley is improving infrastructure in the Bexleyheath area, including new cycle parking facilities. Bexley is also working on targeted HGV/cycle safety campaigns
Barking & Dagenham	Barking & Dagenham is implementing infrastructure projects to improve connectivity to Barking Town Centre. These include

	Charlton Crescent subway accessibility improvements, which provide user-friendly links across the A13 and a link to the Barclays Cycle Superhighway 3 at Movers Lane. The borough also hosted successful, weekly led-cycle rides for children and parents
Brent	Brent is home to the 'Cycletastic' project, a community-led initiative aiming at improving communities' (particularly children, low income and other disadvantaged groups) access to cycling, Activities include marshalled bike rides, bike maintenance sessions and training events, drop-in bike repair/training and recycling/resale of cycles at their bike shed
Bromley	Bromley has hosted a number of summer cycling events, including community travel awareness events and the opening of a new cycle parking facility at Bromley South station. Bromley also completed a seven-week bike recycling project that returned unloved bikes back into the community to be enjoyed by people of all ages
Croydon	Croydon launched a cycle GP referral scheme to increase levels of cycling for health in October 2011. The borough has also worked closely with British Cycling to run a number of 'Sky Ride Locals' between August and September 2011
Ealing	Ealing has built an innovative cycle parking hub at Ealing Broadway. Ealing also continues to support and develop its successful Asian community cycling project
Haringey	Haringey has taken advantage of a number of cycling events in the borough to promote cycle security by security marking bikes with the help of the local Safer Neighbourhood Team. Haringey is also progressing the design of cycling safety schemes and plans to introduce new cycle parking in its cycle hub. The borough is also planning a physical activity GP referral scheme
Havering	Havering is supporting cost-effective cycle awareness training days in schools for students under the 'Bikeability' age. The borough is also developing a cycle hub map, focusing on the best routes into and around Romford to attract new cyclists
Hillingdon	Hillingdon has appointed a new Bike It officer to work with schools in the borough and is currently implementing a traffic calming scheme to improve the environment around West Drayton Primary School. The borough has also completed towpath upgrades on the Grand Union Canal, an attractive greenway in the borough, and appointed a person specifically tasked to enthuse and coordinate volunteers along the canal to

	create a safe environment for cyclists and pedestrians
Hounslow	Hounslow is progressing a wayfinding project on cycle route 75 passing through Hounslow, Kingston, Richmond and Ealing. The residential cycle parking project (partly funded through the LIP) is also progressing well, with some 300 new cycling parking spaces identified for installation over the next few months. A dedicated Biking Borough officer has also been appointed on an 18-month fixed-term contract
Kingston	Kingston provided free adult cycle training to employees in its Business Travel Network. Kingston also offered free Bikeability Level 3 training to secondary school children. Kingston held community rides during September and October 2011
Merton	Merton is planning to extend the cycling facilities to the south of Barclays Cycle Superhighway 7 and also works with Sustrans on the Avenue Verte project. Merton experienced good participation at Bike Week in 2011
Redbridge	Redbridge is hosting successful, monthly drop-in sessions to provide free bike servicing to participants. The borough is also working with young people, offering bike maintenance workshops and cycle lessons to less confident cyclists. Redbridge is working with community champions to support the Biking Borough programme

Since the Biking Borough programme started in 2010 there has been a huge amount of progress towards delivering provisions for cycling locally as well as uplift in political commitment. The Biking Boroughs programme is being monitored to identify what the increase in cycling has been locally and the changes to the mode share.

1.5.2 Pan London measures

TfL's research and analysis also identified a number of areas where 'pan-London' programmes and projects are required to underpin the three major cycling schemes and reach people across the capital, through providing cycle parking, cycle security, cycle routes and ensuring that cycling is fully considered within the planning process.

Cycle Parking Delivery

The cycle parking programme at TfL has been a spectacular success, transforming the ease with which cyclists can find a secure place to park their bicycle in London. A lack of cycle parking is a barrier to both new cyclists taking up cycling and existing cyclists wishing to cycle more.

TfL has a comprehensive cycle parking programme which delivers cycle parking at schools, workplaces, stations, in residential areas and on-street, in order to provide spaces at both the beginning and the end of cycle trips. TfL works with a number of delivery partners to secure and deliver cycle parking across London to both cater for current demand and the projected growth in cycling. These partners include London boroughs, Network Rail, Train Operating Companies, private business and developers. As a result of the efforts of TfL and its delivery partners, the Mayor's aim of securing the delivery of 66,000 additional cycle parking spaces by 2012 was met a year early with 67,208 additional spaces secured by the end of March 2011. **Table 8** shows the number of parking spaces that were delivered through the various delivery channels to achieve this target.

Table 8: Achievement of the 66,000 cycle parking target by delivery channel

Delivery Channel	Number of spaces delivered
Boroughs LIPS	20,010
Stations/ Interchange (Non-TfL)	1,816
Stations/ Interchange (TfL)	870
TLRN	2,158
Schools	8,272
Workplaces	3,658
Cycle Hire (supporting measures)	1,605
Cycle Superhighways (supporting measures)	4,213
New Developments	24,606
Total Spaces	**67,208**

In delivering this programme TfL has directly invested circa £10m over the last three years for the purchase and implementation of London-wide cycle parking. This

funding has leveraged additional investment from private developers and borough LIP programmes, which have contributed almost two thirds of the overall programme.

TfL is aware that many more cycle parking spaces are required to cater for the growth in cycling and is continuing to invest in its cycle parking programme, and work with its delivery partners to deliver spaces at a range of land uses to serve cyclists in London. TfL and its delivery partners will continue to be innovative in their approach to retro-fitting cycle parking in to residential areas and other locations which were not designed with cyclists in mind.

Cycle security

Cycle theft discourages people from taking up cycling and dissuades many victims of theft from continuing to cycle. The Cycle Security Plan[3] was introduced in September 2010 by TfL, London's policing agencies, cycling groups, and the GLA.

Activity to improve security has included:

- Establishing a 30-officer Metropolitan Police Cycle Taskforce dedicated to tackling cycle theft and criminal damage to bicycles
- Securing 67,208 additional cycle parking spaces between 2008 and 2011, including over 8,000 new spaces at schools
- Educating the public about good locking practice through leaflets, bike rack stickers and dedicated web pages
- More than 25,000 bikes been marked and registered by London's policing agencies on www.bikeregister.com helping to deter theft, improve detection levels and return stolen bicycles
- Ensuring rigorous security provisions are built into the Barclays Cycle Hire scheme

This effort has contributed to a 5.4 per cent drop in offences in 2010/11 compared with 2009/10 (1,253 fewer victims). However, in light of recent rises in levels of theft (against a backdrop of increased ridership), TfL, the MPS and their partners are increasing operations on cycle theft. Under the auspices of the London Transport Community Safety Partnership, chaired by the MPS, a new police operation

[3] http://www.tfl.gov.uk/corporate/projectsandschemes/15704.aspx

('Project Cycle Ops') has a target to reduce cycle theft in London by 10% by October 2013.

Key areas of focus for 2012 and beyond include:

- The new Mayoral commitment of 80,000 additional cycle parking spaces to be secured for London's cyclists between 2012 and 2016. Priority will be given to stations, residential areas in the Biking Boroughs and areas of high demand
- Improving the quality of cycle parking and 'designing-out' crime
- Supporting private sector initiatives to provide paid-for cycle parks such as that run by H2 in Soho
- A total of 40,000 bikes to be marked and registered in 2012 on www.bikeregister.com
- Tackling organised cycle theft through proactive investigations and operations to disrupt the trade of stolen bikes and bicycle parts
- Engagement with online retailers to help flag suspicious vendors. Second hand retailers and repair shops will be encouraged to identify stolen bicycles and refuse to sell or repair them
- Reducing the rewards of crime by pushing for prolific cycle thieves to receive tougher sentences and forfeiture orders under the Proceeds of Crime Act

Greenways Programme

Greenways provide routes largely through parks, green spaces or lightly trafficked streets for people walking and cycling, and are ideal for people of all ages and abilities. They contribute to achieving each of the goals set in the Mayor's Transport Strategy, as well as local and wider national policy objectives. Overall, Greenways are an effective complement to other walking and cycling measures and improve the offer to Londoners to encourage sustainable and active travel behaviour.

TfL has a dedicated Greenways programme and monitoring of the outcomes of this programme has provided evidence that:

- There has been a significant year-on-year increase in use of Greenways included in the monitoring programme
- Users say they are walking and cycling more than a year ago
- They are used by a broad spectrum of Londoners for a range of journeys, including leisure, shopping and commuting to work or place of education
- The key reasons for using a Greenway are that they are away from other traffic, enjoyable to use, and help users to feel healthier

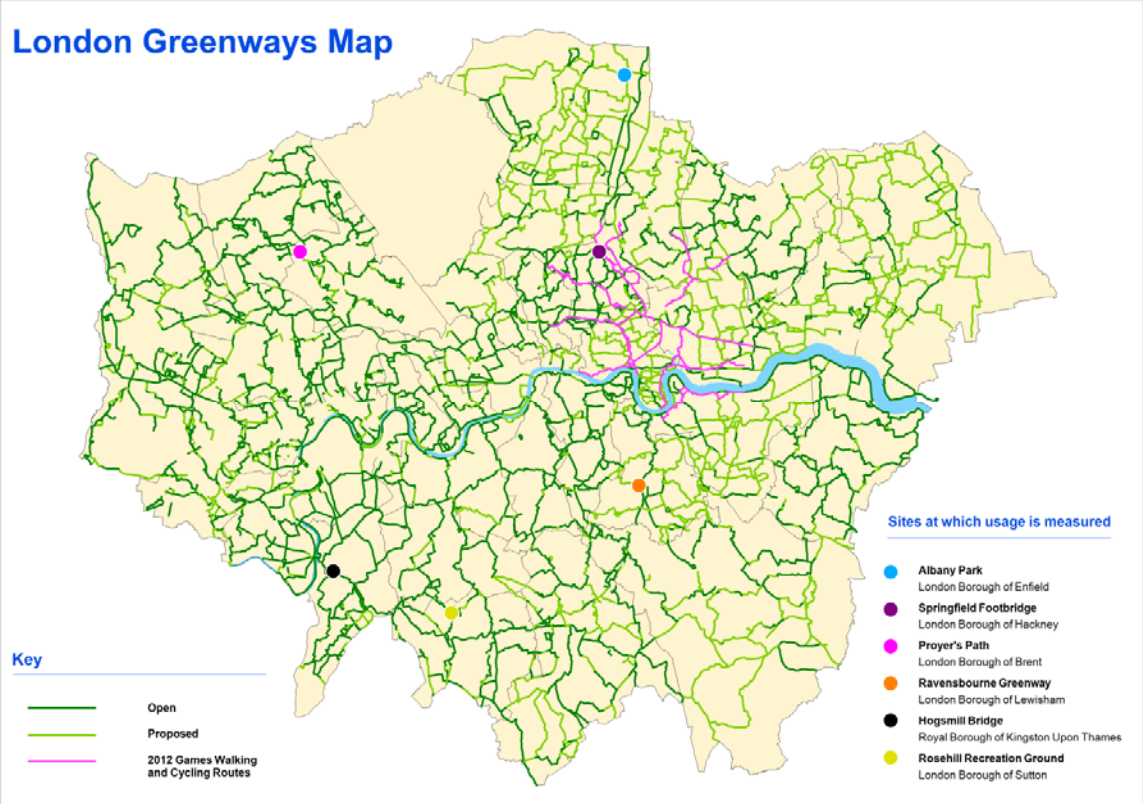
- They can help to address the biggest barrier to cycling (concerns over safety), and deliver the best incentive to encourage more walking (new and improved walks for pleasure)

The London Greenways network has been developed and funded by TfL, Sustrans, the Olympic Delivery Authority, the London boroughs and others over a number of years. To date, 375km of routes have been improved, joined up and opened across London **(see figure 7).**

The 2010 annual monitoring report of the greenways indicated that 80 per cent of users are pedestrians, 10 per cent are cyclists and 10 per cent are joggers. An average of 42 per cent of London Greenway users said that no other form of transport could have been used for the journey stage they were making. London Greenways help to showcase local environments. Monitoring shows that on average, 72 per cent of greenway users live local to the routes and many use the routes as an alternative to car trips. This not only improves their own quality of life, but also helps to ease the pressures of congestion.

The 2010 Annual Monitoring report gives an indication of how many people are using Greenways, who they are and why they use them. The full report can be found at the following link:
http://www.tfl.gov.uk/assets/downloads/businessandpartners/sustrans-london-greenways-_report.pdf

Figure 7: Greenways Map



LCN and LCN+

The London Cycle Network (LCN), and London Cycling Network Plus (LCN+) form a strategic network of cycling routes. These were delivered in partnership with the London boroughs over the last ten years and have contributed towards making London more of a 'cycling city'. At the beginning of 2000 the London Cycle Network (LCN) incorporated approximately 3,000km of cycle routes across London.

In 2002/03, it was agreed between TfL, the London boroughs and other stakeholders that investment would be focused on 900km of strategic sections of the LCN. The LCN+ programme delivered circa 700km of infrastructure improvements across London from 2003/4 to 2008/09, at a cost of £93m. The LCN+ programme delivered:

- **Better routes** – cycle lanes, tracks, shared paths, motor traffic and speed reduction
- **Junction improvements** – changes to signals, kerb lines and lane markings, improved layouts at roundabouts and Advanced Stop Lines (ASLs)

- **Crossings** – signal controlled and informal cycle crossings
- **Improved access and permeability**– cycle gaps in road closures and point no-entries, exemptions from banned turns, green links
- **Other** –miscellaneous including surfacing upgrades, bridges

By 2010, investment in the LCN+ had ramped down to give way to the Mayor's new flagship schemes for cycling; Cycle Superhighways and Cycle Hire. However, boroughs have continued to enhance and maintain the London Cycle Network.

Road Improvement Schemes

TfL and the London boroughs have delivered improvement schemes on the roads for which they are responsible that are of benefit to cyclists across London. Further information on schemes delivered on the Transport for London Road Network by TfL and on Borough roads can be found in section 2.6 under safer infrastructure.

Cycling within the planning process

The Boroughs, the London Legacy Development Corporation (from the 1st October) and the Mayor are responsible for planning policy and determining planning applications. The Mayor is responsible for London's planning system at a strategic level under the Mayor of London Order (2008).

TfL and the London Borough planning authorities secure improvements to London's cycling infrastructure from planning applications for development through the statutory planning process. The London Plan is the overall strategic development plan for London, which sets out a fully integrated economic, environmental, transport and social framework for the development of the capital to 2031, supported by the Mayors Transport Strategy. The London Plan policies guide decisions on planning applications by councils and the Mayor. Specific policies on cycling are contained within its transport chapter (Chapter 6). Borough planning policies should conform with those of the London Plan; in particular Policy 6.9 Cycling and Table 6.3 Cycle Parking Standards.

All planning applications are made to the relevant London borough as the planning authority. The boroughs consult the Mayor on applications of strategic importance, known as referable planning applications. TfL provides comments via the GLA Planning Decisions Unit on the transport aspects of referable applications. TfL is also consulted, as the strategic highway authority, on non-referable planning applications which have an impact on the Transport for London Road Network (TLRN) and on Local Development Frameworks and master plans produced by the oroughs.

With regards to cycling, TfL reviews planning applications to ensure that the development provides for cyclists' needs and creates a pleasant environment and space in which to cycle safely with adequate cycle parking provision. All planning applications which are referable to the Mayor must be accompanied by a Transport Assessment (TA) and Travel Plan. TfL has produced a Transport Assessment Best Practice guidance document (2006, revised 2010) which details what the TA should include on cycling:

- Existing cycling conditions (including cycle parking, flows, networks, routes and facilities, including Barclays Cycle Hire docking stations) and analysis of current barriers to cycling.Ensures that all new developments provide cycle parking in accordance with London Plan parking standards
- Impact of the proposed development on levels of cycle parking, cycle flows and cycle trip generation, networks, routes, facilities, and the Barclays Cycle Hire network, including any nearby docking stations
- Catchment area for cycle trips to/from the development and cycle linkages.
- Measures to mitigate the impact of the development on the transport network by improving cycle parking, encouraging trips by bike and improving cycle routes in the vicinity of the development.
- Exploration of opportunities to make the environment more conducive to cycling.
- Securing cycle vouchers, training and awareness and other travel planning measures.

TfL advises that the London Cycling Design Standards be used to consider the design of cycling infrastructure within new developments.

Where TfL is a consultee, it works to ensure that cycle parking storage at non-residential developments include showering and other appropriate facilities as a measure to encourage cycling. TfL also works with the boroughs to secure section 106 contributions to improve cycle routes and conditions for cyclists including junction improvements, highway capacity and safety. Travel plans secured by condition and/or s106 agreements should include measures to encourage cycling by residents, staff and visitors.

More recently TfL has focused on securing land and contributions towards Barclays Cycle Hire docking stations, including numerous sites across the Battersea / Vauxhall / Nine Elms opportunity area. Further improvements in support of the Mayor's Cycle Superhighways have also been sought.

TfL also works with the London Plan team within the Greater London Authority on the development of, and changes to cycling policies within the London Plan and other planning documents including supplementary planning guidance. For example, TfL recently proposed changes to the minimum cycle parking standards as part of the Early Minor Alterations to the London Plan. Further work is planned this year to further review these minimum standards.

1.5.3 Supporting people to cycle

Encouraging children to cycle

TfL has funded the Bike It scheme in London schools since 2006. Under this scheme, run by Sustrans and the London boroughs, Bike It officers organise initiatives and promote cycling within selected schools. Over the past five years the scheme has operated in 20 London boroughs and more than 120 schools. In 2011/12, Bike It Officers worked with 110 schools across 15 London boroughs.

School Travel Plans (STPs) are another important tool in encouraging pupils to walk and cycle. Following the tremendous success of the programme to date, 95 per cent of all London schools now have an approved STP.

To maximise the impact of STPs, TfL has developed the School Travel Accredited and Recognised (STAR) scheme. This encourages and rewards schools to improve the quality of their STPs and increase levels of walking and cycling. One third of all London schools (979 in total) were signed up by September 2011. The aim is to increase this to 52 per cent (1,600 schools) by July 2013. Schools can apply for one of three levels of TfL's STAR accreditation scheme for their travel activity work. The schools signed up so far have reported an average 8.1 per cent decrease in car use and 1.4 per cent increase in cycling and 5.4 per cent increase in walking.

TfL also offers Cycle Grants for schools. This programme is offered to targeted schools and includes a package of measures to increase cycling at schools through the creation of cycle clubs. Cycle safety is an important part of this package and funding is provided for additional cycle training as well as to train cycle training instructors at the school. In 2011-12 114 schools received a grant to support the development of a cycle club. Initial results are expected in September 2012.

A number of primary schools run Junior Road Safety Officer schemes where pupils lead on promoting safety messages to their peers. In many cases, this includes cycle safety messaging such as being visible, especially during darker mornings and evenings and not being distracted by headphones when cycling.

London has led the way in providing Bikeability cycle training for children and there is Bikeability provision in each borough either through in-house teams, contracted providers or schools.

Community Cycling Fund for London (CCFL)

The CCFL grant scheme is funded by TfL and administered by the LCC to help community groups set up cycling initiatives that benefit people of all ages and backgrounds. Twenty-six grants of up to £5,000 have been made available in 2012/13 to engage local communities in cycling and to improve cycle safety.

Grants are available to a broad range of groups including schools, residents' associations, mental health charities and youth organisations. The money may be used to provide cycle training, bike maintenance sessions, bike events, and other activities that encourage cycling and build the confidence of new and infrequent cyclists. This year applications were also welcomed from cycling projects which include activities that were geared towards the Olympic and Paralympic Games and their legacy.

Last year the overall number of participants taking part in the grant projects was 3,437. This included 71 led rides, 98 cycling events, 289 participants receiving cycle training, 385 participants receiving basic bike maintenance training and 2,067 visitors attending the bike events

CCFL events programme

The CCFL events programme runs events to partnership with Biking Boroughs to promote cycling within their communities. The primary objective is to increase the number of journeys taken by bicycle. The events are delivered by LCC and offered to universities, workplaces, schools and community groups who have a desire to encourage more cycling. The events are tailored to meet the needs of individual groups and include travel advice, route planning, led rides, maintenance workshops, mini audits and cycle training.

This year 47 events have been organised to encourage regular cycling.

Cycling and the Olympics

TfL and London 2012 developed the London 2012 Active Travel programme, which aimed to maximise walking and cycling during the Games, helped to manage demand on the public transport and road network and meet the London 2012 commitment to host the most sustainable Games to date.

A programme of cycling activity during the Games was delivered which made the most of the opportunity to harness excitement among London's potential cyclists. It had four main aims:

1. Inspire people to cycle in the year of the London 2012 Games
2. Increase the number of cycling trips made by Londoners during the Games
3. Maximise the number of spectators and workforce cycling to the Games
4. Ensure that a positive cycling legacy is maintained post-Games

The programme aimed to achieve:

- An additional one million journeys a day by foot and bike across London (switching from other transport modes), equating to a 16 per cent increase in walking and cycling by Londoners at Games time
- More than 300,000 spectator journeys in London to be walked or cycled all the way over the Games
- Five per cent of the additional walking and cycling journeys made during Games time to continue to be made in this way afterwards

'There has been a significant investment made by the ODA and its partners to ensure that London 2012 is truly a sustainable transport Games, with walking and cycling crucial to the overall strategy. We have worked together to deliver major improvements across London's cycling and walking routes so that spectators can get to venues safely and on time. These enhancements will be left in place after the Games for the benefit of commuters and communities alike'. **Hugh Sumner, Olympic Delivery Authority Director of Transport**

On 24 October 2011 former Olympic swimmer Mark Foster and the Olympic and Paralympic mascots launched the London 2012 Active Travel programme alongside the 2012 Games Walking and Cycling Routes.

More than 75km of walking and cycling routes in East London were enhanced by TfL and partners following £10m investment from London 2012 (Olympic Delivery Authority and London Organising Committee for the Olympic and Paralympic Games). This has helped spectators walk and cycle to the Olympic Park and other east London venues and left London with an additional network of safe, pleasant, quiet routes that add value to local communities and can be enjoyed by everyone for years to come.

The legacy from the Olympic and Paralympic Games will be tremendous, with many people inspired to try cycling for themselves as a convenient way of moving around the city. This legacy will be celebrated annually from 2013 through the two-day

Festival of Cycling. The weekend festival will be known as 'RideLondon' and will feature a series of events for amateur, club and world elite cyclists. The event will be managed by the London & Surrey Cycling Partnership, a joint venture between the organisers of the London Marathon and The Tour of Britain. It is predicted that the weekend festival could attract over 200,000 visitors from outside the capital, lead to a major boost in cycling numbers and generate tens of millions of pounds in economic benefit. The event will place London firmly on the map of global cycling cities with elite cyclists from all over the world descending on London.

Cycling campaigns and events

The Mayor of London Sky Ride

Nearly 70,000 people took part in three Mayor of London Sky Rides in 2011, delivered in partnership between TfL, Sky, and the London boroughs. These mass participation events were aimed at encouraging new and occasional cyclists to try cycling in a traffic-free environment.

In total, almost 300,000 people have participated in a Mayoral mass cycling event since 2008. Participants were encouraged to cycle more as a result of taking part. For example 65 per cent of people at the Hillingdon event enjoyed it so much they said they intended to cycle more in the future.

Catch Up With the Bicycle

'Catch Up With the Bicycle' is an annual summer marketing campaign to encourage new cyclists to take up cycling and existing cyclists to cycle more. Seventy-five per cent of all London adults saw the campaign in 2011.

The campaign provides practical tips on how to get started by informing people about the availability of cycle training, the TfL cycle journey planner and special offers on equipment and services. The cyclists featured in the campaign wear normal clothes and are pictured enjoying cycling in a variety of London settings. Last year, in addition to the posters distributed across London, short films were shown in cinemas featuring cyclist case studies of real Londoners and well-known London cyclists such as Dermot O'Leary and Edith Bowman. They were viewed online more than 500,000 times.

The London Cycle Challenge

The London Cycle Challenge is a web-based interactive competition which has run annually since 2007. The aim is to encourage new and infrequent cyclists of all ages to try out cycling as part of a fun team activity and for regular cyclists to cycle more miles during the challenge.

Nearly 13,000 people took part in the 2011 London Cycle Challenge, enabling people to try cycling as part of a fun team activity. Twenty five per cent of participants cycle more since participating in the London Cycle Challenge, mainly for leisure (15 per cent) or to get to work or education (12 per cent).

'We have definitely enjoyed competing in the Cycle Challenge and we will return next year to defend our title. Our prize will be donated to charity to further encourage others, less fortunate to enjoy cycling'. **James Holt, team leader of eCouriers, winners in the small business category after cycling 8,868 miles**

1.5.13 Conclusion

Record levels of investment in cycling have enabled TfL and its partners to make huge strides in efforts to turn London into a cyclised city and to encourage more Londoners to cycle more safely and more often.

The Barclays Cycle Hire scheme now covers around 65 sq km of the Capital making 8,300 bikes available to the public from some 560 docking stations and enabling over 30,000 journeys by cycle every day.

Thirty-six km of Barclays Cycle Superhighways have been created so far, and 181 advanced stop lines for cyclists have been introduced or improved on Barclays Cycle Superhighways. A further 8 routes will be complete by 2015.

13 Biking Boroughs are working to increase cycling in outer London.

67,208 additional cycle parking spaces were secured by the end of March 2011.

More than 75km of walking and cycling routes in East London were enhanced by TfL and partners through the Active Travel Programme, ready for the Olympics.

375km of Greenways cycling routes have been improved, joined up and opened across London.

These programmes have been underpinned by campaigns and events to support all the existing activity and reach the intended audiences.

The next section will consider the impact all of these projects and programmes have had on increasing cycling and unlocking the cycling potential in London.

1.6 Outcomes – growth of cycling to date

This section answers the Transport Commitee's questions relating to:

Increasing cycling and cycling safety – cycle superhighways:

- The average number of cyclists using the four Cycle Superhighways per day

Expenditure and performance on cycling

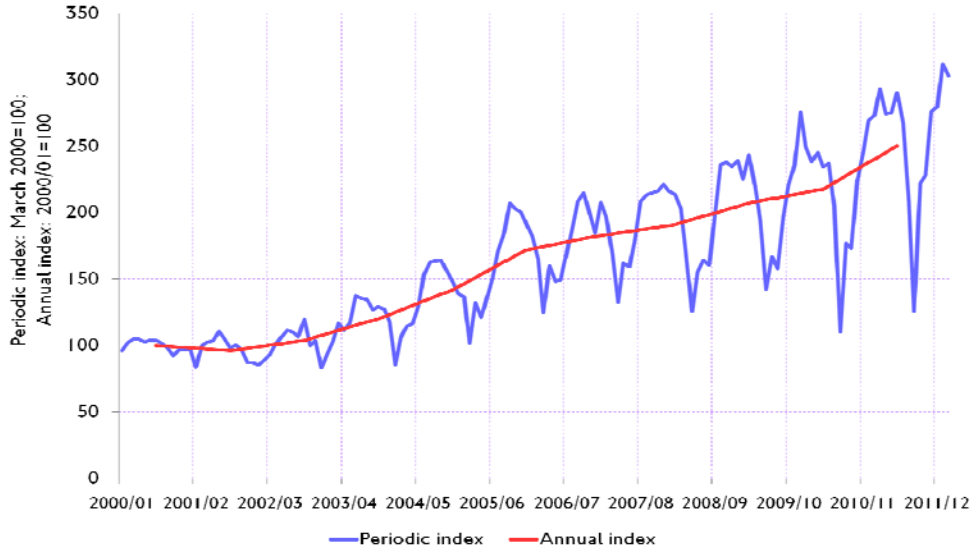
- Cycling modal share (please provide both absolute numbers of cycle journeys and as a proportion of all journeys)

Anyone who cycles regularly in London today will bear testament to the significant growth in the number of fellow cyclists they now encounter. This is verified by the monitoring undertaken by TfL and London boroughs.

1.6.1 Record levels of cycling trips over the past ten years

The most recent figures from the LTDS 2010 show that 544,000 cycle journey stages are made in London per day, equating to a 70 per cent increase since 2001. More recent figures for actual cycle flows also show that there has been a 173 per cent increase in cycling flow on the TLRN between 2000/01 and 2011/12 (**see figure 8**). These increases are the result of significant investment and support for cycling, as well as the cultural changes underpinning cycling's growing popularity.

Figure 8: Increase in cycling on the TLRN 2000/01 – 2011/12



1.6.2 Cycling Mode Share changes over the past ten years

The mode share of cycling has also increased over the past ten years, in parallel with the increase in number of cycling trips. The mode share for cycling London wide is currently 2 per cent. There has been an increase in mode share from 1.3 per cent to 2 per cent between 2001-2010 (as shown in **table 9)**.

Table 9: Mode share of cycling in London 2001-2010

Year	Cycle trips (millions)	Trips by all modes (millions)	Cycling journeys as a % of all trips in London
2001	0.3	22.9	1.3%
2001	0.3	22.9	1.3%
2002	0.3	23.1	1.3%
2003	0.3	23.4	1.3%
2004	0.3	23.5	1.3%
2005	0.4	23.3	1.7%
2006	0.4	23.8	1.7%

2007	0.4	24.5	1.6%
2008	0.5	24.5	2.0%
2009	0.5	24.5	2.0%
2010	0.5	24.8	2.0%
2011	Data not yet available		
2012	Data not yet available		

Source: Travel in London Report 4 (p.30)
http://www.tfl.gov.uk/assets/downloads/corporate/travel-in-london-report-4.pdf

1.6.3 Comparisons of cycle growth with other European Cities

London is seeking to increase levels of cycling from a much lower starting point than cities like Amerstdam. In Amsterdam, cycling mode share fell from 75 per cent in 1955 to 25 per cent in 1970, at which point the city began to invest in initiatives to increase cycling[4]. Investment in London's cycling environment started later and from a much lower baseline than in Amsterdam. Nevertheless, London has achieved a lot in a short period of time and the increase in cycling in London over the past ten years equates to that experienced in cities such as Amsterdam and Copenhagen during the 1970s. London is on a trajectory to achieve levels of growth that will transform it into a truly cyclised city.

1.6.4 More people are cycling in London

The number of people starting to cycle and the frequency with which they do so has continued to rise in London:

London wide

- Twenty-three per cent of Londoners cycled in 2010/11
- Thirty-five per cent of London households owned a bicycle in 2010/11, an increase of eight per cent from 2009/10
- In 2010, 90,000 London households bought a bike for the first time.
- Fifty-five per cent of participants at the 2011 central London Mayor of London Sky Ride said they would consider cycling more as a result of the event

[4] Whitlegg, John. (2007) At the Frontiers of Cycling: Policy Innovations in the Netherlands, Denmark, and Germany. World Transport Policy & Practice **Volume 13, Number 3**

- The increase in cycle travel has been greatest for travel to and within central London, on London's major roads, and for the journey to work.

Barclays Cycle Hire

- More than 160,000 people have joined the Barclays Cycle Hire scheme, with members in every one of the 33 London boroughs
- Forty-seven per cent of Barclays Cycle Hire members said the scheme had caused them to start cycling in London
- Twenty-nine per cent of Barclays Cycle Hire members cycle more as a result of the scheme
- Around 30,000 journeys are made every day by Barclays Cycle Hire and more than 16million trips have been made since the scheme was introduced

Barclays Cycle superhighways

The first two pilot routes, CS3, along the A13 from Barking to Tower Gateway, and CS7, along the A24 from Merton to the City, opened in July 2010. Research carried out in 2010 after the pilot routes CS3 & CS7 were introduced found that:

- **Cycling increased along the Barclays Cycle Superhighways:** Overall the weighted increase in cycling along all count points has grown by 46 per cent along Barclays CS7 and 83 per cent along Barclays CS3
- **The Barclays Cycle Superhighways provide a convenient way for Londoners to get to work:** More than three-quarters of cyclists on the Barclays Cycle Superhighways use them for travelling to or from work
- **The number of new cyclists along the Barclays Cycle Superhighways has increased:** 27 per cent of those identified as potential cyclists started cycling after the introduction of the Barclays Cycle Superhighways. Furthermore, 23 per cent of survey respondents were new to cycling on the route, having previously made the trip by another means of transport or not at all
- **The Barclays Cycle Superhighways have increased the speed of journeys:** Journey times by bike have improved by five per cent on average along the two routes
- **People feel safer on the Barclays Cycle Superhighways:** 80 per cent of all scheme user survey respondents agreed or strongly agreed that the Barclays Cycle Superhighways improve safety for cyclists[5]

[5] It should be noted that in the committee's previous report **'Pedal power: the cycle hire scheme and cycle superhighways', November 2010** the following survey question relating to safety on the Cycle Superhighways led to ambiguous conclusions. The survey question asked respondents: "Do you feel safer cycling on a Cycle Superhighway than on an alternative route?" From the "No" responses, it was not clear whether respondents felt less safe, or "no more or less safe" (i.e. they might have felt equally safe on the Cycle Superhighway as they

- **Users think journeys are more reliable on the Barclays Cycle Superhighways:** 78 per cent of respondents using CS3 and 61 per cent using Barclays CS7 either agreed or strongly agreed that the Barclays Cycle Superhighways improve the predictability and reliability of journeys
- **Overall, satisfaction with the Barclays Cycle Superhighways is high:** More than four out of five behavioural research respondents support the introduction of the Barclays Cycle Superhighways
- **The Barclays Cycle Superhighways have improved the experience of cycling in London:** The provision of continuous blue surfacing has proved popular; nearly two-thirds of respondents identified a greater feeling of safety from the surfacing. General traffic has been found to give cyclists more space, especially at junctions and conflict points. People were also found to be highly satisfied with the visibility and signage of the blue lanes

The second two routes followed in July 2011 and were CS2, from Bow to Aldgate, and CS8, from Wandsworth to Westminster. Results based upon cycle counts carried out in September 2010 before the introduction of CS2 and CS8 scheme and those carried out in June 2012 show that:

- On Barclays CS2 (from Bow to Aldgate), the counts show a **28 per cent** increase from Sep-10 to Jun-12 on CS2. Within this figure:
- Cycle numbers have increased by **55 per cent** on Bow Road, including **82 per cent** in the PM peak heading east
- Westbound flows on Whitechapel Road near Vallance Road junction are up **225 per cent** in the PM peak
- AM peak flows heading west on Whitechapel High Street have increased by **46 per cent**, with up to **1,193** cyclists recorded in the 2 hour AM peak.

- Changes in cycle flows on CS2 were compared with 2 other parallel routes in the areas and shows that the increase in flows on CS2 of **30 per cent** is higher than those seen off-route (16 per cent)

- On Barclays CS8 (from Wandsworth to Westminster), the counts show a **17 per cent** increase in flows from Sep-10 to Jun-12 on CS8. Within this figure:
    - Cycle numbers have increased by **28 per cent** on the Ram Street to Queens Circus section

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did on alternative routes, if they are confident cyclists). A substantial 40 per cent did feel safer. There was no evidence that cyclists felt less safe on Cycle Superhighways, but this is the conclusion some journalists drew from the survey as a result of the way it was presented (for example, on page 9 of the pedal power report).

- Cycle numbers have increased by **14 per cent** on the Grosvenor Road to Millbank section (over **1,500** cyclists recorded in the 2 hour AM peak heading north on Millbank)
- On Grosvenor Road, flows are up **50 per cent** in the PM peak, and **36 per cent** in the AM peak
- Peak time usage of Prince of Wales Drive is up **64 per cent** (albeit from a low base), including **100 per cent** up in the PM peak
- PM peak flows on Battersea Park Road are up **57 per cent**

- Changes in cycle flows on CS8 were compared to 3 parallel routes in the area shows that there that the increase in flows on CS8 of **30 per cent** is higher than those seen off-route (2 per cent).
- Following launch of the Barclays CS2 and CS8 in July 2011 one in 10 respondents said they had bought a bicycle as a result, with one in five also buying cycling equipment
- Forty-seven per cent of CS8 users and 35 per cent of CS2 users say they cycle more as a result of the Superhighway

1.6.5 People enjoy cycling more, feel safer and are safer

Cycling in London is fun and people are feeling safer:

- Eighty-three per cent of Londoners think cycling is a convenient way of getting about in 2011, compared with 80 per cent in 2010
- Seventy-two percent of cyclists are satisfied with the TLRN, compared to 73 per cent of car drivers
- As a result of cycle training, 76 per cent felt safer and 73 per cent said cycling was more enjoyable
  Seventy-nine percent of Barclays Cycle Hire members say that cycling is enjoyable, with 47 per cent of new members reporting that ‘fun’ was a key reason for their switch to BCH
- Between 2001 and 2010, the rate of cyclists killed and seriously injured on London’s main roads, relative to cycle flow, fell by 55 per cent

1.6.6 The cycling economy is booming

The benefits of London’s investment in cycling are felt beyond the transport system. The cycling economy is booming and a cycling cultural revolution is taking place:

UK-wide

- The total value of cycling to the UK economy was £2.9bn in 2010, and there was a 28 per cent increase in UK cycle sales between 2009 and 2010.[6]
- In 2010 there was an average of £230 per cyclist of 'Gross Cycling Product' to the economy[7]
- One million additional regular cyclists would contribute £141m to the UK economy by 2013[8]

London

- Ten per cent of Cycle Superhighway users have bought a bicycle and 20 per cent have bought cycling equipment (user survey September 2011)
- Six per cent of Barclays Cycle Hire members have bought a bicycle of their own, equivalent to 10,200 new bicycles, and 18 per cent have bought cycling equipment (customer satisfaction surveys 2010-2012)
- 270 jobs were created through Barclays Cycle Hire
- TfL is working with 128 cycle retailers and manufacturers with 32 cycling related offers on TfL website
- Londoners spend more on their bicycles than people in the rest of the UK, predominantly in the mid-range between £100 - £700.[9]
- London cyclists are more likely than others to buy accessories together with bicycles (57 per cent vs. 52 per cent in other parts of the UK)[10]
- Londoners tend to spend slightly more than those in the rest of the UK, with 53 per cent spending more than £50 per year on cycling accessories compared with 50 per cent of people in other areas.[11]
- London's Bicycle Film Festival attracted 8,000 people over six days of events in 2011
- There are now eight cycle cafes in London

1.7 Conclusion

[6] (The British Cycling Economy LSE report commissioned by Sky and British Cycling, 2010)
[7] The British Cycling Economy LSE report commissioned by Sky and British Cycling, 2010
[8] The British Cycling Economy LSE report commissioned by Sky and British Cycling, 2010
[9] Allegra Strategies, London Cycling Consumer Profile, December 2011
[10] Allegra Strategies, London Cycling Consumer Profile, December 2011
[11] Allegra Strategies, London Cycling Consumer Profile, December 2011

TfL has achieved a lot in a short amount of time and the record levels of investment in the projects and programmes aimed at increasing levels of cycling have significantly affected its growth.

There have been record levels of cycling trips over the past ten years with more people cycling in London and the cycling mode share has almost doubled since 2004. The huge growth rate is similar to that experienced in cities such as Amsterdam and Copenhagen during the 1970s. The cycling economy is booming and people are enjoying cycling more, and are feeling safer.

The next section will now focus specifically on cycle safety.

Section 2: Improving Cycle Safety in London

This section examines how London has improved cycle safety over the past ten years.

Although the rate of cyclists killed and seriously injured on London's roads has fallen over the last decade, collisions resulting in injury to cyclists are still one of the most serious challenges to road safety in the Capital. In addition to the tragic personal consequences of cycle collisions, concerns about safety present a significant barrier to more people taking up cycling. It is therefore important for all concerned to make cycling safer and improve the perception of cycling as a safe and convenient mode of transport. Ensuring that cycling is a safe and attractive travel option will be crucial to achieving the Mayor's vision for London to be a 'cyclised' city.

In July 2012, the Mayor published his draft Road Safety Action Plan. This sets out the target to reduce the number of people killed or seriously injured in London by 40 per cent by 2020. Improving safety for vulnerable road users, including cyclists, is a key focus of the plan. The document called 'Towards a Road Safety Action Plan for London: 2020' can be viewed at https://consultations.tfl.gov.uk/roads/road-safety-plan.

2.1 Cycle safety over time

This section answers the Transport Commitee's questions relating to:

TfL's performance indicators such as:

- KSI, and other casualties (and targets)

Increasing cycling and cycling safety – Cycle Superhighways

- The number of casualties/cyclists killed or seriously injured (KSIs) each year on the superhighways

TfL takes an evidence-led approach to tackling cycle safety. Over the past ten years TfL has closely monitored casualty data and implemented appropriate measures to prevent collisions from occurring, targeting those people who are most at risk.

2.1.1 Cycling casualties

TfL publishes casualty and collision data on an annual basis. The latest figures for 2011 are published in the 'Casualties in Greater London during 2011' factsheet http://www.tfl.gov.uk/assets/downloads/corporate/casualties-in-greater-london-2011.pdf. This showed that the number of people killed or seriously injured in 2011 was the lowest recorded since records began in the mid 1980s and that there were 159 fatalities on London's road network, 25 per cent lower than the average figure between 2005 and 2009.

Despite the successes, these results also show an increase in the number of cycling casualties in 2011. Sixteen cyclists tragically lost their lives last year, and 555 cyclists were seriously injured (**See Figure 9**). This should be taken in the context of the significant increase in the number of cycle journeys but is an area of concern for the Mayor.

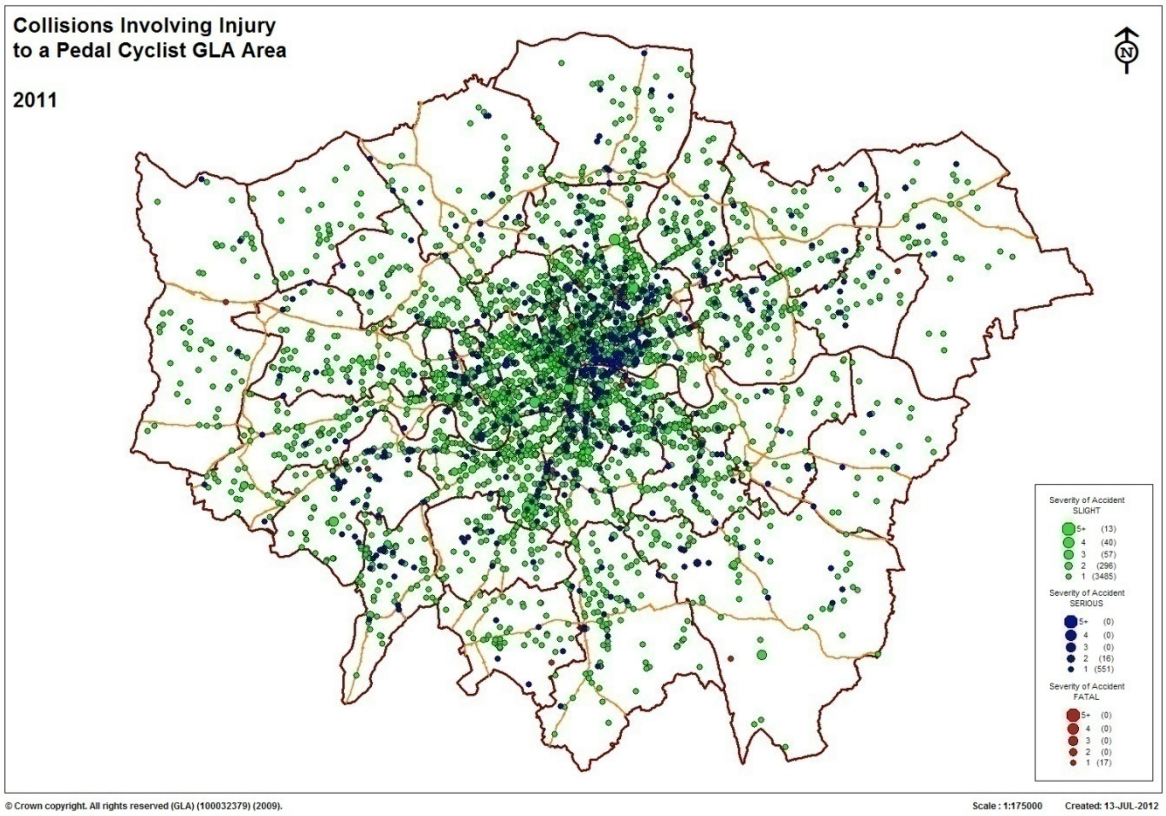
Slight casualties have been a major driver in the overall increase in cycling casualties and in recent years the proportion of collisions resulting in slight injury to cyclists has increased. TfL are carrying out further work to better understand this trend. Nevertheless over the last ten years there is strong evidence to show that relative risk to cyclists has fallen in London. Between 2001 and 2010, the rate of cyclists killed or seriously injured on London's main roads relative to cycle flow reduced by 55 per cent http://mqt.london.gov.uk/mqt/public/question.do?id=38979. TfL is working to ensure that the longer term trend of a reduction in the rate of cycle casualties continues.

Figure 9: Pedal Cycle Casualties in London 1986 – 2011

Year	KSI	Slight
1986	642	3,443
1987	648	3,388
1988	703	3,425
1989	785	4,379
1990	644	3,895
1991	650	3,693
1992	564	3,722
1993	511	3,695
1994	503	3,924
1995	542	3,997
1996	597	3,753
1997	578	3,852
1998	614	3,702
1999	492	3,682
2000	422	3,084
2001	465	2,857
2002	414	2,648
2003	440	2,616
2004	340	2,620
2005	372	2,523
2006	392	2,566
2007	461	2,509
2008	445	2,757
2009	433	3,236
2010	467	3,540
2011	571	3,926

Figure 10 below shows where cycle collisions in 2011 took place. As can be seen, these were spread across the Greater London area with a higher density occurring in the centre where there is a higher density of cycling trips.

Figure 10: Cycling collisions in London



In addition to monitoring collisions across London, TfL also monitors collisions on new schemes to ensure any issues are addressed promptly. However, three years of post-implementation collision data is considered necessary before firm conclusions can be made about the relative safety of a highways scheme. **Appendix 2** provides detailed information on the casualty data on the Cycle Superhighways.

2.2 Cycle Safety Action Plan

This section answers the Transport Committee's questions relating to:

Overview of current and future action being taken to improve cyclists' safety

- A summary of all other measures that TfL has implemented or will implement to improve cyclists safety

2.2.1 Overview of the Plan

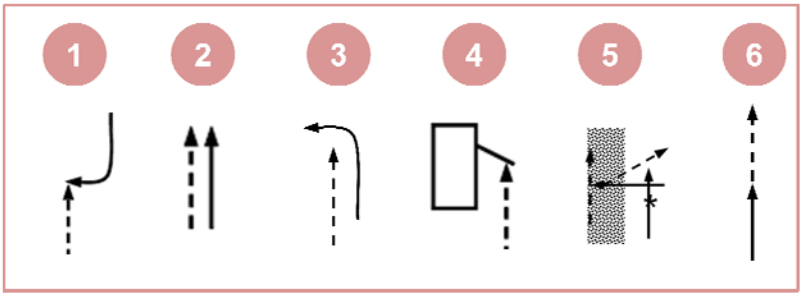
Cycle safety is at the forefront of ensuring that London becomes a 'cyclised' city. The Mayor's Cycle Safety Action Plan, published in March 2010, sits at the heart of everything TfL is doing. The plan was developed by the Cycle Safety Working Group (CSWG) which is made up of stakeholder organisations including the Greater London Authority (GLA), Department for Transport (DfT), the Borough Cycling Officers Group (BCOG), cycling organisations (CTC, LCC and Sustrans), the Met, City of London Police (CoLP), London Councils, freight organisations (FTA and RHA), motoring organisations (IAM and AA), RoadPeace, and borough representatives.

During the development of the Plan, in depth analysis identified the key types of collisions that were most likely to result in cyclists being killed or seriously injured. Using this information and additional details as to whom, and where and when these collisions take place, the action identified could be targeted to the appropriate 'high risk' audiences as well as at 'high risk' collision locations.

The Mayor's Cycle Safety Action Plan and 52 actions along with the 2011 end of year report can be viewed at http://www.tfl.gov.uk/corporate/projectsandschemes/15480.aspx.

The Plan highlights in particular, the need to take action to reduce the number of cyclists killed and injured in collisions with goods vehicles. It also draws attention to the serious problem of collisions between cyclists and other vehicles in what are termed 'close proximity' collisions. These are characterised by cyclists and other road users failing to give each other adequate road space. As part of the analysis, key types of collisions were identified as requiring action to reduce their frequency and these have shaped the actions prioritised within the Plan. The six most common collision types and their descriptions are summarised in **figure11** below.

Figure 11: Common collision types resulting in cyclist KSIs

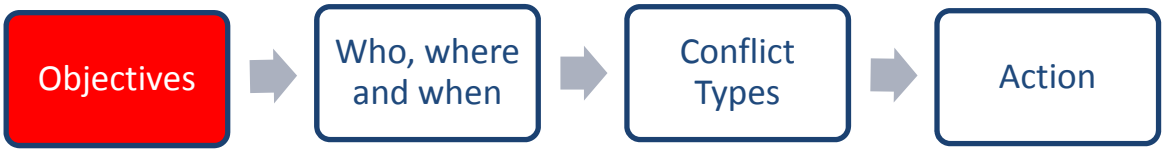


1. Other vehicle turns right across path of P/C
2. P/C and other vehicle travelling alongside each other
3. Other vehicle turns left across the path of P/C
4. P/C hits open door / swerves to avoid open door of other vehicle.
5. Other vehicle fails to give way or disobeys junction control & collides with P/C
6. Other vehicle runs into rear of P/C

The Plan has been taken forward by TfL and its partners to reduce cycling casualties on London's roads. There are nine different areas for action, which cut across the six collision types. The 52 actions within the Plan and progress to date are outlined in **appendix 3** to this report.

Analysis of the collision data helps to inform when, where and who is affected by cycling fatalities and serious injuries. The findings indicate that the trends in terms of cycling casualties are largely in line with trends in general cycling, for example more casualties are found in areas of high cycling flow, and casualties are proportional to cyclists by gender and age.

By targeting actions at the causes of collisions, the Plan addresses the majority of situations in which collisions occur. TfL believe that this approach will make a positive and lasting contribution to reducing the number of cyclists killed and injured on London's roads in future. TfL and the GLA are committed to driving forward the actions identified in the Plan, and working with partner organisations and key stakeholder groups across London to ensure we deliver effectively in all areas.



TfL continually reviews collision data to identify who is most at risk, and where and when the conflicts are most likely to occur.

Prior to the publication of the Mayor's Cycle Safety Action Plan (2010) safety for cyclists was a focus for action in the London Cycling Action Plan (LCAP) and was driven through the delivery of safer infrastructure, road safety campaigns and through communication with the freight industry.

TfL has also been working with the DfT to help to establish a National Cycle Safety Working Group. TfL sits on this group which aims to make improvements to national policy, regulations and guidance which will benefit cyclists across the country.

2.3 Improving safety between HGVs and cyclists

This section answers the Transport Committee's questions relating to:

Overview of current and future action being taken to improve cyclists' safety

- A summary of all other measures that TfL has implemented or will implement to improve cyclists safety

Activity to reduce collisions between cyclists and HGVs is a priority area of focus within the Plan. Of the 16 cyclist fatalities that occurred in 2011, nine were as a result of a collision with a larger goods vehicle. Six of these involved a construction vehicle such as a skip or tipper truck.

London has become a world leader in the way in which it has approached improving safety between cyclists and HGVs. Action has been focussed on improving driver training, vehicle technology, public procurement, construction industry review and lobbying national and European government for regulatory changes to improve cycle safety.

2.3.1 Driver training

TfL's Fleet Operator Recognition Scheme (FORS) now includes three Certificate of Professional Competence (CPC) accredited courses to improve driver awareness of cycle safety. One of the courses includes on-bike vulnerable road user hazard awareness training. This provides drivers with a cyclists' eye view of the road, and helps increase awareness of cycling safety challenges. 4,987 drivers were trained between 2010 (when training was introduced) and July 2012. The driver CPC is accredited for both coach and lorry drivers. In addition to driver training, training for Transport Managers is also offered through FORS.

2.3.2 Vehicle equipment

Safety can also be improved by fitting lorries with safety equipment. This equipment includes side guards, mirrors, motion sensors, cameras and audio

devices fitted to lorries all help to improve the safety for cyclists and other vulnerable road users.

As part of becoming FORS Gold accredited, operators are required to fit class six mirrors (if the vehicle is from before 2009), have side guards fitted, have a 'blind spot warning system' fitted (which is a combination of either a front mounted CCTV camera or a Fresnel lens , and a nearside sensor to alert the cyclists that the vehicle is turning). Vehicles must also be fitted with warning signs aimed at cyclists which are mounted at the back of the vehicle.

TfL worked with some of the Capital's biggest operators to test a range of technology in 2011 and published guidance for operators wishing to purchase these for their own fleets.

Activity in 2012 is focussing on increasing the take-up of these technologies. A second phase of the trial is now underway which will help operators to develop business cases for these technologies and thereby further incentivise their take up. Through FORS accreditation, operators are able to access discounts to many of these technologies.

2.3.3 Public procurement

Every company and major workplace in London can contribute to cycle safety in London by procuring deliveries only from companies whose vehicles are fitted with safety equipment (see section 2.3.2) and whose drivers have received the CPC Safer London Driving training (see 2.3.1). The GLA family are taking action to improve cycle safety through these procurement practices and Crossrail require companies working on their sites to train their drivers and equip their fleets with best practice safety technology. This is enforced through on-site inspections; vehicles falling short of their contractual obligations are refused entry to construction sites.

TfL, including London Underground, is committed to ensure that its own fleets and contractors adhere to best practice. A range of safety measures are required to be put in place by freight operators working on any of its contracts. Contracts mandate the fitting of safety equipment (side guards, sensors, warning signs, CCTV) as a condition of winning work. The same approach has been adopted to ensure drivers have received driver CPC safety training before working on a TfL contract. All TfL contracts will include the relevant revisions by Dec 2012.

TfL's Commissioner, Peter Hendy, has written to all London borough Chief Executives to urge them to adopt similar procurement practices for their own fleets and contracts. At the time of writing 28 boroughs are registered with FORS, 13 are

Bronze accredited, one borough is Silver accredited (London Borough of Newham) and one borough is Gold accredited (City of London). Five London boroughs are yet to register with FORS. To support the approach to cycle safety through public procurement, TfL has been in dialogue with other Local Authorities across the country to encourage similar procurement practices to include these technologies.

2.3.4 Independent review of the design and operation of construction vehicles

Six of the 16 cyclist fatalities that occurred in London in 2011 were as a result of a collision with a skip vehicle or tipper truck. TfL has therefore commissioned an independent review of the design and operation of construction vehicles on London's roads.

The aim of the review is to understand the causes of these collisions and how they can be prevented. The research will include, but is not limited to, a review of literature, an overview of collision statistics, a study of how the construction logistics sector works, and an assessment of vehicle characteristics which may affect the safety of other road users.

The main objectives of the research are to:

- Identify any safety issues relating to contractual practices between construction developers and construction logistic operators
- Identify any primary or causal factors contributing to irregular driver behaviour
- Identify any safety issues relating to both new and existing vehicle specifications and design (E.g. 'blind spots' and lack of sideguards)
- Develop proposals in light of any issues identified and recommend solutions to identified problems

This research will study scenarios relating to managerial and driver behaviour resulting from operational or contractual pressures including financial incentives, route selection and enforcement practices. The research will seek to investigate whether these practices contribute to a culture within the construction logistic sector that has implications for cycle safety.

A draft of the review will be ready in Autumn 2012 which will help to inform further action to improve cycle safety.

2.3.5 Exchanging Places

'Exchanging Places' events are another way to raise awareness of the risks posed to cyclists by large vehicles. These allow cyclists to sit in the driver's seat of an HGV or bus to get a better understanding of what the driver can and cannot see.

Feedback from these events shows that 99 per cent of participants intend to change their riding behaviour in order to stay safe on London's roads. Over 7,000 people have now participated in Exchanging Places events.

2.3.6 Met Police Commercial Vehicle Task Force

TfL has secured additional funding to increase the size of the MetPolice Commercial Vehicle Taskforce with six additional officers plus two from the Road Crime Intelligence Unit. These officers will increase the unit's ability to tackle road risk from HGVs particularly in the construction sector. The Commercial Vehicle Taskforce will focus on the prevention of collisions and will investigate the driver and operator of all personal injury collisions and reported near misses between large goods vehicles (3.5 tonnes and above) and pedal cycles.

2.3.7 Freight Journey Planner

In 2012, TfL developed a journey planner for freight operators. This tool informs drivers about which routes are likely to have high cycle flow so they can plan their journeys accordingly.

2.3.8 Working with the FTA and RHA

TfL works closely with the Freight Transport Association (FTA) and Road Haulage Association (RHA) with regards to cycle safety. Both the FTA and RHA are members of the Cycle Safety Working Group, the group that oversee the delivery of the Mayor's Cycle Safety Action Plan. The RHA and FTA are also part of the Technical Advisory Group which is providing expert advice to the independent review of the design and operation of construction vehicles currently underway (see sec 2.3.4).

In July 2010, the FTA signed a Memorandum of Understanding (MOU) with the Mayor with the aim of reducing the potential for conflict between cyclists and goods vehicles and to reduce the number of deliveries at peak hours. The FTA has since developed a cycling code (June 2011)[12]. The code developed by the FTA in full co-operation with the London Cycle Campaign, the Metropolitan Police, the Institute of Advanced Motorists and Transport for London (TfL), sets out reasonable expectations of all road users and provides a standard for on-road behaviour that if observed by all would lead to a material and enduring reduction in collisions and casualties. Since publishing the code the FTA has been encouraging other operators and cyclists' organisations to add their support to the Cycling Code and has been working with TfL and other local authorities around the country to promote awareness of the code widely in London and across the UK.

[12] http://www.fta.co.uk/export/sites/fta/_galleries/downloads/cycling/fta_cycling_code.pdf

2.3.9 Cycle Hire

Barclays Cycle Hire bikes all have stickers on the front of the bikes reminding cyclists not to undertake HGVs on the left. The bikes include numerous safety features such as lights, brakes, bells, fat tyres and slow and steady gearing.

2.4 Improving safety through education and training

This section answers the Transport Committee's questions relating to:

Overview of current and future action being taken to improve cyclists' safety

- A summary of all other measures that TfL has implemented or will implement to improve cyclists safety

Cycle training and education campaigns are important ways of helping new and recent cyclists to become more confident, skilled and aware of how to stay safe.

2.4.1 Cycle Training

Cycle training is carried out by the London boroughs and funded by TfL through the Local Implementation Plan programme.

- 48,397 people were given cycle training by the London boroughs in 2010/11
- In 2010/11, the London boroughs provided cycle training to 8,350 adults, an increase of 42 per cent on 2008/9 numbers
- An additional 17,000 hours of cycle training were also funded by TfL through the Barclays Cycle Superhighways and Cycle Hire programmes

Follow up research with participants has shown that 76 per cent of people felt safer as a result of training.

TfL is working with interested London boroughs to establish a joint contract for cycle training. This will make it easier for participating boroughs to procure cycle training in future.

2.4.2 Improving safety through road safety campaigns

Road safety education campaigns are an important means of raising cyclists' awareness of particular hazards on the road network, such as the importance of staying clear of HGVs on London's roads. London is hugely innovative in this area and has won awards for its road safety campaigns.

In 2010, TfL developed an HGV and cycle safety campaign urging cyclists not to undertake lorries at junctions. An updated version of the campaign launched in spring 2012 featuring tipper trucks with the strap line 'Cyclists Stay Safe, Stay Back'. London boroughs have also undertaken campaign work to raise awareness of this important issue.

In 2011, TfL developed safety advice for London's cyclists based on the National Standard Cycle Training Syllabus. The '12 Tips for Safer Cycling' provide simple instructions to cyclists to help tackle the most common causes of cyclist casualties. The tips can be found on the TfL website at www.tfl.gov.uk/cyclesafety. This campaign has helped to encourage more than 40,000 people to visit the TfL cycle safety webpage since May 2011, greatly increasing cyclists' awareness of key safety information. Many of these messages, including messages about HGV cycle safety, are also captured in the Barclays Cycle Hire code of conduct. This can be seen at http://www.tfl.gov.uk/roadusers/cycling/14810.aspx .

Cyclist collisions most commonly result from motorised vehicles passing too closely to cyclists, turning left or right across the path of a cyclist or opening a car door in the path of a cyclist. TfL's 'Look out for cyclists' campaign is designed specifically to prevent these types of collisions.

The campaign makes four key points:

- Leave space at junctions
- Give space when overtaking
- Check before turning right
- Check when opening car doors

These messages were featured in posters and on the radio from June 2011 through to the end of August, with another round of posters from mid-November 2011 through to January 2012. A toolkit of the poster artwork was made available to boroughs.

2.5 Improving safety through enforcement

This section answers the Transport Committee's questions relating to:

Overview of current and future action being taken to improve cyclists' safety

- A summary of all other measures that TfL has implemented or will implement to improve cyclists safety

The TfL funded Met Cycle Task Force communicates and enforces appropriate behaviour for road users in London. Eleven additional traffic officers focus on this activity within the Task Force. They are deployed to improve safety for cyclists along cycle superhighways and to collisions hot spots and junctions/pinch points. Its aim is to improve safety for all, and activities include talking to Londoners to raise their awareness of dangerous behaviour and cracking down on drivers and cyclists who break the rules of the road.

Between September 2010 and June 2012, these officers have reported more than 6,700 offences, of which 24 per cent were by cyclists for offences such as cycling through a red light and cycling on the pavement. The remaining 76 per cent Fixed Penalty Notices were issued to drivers for offences such as driving while using a mobile phone, driving without a seatbelt, contravening red traffic lights and driving within a mandatory cycle lane.

For less serious offences cyclists are offered the option of attending an 'Exchanging Places' event rather than be given a FPN. These encourage considerate and safe behaviour from all road users and promote the safe sharing of the road.

2.6 Safer infrastructure

This section answers the Transport Committee's questions relating to:

Overview of current and future action being taken to improve cyclists' safety

- A summary of all TfL's current and planned cycle safety physical infrastructure measures

Increasing cycling and cycling safety – cycle superhighways

- The lessons learned from the first four superhighways with respect to: the numbers of cyclists using the routes; profile of cyclists using the route (gender, age, ethnicity, disability); and the number of casualties and cyclists KSIs
- How lessons learned to date from the superhighways are being applied to the future superhighways

Road junctions review

- The criteria for determining the priority order for the junctions to be tackled
- The criteria for determining the solutions to be implemented at each junction
- The steps, and timescales, in the junction review process i.e. from modelling potential options to a course of action being agreed and implemented.
- Other junctions that TfL is planning to redevelop not covered by the junction review
- The process used when possible cycling improvements are judged to be in conflict with traffic flow

Engaging cyclists

- Details of the stakeholder groups which have been involved in the junctions

In recent years, TfL and the London boroughs have delivered an extensive network of cycling routes to provide easy and safer passage for cyclists through the Capital. The network is made up of a broad range of cycling routes catering for the varying requirements of London's cyclists. These range from Barclays Cycle Superhighways for fast moving commuter cyclists, through to quiet back street routes for local journeys and off-road routes for leisure and family cycling (see table 10). Ensuring this infrastructure is designed to improve safety for cyclists is a major area of focus for TfL. The following section sets out how TfL is working to improve the safety of London's streets for cyclists and other vulnerable road users.

Table 10 Cycling Routes in London (2011)

Type of Route	Distance (rounded to nearest 10km)
Cycle Superhighways	36km
Signed Routes (not CSH)	1,440km
Quieter streets recommended by other cyclists	2,930km
Greenways – shared use walking and cycling paths through parks and along canals	1,070km
Off-road cycle tracks	360km

Source: London Cycle Guides

2.6.1 Design Standards

Guidance for TfL and borough officers delivering new routes and route improvements for cyclists is set down in the London Cycle Design Standards (LCDS). The LCDS contain guidance and standards for TfL and borough officers designing cycle routes and other transport systems which affect cyclists, on lane widths, advice on consulting cyclists as part of the design process and recommended signage. TfL provides free training on LCDS for TfL and borough officers.

The TfL standards include guidance on when it is appropriate to introduce different types of cycling provision and on how to design effective schemes with dedicated space for cyclists.

The current guidance can be viewed at http://www.tfl.gov.uk/businessandpartners/publications/2766.aspx. A revised version of the guidance, incorporating recent changes to regulations and policy is currently in preparation, drawing on lessons from the junction review.

2.6.2 TLRN Improvement Programme

TfL is responsible for managing and improving the Transport for London Road Network (TLRN) which makes up five per cent of London's roads. Every year, TfL analyses collision data to develop its safety improvement programme. Targeted safety schemes are then implemented at locations where they will have most effect in driving down the number of people killed and seriously injured on London's roads. Schemes to break down barriers to cycling are also prioritised with new links and crossings implemented every year.

In addition to those junction improvements set out in the 'Better junctions' section below (2.6.4), a rolling package of junction improvements will continue to be delivered across the TLRN through TfL's existing TLRN Improvement budget.

Examples of some recent schemes delivered by TfL during 2012 prior to the London 2012 Games are as follows:

- Improved pedestrian and cycling facilities at three junctions close to King's Cross station (Pancras Road, York Way and Caledonian Road)
- Improved cycle and pedestrian crossing facilities at Hyde Park Corner
- Provision of shared footways at A312 Church Road on both sides of the carriageway, along the entire length of the road (1.1km), including footway widening, signing, tactile paving, new way-finding signs and clutter removal.
- Introduction of an innovative 'early-start' facility at Bow Roundabout, enabling cyclists to wait ahead of other queuing traffic and enter the roundabout first

TfL is also introducing road side safety mirrors at many locations on the TLRN. A further 100 mirrors will be introduced at priority locations on the TLRN by April 2013.

2.6.3 Safety on Barclays Cycle Superhighways

Safety has been central to the planning and delivery of the Barclays Cycle Superhighways programme. For example:

- Safety improvements are made to every junction along the routes. For example, the construction of CS2 involved major improvements at key points such as the Cambridge Heath Road junction with Mile End Road, making the area more easily negotiable for cyclists and pedestrians while also improving the junction for traffic. The CS2 extension and Route 5 will open during 2013, providing enhancements at junctions along the routes

- Innovative safety features such as cyclist priority at junctions

- Coloured surfacing along the routes is at least 1.5m wide. The surfacing continues through junctions, a significant challenge to implement but one that is extremely important as it raises drivers' awareness of the presence of cyclists

- 108 new advanced stop boxes have been provided at traffic lights to help cyclists get safely ahead of traffic

- As of 31 October 2011, 89 road-side safety 'Trixi' mirrors have been implemented along the routes to improve HGV drivers' visibility of cyclists

- Training and education is provided to HGV drivers that operate along the routes

Barclays Cycle Superhighways lessons learnt - safety

TfL continually reviews and makes changes to its programmes to take account of the lessons that have been learnt. The lessons learnt for the Barclays Cycle Superhighways programme are described in detail in section 1.5.2. Examples of how the Barclays Cycle Superhighways programme has evolved to ensure safety for cyclists is paramount include:

- Mandatory cycle lanes

The first two Superhighways did not include a high proportion of mandatory cycle lanes. On subsequent routes, where possible, dedicated space is provided for cyclists in mandatory cycle lanes or off road. For example, on CS8, nearly 5km of mandatory cycle lanes were introduced along Grosvenor Road and Millbank in Westminster (equating to one third of the route), providing an exceptionally high-quality cycling environment in this area of central London.

- Road side safety mirrors

Research following the pilot routes found that HGV drivers understood the purpose of the road side safety mirrors and found them useful. Having gained approval from the DfT, the mirrors will be rolled out on all BCS routes as well as many other locations on the TLRN.

- HGV driver training

The Certificate of Professional Competence' HGV training courses were received well by the freight industry and demand was high. As a result, the budget for driver training was increased to enable more drivers to be trained.

In addition, lessons are being learned from TfL's Better Junctions review. This is described in more detail below.

2.6.4 Better Junctions

Following a number of cyclist fatalities on London's roads towards the end of 2011, including two in the vicinity of Bow roundabout, one of which was on CS2, the Mayor of London asked TfL to carry out a review of all major schemes planned on TfL roads as well as all junctions on the existing Superhighways, to see if more could be done for cyclists at these locations. That work specifically included an urgent and thorough assessment of the design of the Superhighway facilities at Bow roundabout.

Stakeholders have been closely involved in the Junction Review. Junction Review meetings have involved representatives from the main road user groups and interests, as well as representatives from boroughs and the Metropolitan Police. The external organisations attending Junction Review meetings are:

- FTA
- Institute of Advanced Motorists (IAM)
- Living Streets
- LCC
- LoTAG (representing London boroughs)
- BCOG (representing London boroughs)
- Met
- Road Haulage Association (RHA)
- Roadpeace
- Sustrans

From an initial pool of 500 junctions, TfL has identified a 'top 100' priority list of junctions which will be taken through the Junction Review process and consulted with key stakeholders by the end of 2013. At least 35 of the top 100 junctions will be delivered on the ground by the end of 2013, with 10 completed by December 2012 and a further 15 completed by summer 2013. See **appendix 4** for more information.

Junctions for review have been prioritised in line with collision rates, numbers of cyclists and how close the design of the scheme is to completion. Barclays Cycle Superhighway junctions have been prioritised using a combination of criteria, including collision data, findings of post-implementation analysis, and customer feedback. For each junction the stakeholder design review group considers a number of options that have been developed by TfL designers.

A dedicated project team has been established within TfL to implement proposals arising from the Junction Review. Following traffic modelling, recommended solutions will be considered by a high level TfL Project Board, before being taken forward through the usual statutory approvals processes (e.g. Road Safety Audit, Traffic Orders consultation etc). Consultation with all user groups involved in the Junction Review will continue during the implementation stage, as well as local consultation with a wider stakeholder group before beginning work on site.

Early lessons and feedback from the review has been consolidated and will be used to drive the solutions at each junction, including those on the Cycle Superhighways. The review is likely to lead to:

- Identification of sites for early start signals for cyclists where clear benefits can be demonstrated
- Implementation of segregated or off-carriageway cycle facilities where space exists and where desirable, providing priority to cyclists at pedestrian crossings and bus stops where feasible to do so
- Reviewing where 20mph limits could be implemented or extended, where a clear safety benefit can be demonstrated for cyclists, and where local conditions suggest such a limit would be supported by the Metropolitan Police and other stakeholders
- More than five metre deep ASLs - where justified by cycle flows and subject to DfT site authorisation
- Reviewing of ASL stop line and traffic signal positions, to provide additional head start for cyclists where feasible
- Improving the safety of cyclists on the approach to junctions by improvements such as:
  - Mandatory cycle lane leading into ASL
  - Central feeder lane leading into ASL
  - Off carriageway facility, bypassing the junction
  - Segregated lane: if delivered in combination with early start facility

As a result of the junction review, plans are now in place to make improvements at the following junctions:

- Bow Roundabout
- Mile End Road/Burdett Road/Grove Road
- Stockwell Gyratory
- Blackfriars Bridge Northbound
- Elephant and Castle Northern (early wins)
- Waterloo Roundabout
- Lambeth Bridge Northern Roundabout
- Upper Thames Street/Queen Street Place
- Mile End Road/Stepney Green
- Southwark Bridge Road/Marshalsea Road

A rolling package of junction improvements will continue to be delivered across the TLRN through TfL's existing TLRN Improvement budget. See section 2.6.2 for further details on the TLRN.

This is once again demonstration of the unprecedented level of commitment towards improving cycle safety on London's roads.

2.6.5 Managing London's Road Network

Roads are vital for sustaining the London economy, essential for the movement of people and goods and provide a public space for shopping, exercising and socialising. London's roads are expected to meet the needs of a wide variety of uses and users, both moving along them and alongside them. In the short term, the amount of physical space available on the road network is effectively fixed, although space can be (and has been) reallocated away from general traffic for other purposes such as road safety, public realm improvements and bus and cycle lanes.

The Mayor has made clear (both in his transport strategy and elsewhere) that he wants to improve conditions for cyclists, as well as a number of other objectives, including improving the public realm, supporting the bus network and improving journey time reliability for all road users. Improving journey time reliability does not mean moving traffic more quickly. It means ensuring that journeys take the same time each day on average, subject to the inevitable impact of unplanned events.

Smoothing Traffic Flow

‘Smoothing traffic flow’ is the term used for the Mayor’s broad approach to managing road congestion and, in particular, improving traffic journey time reliability and predictability. The aim of the smoothing traffic flow approach to managing the road network is to improve conditions for cyclists and pedestrians as well as vehicular traffic.

Smoothing traffic flow has six components:

• Maximising the efficient and reliable operation of the existing road network

• Minimising the impact of planned interventions on the road network that have the potential to disrupt traffic flows

• Minimising the disruption caused by unplanned events (collisions, emergencies, etc) as they occur and returning the network to its planned steady state operation as soon as possible

• Maintaining road network assets in a good state of repair in the interests of safety and efficiency

• Where a net benefit under proposal 35 can be shown, developing the road network

• Achieving targeted modal shift from car journeys to more sustainable modes (supported by the improvements in public transport, walking and cycling conditions and smarter travel measures and the continued operation of the central London Congestion Charging scheme in the original area...)

Source: Mayor’s Transport Strategy (sec 5.6.3)

Over the last 17 years the effective capacity of London’s road network has reduced by approximately 15 per cent in inner London and nearly twice that in central London, as capacity has been reallocated to improve safety and create better facilities for walking and cycling. As a result traffic speeds have slowed[13].

The Roads Task Force

Managing the competing demands on the Road Network is challenging and so a new Task Force has been established to oversee a major review of how London’s roads are used and managed. The Roads Task Force, a key election pledge by the Mayor, is looking at how TfL and the boroughs could redesign gyratories and

[13] Travel in London 4

congestion blackspots, make journeys more reliable, and continue to make roads safer for all users. It is also looking at how the road network could better serve local communities, helping to transform the urban realm, cut pollution and ease congestion across the capital. The group will analyse the challenges faced by London's road network and assess possible solutions to improve the Capital's roads for all users. It will also look at how the road network could better serve local communities, helping to transform the urban realm, cut pollution and ease congestion across the Capital.

Signalised Junctions

Alongside changes to the physical characteristics of the road network (such as reallocating road space), London's traffic signals play a critical role in managing the competing demands of different uses on the network.

London's signalised junctions are designed primarily to safely separate pedestrians, cyclists and motor vehicles, to avoid conflicting movements. The demand for signal green time and road space for all road users usually exceeds the supply, so within these constraints signalled junctions seek to provide a reasonable balance of priority for all road users. This ensures that TfL complies with the requirements of the Traffic Management Act (2004), and fulfils its Network Management Duty under the Act. TfL's obligations in this respect are governed via the TfL Network Management Group (NMG), to ensure that appropriate balances in provisions are made for the legitimate competing demands on London's road network.

Cycling infrastructure on the TLRN

Cycling infrastructure provides solutions to address the barriers to cycling on London's roads, with a particular focus on improving safety, journey reliability, and comfort. New developments can open up opportunities to create new space for cyclists and pedestrians. Widening the highway through land acquisition from third parties - and the associated substantial legal and property costs - does not however, in most cases, represent good value for money. Consequently, these solutions are often delivered within the existing highway boundaries - in some cases significantly reducing capacity and impacting on other users, including pedestrians.

Each cycling infrastructure proposal on the TLRN is assessed on its own merits with consideration of the following:

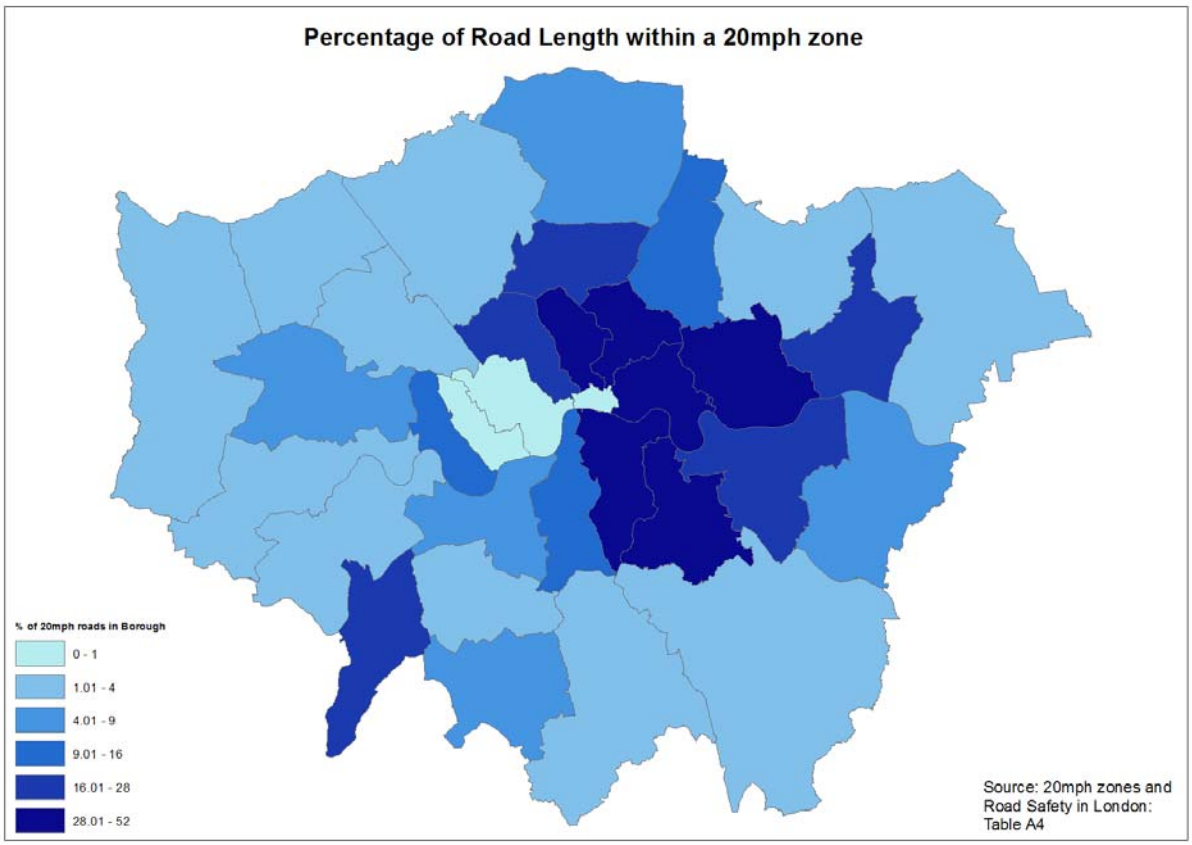
- Whether the proposals demonstrate a clear safety benefit for cyclists and other road users (e.g. reduction in conflict points)
- The extent of demand for cycling improvements at a particular junction (e.g. locations with a history of collisions involving cyclists, or a junction that is perceived as a major barrier to cycling)
- Whether the improvement is a key deliverable (e.g. Cycle Superhighways provision of minimum 5m depth for ASLs)
- Whether predicted cycle demand is of a sufficient level to justify a reduction in the level of service for other road users
- To what extent the impact of the scheme reduces operational capacity, which has a significant impact on network resilience and journey time reliability

Examples of where additional space has been provided for cyclists in the past include removal of general traffic lanes on CS7 at Stockwell and Kennington to reduce conflict points, as well as removal of traffic lanes along significant lengths of Grosvenor Road and Millbank to provide 2.5 metre mandatory cycle lanes on CS8.

2.6.6 Speed reductions

Reducing speeds can have significant safety benefits for cyclists. Through the LIP process, TfL supports boroughs to introduce lower speed limits in locations where they can be enforced. **Figure 12** indicates the proportion of borough roads with 20 miles per hour limits.

Figure 12: Percentage of Road Length within a 20mph zone



2.6.7 London Boroughs and Safer Cycling Infrastructure

Ninety-five per cent of London's roads are controlled and managed by the London boroughs. In recognition of the significant role that boroughs play in improving access and safety for cyclist, the Mayor has kept Local Implementation Plan (LIP) funding, which is provided to the boroughs to support local transport projects which reflect MTS priorities, at a constant £147.8m per annum for 2011/12 to 2013/14. This three year funding confirmation, coupled with the LIP reforms that were introduced in 2009/10, has enabled the boroughs to more effectively plan their programmes of work to focus resources where they will be most beneficial in creating a step change in the quality of environment for cycling (as well as travel by other sustainable modes). For example, during 2012/13 there are over 300 LIP supported projects across the 33 London boroughs which are being delivered to improve conditions for cycling.

Examples of significant projects at design and / or build in the current financial year include: Sydenham Town Centre (Lewisham), Leytonstone Interchange (Waltham

Forest) Kender Triangle (Lewisham) Canning Town (Newham), Hornchurch Town Centre (Havering), Highbury Corner (Islington), Kingsland High Street (Hackney) Harlesden Town Centre (Brent), Ealing Broadway (Ealing), East Croydon (Croydon), Bromley North (Bromley), Wood Green Town Centre (Haringey), Tolworth Broadway (Kingston), Shepherds Bush (Hammersmith & Fulham), Bethnal Green Road (Tower Hamlets), Romford Town Centre (Havering), Tottenham Court Road / Gower Street Two-Way (Camden), Camberwell Town Centre (Southwark) and Aldgate Gyratory removal (City of London).

The infrastructure improvements are also supported by extensive programmes of road safety education, travel awareness and cycle training across the 33 London boroughs, which are also supported by TfL through the LIPs process.

2.6.8 Highways Maintenance

TfL is working with its contractors to ensure maintenance regimes provide a good level of service to cyclists. New guidance will be incorporated into the new pan-London maintenance contracts effective from April 2013. All routes have been classified into prestige, primary, and secondary categories, taking cycle flows into account. The categories will dictate the frequency of inspections and speed of rectification. Customer research indicates cyclists' satisfaction is improving with the TLRN, with research from 2011 finding that 72 per cent of cyclists are satisfied with the TLRN, up from 67per cent in 2010. This brings cyclists' level of satisfaction with the TLRN up to similar levels as that of car drivers'.

2.6.9 Temporary Traffic Management

A new set of guidance for maintaining good conditions for cycling around roadworks was published in 2012.

This guidance was developed by TfL to support Chapter 8 of the Traffic Signs Manual and the 'Safety at Street Works & Road Works, a Code of Practice'.

The new "Cyclists at Roadworks" document is aimed at those designing and installing traffic management to ensure that cyclists are not disproportionately affected by construction activities, whilst at the same time, maintaining safety for all other road users, including those undertaking the works. The document is primarily aimed at works undertaken on the TLRN, but TfL is promoting it as good practice to boroughs through the London Technical Advisory Group (LoTAG), and to the wider highway maintenance industry through the Highways Term Maintenance Association (HTMA).

The document provides advice and guidance to engineers on how to avoid potential hazards to cyclists that can arise in traffic management schemes, for example:

- Avoiding temporary arrangements that create pinch points that "squeeze" cyclists
- Ensuring lane widths are conducive to safe cycling
- Avoiding long diversion routes for cyclists
- Avoiding use of temporary "Cyclists Dismount" signs, unless absolutely necessary
- Ensuring temporary road surfaces are suitable for cycling
- Avoiding road closures or one-way working (without cyclist exemption)
- Temporary speed limits
- Signal timings
- Signage for cyclists

2.7 Learning from international good practice

This section contains answers to the following of the Transport Committee's questions:

Overview of current and future action being taken to improve cyclists' safety

- A summary of all other measures that TfL has implemented or will implement to improve cyclists safety
- Any international and/or national examples of good practice in cycling safety that TfL is learning from

Road junctions review

- The steps TfL has taken to develop proposals for the flagship sites at Vauxhall Cross and Greenwich as per the Mayor's commitment to the 'Love London Go Dutch' principals.

International and national exchanges of knowledge are an important part of driving up standards of cycling provision. TfL is learning from international and national examples of good practice on cycle safety that can be applied in London. London is also seen as an international leader in some areas of safety delivery, such as the development and installation of road side safety mirrors and the promotion of adult cycle training. TfL officers regularly host colleagues on study trips from the UK and abroad, where knowledge and experience is shared. In addition, TfL officers have spoken at conferences in France, Canada, Australia, Denmark and Sweden, about the ongoing work to improve conditions for cycling.

2.7.1 Learning from others

TfL has sought to draw on international best practice in the design and delivery of street infrastructure for cyclists. In doing so, TfL officers have taken account of research and practice from London, the UK and abroad. When importing design practices from international colleagues, there are two challenges. The first is understanding and managing differences in regulations governing infrastructure design. The second is assuring that the infrastructure will operate safely and effectively. As the safety of all road users is paramount to TfL, any infrastructure implemented in London must be permitted within the UK legislative framework, comply with regulations, and be judged appropriate for use within the cultural dynamics of London's roads.

In countries with higher levels of cycling and lower cyclist casualty rates, motorists giving way to cyclists and pedestrians when making turning movements is an accepted part of traffic behaviour, and is usually supported by legislation. The regulatory and legal framework in the UK is different. It is therefore important for TfL to commission trials to enable measures to be properly evaluated before wider roll out in London.

Specific examples of interventions used by TfL that emulate international practice follow.

Coloured surfacing

The use of blue cycle lanes on approach to and across signal controlled junctions is commonplace in Denmark (see **figure 13** and **figure 14**). The first use of colour on approach to junctions (green surfacing) in London was on the A23 by the Traffic Director for London (TDfL) in 2000. A three year collision study between 2004 and 2007 found that cycle collisions had reduced or remained static at all except two of the 35 junctions modified to include coloured lanes through junctions. The TfL London Cycling Design Standards have included options for the use of cycle lanes with or without coloured surfacing across priority and signal controlled junctions, and on approach to junctions, since 2005. Cycle lanes through junctions and blue surfacing are now used extensively on the Barclays Cycle Superhighways.

Figure 13: Denmark – cycle lane on approach to junction. Note other traffic has to cross cycle lane to enter turning lane.

Figure 14: Copenhagen – use of colour to raise driver awareness and guide cyclists across junction

Signal controlled junctions

In June 2012, a new “early start” cycle facility was introduced at Bow roundabout, East London, to improve safety for cyclists. A similar facility will be constructed on the south-eastern corner after the Olympics. The “early start” scheme was inspired by the “cyclist pre-signals” seen in Europe, but was designed to be compliant with UK legislation and regulations. It is the first of its kind in London, and its performance continues to be monitored.

TfL has also sought to investigate and develop innovative solutions that could potentially be progressed to trial and approval by the DfT for delivery on street. This includes investigating the feasibility and approval mechanisms for low level cycle signal aspects, two-stage right turns and cycle streets (see section 2.8 for more details).

2.7.2 ‘Go Dutch’ and learning from the Netherlands

In March 2012, the Mayor lent his support to the London Cycling Campaign’s Love London, Go Dutch campaign. This campaign comprises 10 principles designed to improve the safety and customer experience of cycling in London. TfL is currently reviewing the detail of the campaign to ascertain how the principles it establishes can be incorporated into the design and implementation of cycling schemes in London, taking into account the UK legal framework and regulations, the physical constraints of London’s streets, and the needs of all road users.

In light of this review, TfL will:

- Update its cycle design standards
- Consider where segregated facilities and lower speeds would be beneficial to cyclists
- Continue to plan for enhanced level of service on new Barclays Cycle Superhighways
- Continue to work with the DfT to make the regulatory changes needed to implement innovative new schemes
- Identify locations where TfL can work with the Met to step up intelligence-led enforcement against anti-social road user behaviour

Particular consideration is being given to the future Barclays Cycle Superhighways and the junctions currently under review. For example:

- TfL are considering how CS4 planned to open in the Royal Borough of Greenwich in 2015, can be delivered in line with these principles. Concept designs for this route will be developed from November 2012, and any proposals will be subject to local consultation – including detailed input from the Royal Borough of Greenwich regarding implementation on borough highways
- Interim cycling improvements at Vauxhall Cross will be delivered by Barclays Cycle Superhighway route 5, with initial outline proposals available for stakeholder review in autumn 2012 prior to public engagement in 2013 Provision of new mandatory cycle lanes and new bus lanes is being explored, to provide extra space for cyclists. Longer term benefits will be delivered through funding available via the Battersea Nine Elms development, providing the opportunity for significant urban realm and cycling improvements at this high profile central London location

The Mayor and TfL are also keen to work with the Royal Borough of Greenwich to explore how major new development areas such as the Greenwich Peninsula and Charlton could be developed with the ‘Love London, Go Dutch’ approach in mind.

2.7.3 Future plans to improve international knowledge exchange

Going forward, TfL will continue to extend its network of international contacts. An International Information Exchange Programme will commence in September 2012, and will include an International Benchmarking exercise, assisted by a secondee joining TfL from the Copenhagen Municipality Transport Authority.

This piece of work will involve reviewing the UK and London infrastructure design toolkit, identifying parallels and opportunities for improvements based on

international design expertise. Delivery processes will also be reviewed and compared, including methods of consultation and stakeholder engagement.

2.8 Work with the DfT and Europe to change regulations

This section answers the Transport Committee's questions relating to:

Overview of current and future action being taken to improve cyclists' safety

- A summary of all other measures that TfL has implemented or will implement to improve cyclists safety

TfL is urging the DfT and the European Commission to take action to improve regulations and legislation so that conditions for cycling in the Capital can be made better.

2.8.1 Regulation changes for safer infrastructure

TfL is taking a proactive approach in liaising with the DfT on the amendments to the Traffic Signs, Regulations and General Directions (TSRGD), including items not included in the 2011 'Signing the Way' document that could help provide better conditions for cyclists if approved and available to designers. TfL's work with DfT in this regard has resulted in some notable successes. These have included permission to roll out road side safety mirrors and a successful trial of new signage for two way cycling on one way streets.

Securing as many of the desired amendments as possible will mean authorities in London and the UK are able to deliver higher quality and safer infrastructure more efficiently in future. The following changes are of particular importance to improve the safety of cyclists in London:

- Innovative traffic management techniques for cyclists at signalised junctions are a high priority for TfL so regulatory change is needed to enable trials of low level repeater traffic signals, pre-signals for cyclists and/or cycle bypasses to signalised junctions within the carriageway, and cyclist left turn on red

- At ASLs, allow cyclists to legally cross the first line at traffic signals without going up the feeder lane. This will make enforcing against infringements of ASLs by motorised road users much easier for the police

- Signage for “Cycle Streets” to be approved, so that TfL can promote trials (cycle street is a link which is designed to restrict use by motor traffic and provide a superior level of service to cyclists)

- Easing of signage requirements for 20mph limit implementation

It is noteworthy that traffic regulations in the UK operate within a different legal framework to those in many other European countries where liability for cycle collisions rests with the motorised road user. This means that many of the infrastructure measures which are commonplace on the continent will require careful trialling in the UK. This is particularly true for measures at junctions.

2.8.2 Regulatory changes for HGV cycle safety

In addition to regulatory changes governing highways infrastructure, a number of additional changes have been proposed to the Government and the EU to improve cycle safety. These include changes to the regulation of vehicle technology, mandating CPC freight driver training and updating motorist driver training to include more material on driving near cyclists.

At the national level TfL has requested that the government:

- Introduce a mandatory safety element to the Driver Certificate of Professional Competence (DCPC)
- Update motorist driver training to include more material on driving near cyclists.
- Update the driver test to further help develop driver awareness of vulnerable road users, and urge the Driving Standards Agency to include more cycle and pedestrian safety awareness within the driving test
- Increase the number of vehicles with side guards - some of the vehicles currently granted exemptions by the UK Vehicle Certification Agency could be fitted with side guards without affecting the operation of the vehicle.
- Amend the Construction and Use Regulations to mandate the retrofitting of safety equipment such as side guards, close proximity sensors and visual aids such as cameras to improve driver awareness of other more vulnerable road users.

At a European level TfL has requested that:

- As part of EC Whole Vehicle Type Approval, all new tippers and skip lorries be fitted with side guards by restricting the number of exemptions given for new vehicles to only those that are unable to operate with side guards fitted. The Commission should prevent international vehicle manufacturers from applying for exemptions in member states with a more lenient approach to granting exemptions, vehicles which could then operate throughout the EU.

- All new N and M type vehicles to be fitted with either:
    - approved close proximity sensors
    - additional visual aids to cover blind spots not solved by mirrors
    - a system to alert drivers of someone/something in their blindspot
- Make changes to Directive 2007/38/EC to include:
    - All tipper and skip lorries to be retrofitted with side guards except those that are unable to operate with side guards fitted
    - All N2 and N3 vehicles in service to be retrofitted with a compliant system to improve to improve drivers' visibility (E.g. enlarged class 5 mirrors or camera system).
    - Widen the scope of the directive to include N1 vehicles (retrofitting mirrors).
- Amend Directive 2003/59/EC on the initial qualification and periodic training of drivers to include
    - A mandatory safety element to the EU Driver Certificate of Professional Competence (DCPC) which should include vehicle roadworthiness, mirror alignment, and spatial awareness / blind spots indications.
    - The highlighting of urban road safety in the Certificate of Professional Competence (CPC) Periodic Guide in accordance with the Safer Urban Driving and Safer London Driving Courses.

The independent review of the design and operation of construction vehicles commissioned by TfL in early 2012 will also help to provide further recommendations for improving cycle safety at the local, national and European level.

2.9 Conclusion – improving cycle safety in London

TfL takes an evidence-led approach to tackling cycle safety. Action to reduce casualties is focussed on preventing common types of collisions occurring. Improving safety between HGVs and cyclists is a particular area of focus. This work together with action to improve safety through enforcement, safer infrastructure, learning from international good practice and working with the DfT and Europe to change regulations, is all contributing to improving cycle safety.

However, more action is needed and the Mayor and TfL have ambitious plans for further improving conditions for cycling in the Capital.

Section 3 Conclusion

The Mayor and TfL are committed to making London one of the world's greatest cities for cycling, with more and more people cycling, more safely, more often.

Through adopting a data-led approach that focuses resources on areas with the greatest potential, TfL has already made significant inroads into transforming the Capital into a place that is good for cycling. Record levels of investment, combined with a strategy that delivers appropriate infrastructure for potential journeys has led to a substantial increase in cycling over recent years. This has been the product of an integrated cycling strategy, ranging from flagship schemes such as Barclays Cycle Hire, through to smaller scale initiatives such as cycle parking, CCFL and school travel plans.

At the centre of the Mayor's cycling programme has been a commitment to reduce cyclist casualties and make cycling safer for all. As a result of adopting an innovative evidence-led programme of cycle safety initiatives led by the Cycle Safety Action Plan, TfL has overseen a general reduction in cycling casualty rates, relative to cycle flow, in London over the last ten years. TfL is working to ensure this trend continues through continued dedication to tackling particular casualty types such as HGV/cyclist collisions, a commitment to improving key junctions for cyclists and through learning from other examples of good practice.

The next phase of TfL and the Mayor's efforts to get more people cycling will include continuing to improve routes and junctions to make them safer and make passage through London on a bike more straightforward. This work will be complimented by education, training, information and enforcement to improve road user behaviour on the Capitals roads and to support people who'd like to cycle to give it a go.

TfL recognises that a range of partners and agencies will need to contribute to the transformation of London. TfL will continue to work with all of these organisations; from DfT on improved regulation, to learning from overseas colleagues on good practice abroad. The London boroughs will have a vital role to play in creating cycling communities and transforming their public spaces and streets in to safe and pleasant environments for cyclists. In this way, cycling will continue to contribute the significant financial, environmental and health benefits it has to offer.

Appendix 1

Cycling Expenditure in TfL - Actual and Planned

As at Quarter One 2012/13

£m Year Ending March:		Actual 2003/4	2004/5	2005/6	2006/7	2007/8	2008/9	2009/10	2010/11	2011/12	Planned (See note 1) 2012/13
Cycle Hire Opex Costs	*Opex*							2.3	19.7	10.3	3.8
Cycle Hire Capex Costs	*Capex*						0.9	14.6	44.8	31.4	11.4
Cycle Hire (Total net costs)							**0.9**	**16.9**	**64.4**	**41.6**	**15.1**
Cycle Superhighways	*Opex*							1.1	4.8	4.4	10.6
Cycle Superhighways	*Capex*							3.7	16.4	10.5	15.0
Cycle Superhighways								**4.8**	**21.2**	**14.9**	**25.6**
Greenways	*Opex*				1.4	4.1	3.4	4.0	2.2	0.8	1.9
Better Junctions	*Opex*									0.3	0.9
Better Junctions	*Capex*										18.0
Better Junctions										**0.3**	**18.9**
Cycle Parking	*Opex*	0.3	1.6	1.2	1.7	1.8	2.9	3.0	2.0	1.7	2.3
Promotion, campaigns, training	*Opex*	1.0	1.3	1.8	5.9	8.7	4.4	4.0	2.6	3.1	3.2
Olympics (see Note 2)	*Opex*						2.5	1.6	3.6	2.7	0.3
Biking Boroughs	*Opex*									1.3	1.5
Other Schemes	*Opex*	0.9	0.9		1.5	3.0	1.9	1.1	0.4		0.0
Other Schemes	*Capex*	0.4	1.2	3.8	1.9	2.0	3.9	5.1	2.8	4.4	4.0
Other Schemes		**1.3**	**2.1**	**3.8**	**4.8**	**9.1**	**9.2**	**10.2**	**5.4**	**5.3**	**4.0**
Total cycling expenditure		**2.6**	**5.0**	**6.8**	**12.4**	**19.6**	**19.9**	**40.4**	**99.3**	**70.8**	**72.7**
Borough cycling expenditure:											
Ring fenced funding for Borough cycling projects (Boro		11.0	9.3	15.1	19.0	20.7	24.4	16.8			
Estimated allocation of borough LIP funding to cycling schemes									(see note 3)	10.9	28.1
Other relevant cycling expenditure:											
Freight and fleet initatives with cycle safety benefits						1.0	0.7	1.7	0.7	1.4	0.3

Notes

1. Funding for future years will be determined in TfL's new business plan
2. £8.1 for the Olympic Cycle Network funded by the ODA
3. No breakdown available for this year due to transition from ring fenced funding to LIPS

Appendix 2

Pedal cycle casualties on the Cycle Superhighways

Due to the nature of the reporting, the data includes any pedal cycle casualty which took place 20 metres either side of the routes. Therefore a proportion of the collisions did not take place on the Superhighways. It should also be noted that three year's collision data is needed before statistically significant conclusions about the safety performance of the routes can be made.

Routes 7 & 3

On Barclays Cycle Superhighways 7(from Merton to the City) there was an increase in cycle flows[14] of up to **46 per cent** after the launch of the route. On Barclays Cycle Superhighways 3 (from Barking to Tower Hill) there was an increase in cycle flows of up to **83 per cent** after the launch of the route**.** The data below should be reviewed in the context of these increases in flow.

Table A1: Summary of collisions on Cycle Superhighways 3 and 7, 2009-2011*

Route 3 (open Jul-10)	**All Collisions (all modes)**				**Involving Cyclists**			
	Fatal	**Serious**	**Slight**	**Total**	**Fatal**	**Serious**	**Slight**	**Total**
2009	2	15	135	**152**	0	1	9	**10**
2010	2	16	169	**187**	0	3	16	**19**
2011	0	9	166	**175**	0	2	13	**15**
Change in collision rate								**-18%**

Route 7 (open Jul-10)	**All Collisions (all modes)**				**Involving Cyclists**			
	Fatal	**Serious**	**Slight**	**Total**	**Fatal**	**Serious**	**Slight**	**Total**
2009	3	43	284	**330**	1	13	80	**94**
2010	0	39	335	**374**	0	15	112	**127**
2011	3	44	360	**407**	0	17	114	**131**
Change in collision rate								**-5%**

* Changes in the number of collisions involving cyclists represent small numbers. The percentage change in the rate of collisions involving cyclists is estimated for the period 2009 to 2011.

[14] Cycle flows are measured using a mixture of manual and automatic counts.

Routes 2 & 8

On Barclays Cycle Superhighway 2 (from Bow to Aldgate), there was an increase in cycle flows of up to **28 per cent** after the launch of the route. On Barclays Cycle Superhighway 8 (from Wandsworth to Westminster) there was an increase in cycle flows of up to **17 per cent** after the launch of the route. The data below should be reviewed in the context of these increases in flow.

Table A2: Summary of collisions on Cycle Superhighways 2 and 8, 20010-2011*

Route 2 (open Jul-11)	**All Collisions (all modes)**				**Involving Cyclists**			
	Fatal	**Serious**	**Slight**	**Total**	**Fatal**	**Serious**	**Slight**	**Total**
2010	1	30	205	**236**	0	8	44	**52**
2011	5	15	209	**229**	1	7	55	**64**
Change in collision rate								**-4%**

Route 8 (open Jul-11)	**All Collisions (all modes)**				**Involving Cyclists**			
	Fatal	**Serious**	**Slight**	**Total**	**Fatal**	**Serious**	**Slight**	**Total**
2010	0	16	135	**151**	0	4	35	**39**
2011	1	18	120	**139**	0	6	36	**42**
Change in collision rate								**-8%**

* Changes in the number of collisions involving cyclists represent small numbers. The percentage change in the rate of collisions involving cyclists is estimated for the period 2010 to 2011.

Appendix 3

Cycle Safety Action Plan

Action	Progress Not started/In progress/completed	Page number
4.1 Safer Infrastructure		
4.1.1 Work to ensure that all new road infrastructure contributes to improved safety of cyclists, including speed reduction measures, junction improvements and awareness of cyclists' needs.	In progress	10
4.1.2 Identify high-risk locations on the road network for cyclists and advise on and implement site- specific preventive measures.	Completed and ongoing	11
4.1.3 Promote good practice guidance for infrastructure design and operation, ensuring that LCDS are followed. Continue to develop and disseminate cycle design good practice.	In progress	12
4.1.4 Support those boroughs that wish to implement speed reduction measures such as 20mph zones in line with the MTS.	In progress	12
4.1.5 Work with TfL and borough maintenance teams to ensure that road conditions are adequate to ensure road safety for cyclists.	In progress	14
4.1.6 Work with the DfT and boroughs to develop and trial good practice, changes in regulation, guidance and procedures covering highway infrastructure and public realm, to improve cyclist safety.	In progress	14
4.1.7 Work with London's engineering community to provide practical experience of cycling in London for engineers.	In progress	14
4.1.8 Continue to improve safety for cyclists where street works are taking place.	Completed and ongoing	14

4.2 Training and information		
4.2.1 Increase awareness of cycle training in London through marketing and promotion.	**Completed**	15
4.2.2 Work with boroughs, the DfT and service providers to agree a common set of processes to develop cycle training standards and quality. The content of this training will address the main eight causes of casualties.	**Completed and ongoing**	15
4.2.3 Continue to provide funding via LIPs for the boroughs to use at their discretion to deliver child and adult cycle training. Deliver additional adult cycle training and improved monitoring through the cycle hire and cycle superhighway programmes.	**Completed**	16
4.2.4 Where training is procured directly by TfL (eg Barclays Cycle Superhighways), ensure that the service and content is of high quality and is properly monitored.	**Completed**	16
4.2.5 Deliver an expanded programme of led rides for commuters in 2010, following on from 'Cycle Fridays'.	**Completed**	16
4.2.6 Continue to develop and disseminate cycle route and safety information.	**Completed**	17
4.2.7 Continue to provide route information through the London Cycle Guides and through TfL Journey Planner.	**Completed**	17
4.3 Communication		
4.3.1 Deliver a marketing campaign to warn motorists and passengers to look out for cyclists.	**Completed**	18
4.3.2 Develop a marketing campaign directly targeted at improving safety between HGVs and cyclists.	**Completed**	18
4.3.3 Include safety messages and promote cycle training as part of the cycling marketing campaign during summer 2010.	**Completed**	20
4.3.4 Communicate with the freight industry to improve cyclists' safety and to give more recognition to its role in meeting London's targets to reduce fatalities and injury among vulnerable road users.	**Completed and ongoing**	21
4.3.5 Research the potential benefits of a 'cycle safety code of conduct' which would be a succinct form of conveying key safety messages to cyclists.	**Completed**	21
4.3.6 Consider the benefits of a business and schools safety package delivered through the Workplace and School Travel Plans.	**Completed**	21
4.3.7 Support and promote a 'Give a Metre' campaign which is aimed at all road users. This will convey the need for all road users to give adequate space to each other.	**Completed and ongoing**	22
4.3.8 Work with the DfT and Cycling England to clarify the advice that should be given on legal issues, cycle lanes, cycle tracks and priority at junctions.	**Completed and ongoing**	22

4.4 Enforcement		
4.4.1 The MPS and other partners will put a renewed emphasis on reducing KSIs on London's roads. The MPS, with (TOCU) taking the lead, will undertake targeted enforcement against careless and dangerous road user behaviour.	**Completed and ongoing**	23
4.4.2 Work with London Criminal Justice Board to review KSI collisions with a view to strengthening criminal justice arrangements for dealing with such cases.	**In progress**	24
4.4.3 The Commercial Vehicle Unit (CVU) will undertake roadside stops and company visits to ensure goods vehicles are compliant with safety legislation and to raise safety standards. The CVU will refer operators to join FORS where appropriate and use powers delegated from Health and Safety Executive to improve the management of occupational road risk when driving at work. They will also continue to undertake enforcement activity and work with partners on initiatives such as the Exchanging Places events to improve safety on London's roads.	**Completed and ongoing**	24
4.5 Regulations		
4.5.1 Explore different approaches to governance, roles, responsibilities and principles, including signing and marking, affecting the management of cycling- related risk employed across Europe.	**Completed and ongoing**	25
4.5.2 TfL is committed to undertake desk-top research to inform a decision on whether to pilot allowing cyclists to turn left at red traffic lights.	**Completed on going**	25
4.6 Technology		
4.6.1 Work with the freight industry as a matter of urgency to identify the most appropriate and cost effective safety device (standard specification as well as retro fitting) for large goods vehicles. Side guards and motion sensors to be considered.	**Completed and ongoing**	26
4.6.2 Trial roadside safety mirrors (trixi mirrors) on the superhighway pilot routes.	**Completed and ongoing**	26
4.6.3 Continue to distribute Fresnel lenses to all fleet operators through FORS on request and more generally.	**In progress**	26

4.7 Commercial driving and working practices		
4.7.1 Encourage responsible procurement practices throughout the GLA family and public sector by ensuring fleet operators are FORS registered and receive driver training on cycle safety. Ensure contracts include vehicle specifications, such as the use of improved safety features.	Completed and ongoing	28
4.7.2 Promote and encourage wider membership of FORS to deliver training and messages on cycle safety for all fleet operators in London.	Completed and ongoing	29
4.7.3 Work with town centre managers and freight delivery companies to reduce the number of deliveries and influence timings on main cycle routes in London.	Completed and ongoing	30
4.7.4 Support the FTA's proposed concordat to avoid delivering during peak hours on the superhighways and to reduce deliveries overall.	Completed and ongoing	30
4.7.5 Develop and pilot a 'considerate of cycling' package to be delivered to other road users through workplaces.	Not started	30
4.7.6 Continue to provide cycle awareness training for bus drivers, particularly targeted on routes with an increase in cyclists, such as the superhighways.	Completed and ongoing	30
4.7.7 Ensure forward-facing cameras on buses are working properly and checked regularly to capture any incidents that may occur.	Completed	31
4.7.8 Provide taxi drivers in London with cycle awareness information relating to safety when driving, stopping and opening doors near cyclists.	Completed and ongoing	31
4.7.9 Continue to work with DfT to encourage the inclusion of cycling safety training as part of Driver CPC training.	Completed	31
4.8 Research and monitoring		
4.8.1 Research and explore the attitudes and behaviour of cyclists and HGV drivers when it comes to road safety.	Completed	32
4.8.2 Work with MPS and CoLP to improve consistency and precision of data and records including self- reporting relating to individual casualty incidents.	In progress	32
4.8.3 Continue to survey and address the perceived risks associated with cycling, eg through annual attitudes to cycling.	Completed and ongoing	32
4.8.4 Research whether different genders behave differently around HGV.	Completed	33

4.9 Partnership working		
4.9.1 Continue to work together to identify ways in which cyclist casualties can be further reduced.	In progress	34
4.9.2 Work with the FTA and others in identifying and piloting technical solutions to develop improved vehicle design and the concept of an urban lorry.	Completed and ongoing	34
4.9.3 Support the MPS TOCU (in partnership with CoLP in delivering one Exchanging Places event each month in 2010.	Completed and ongoing	34
4.9.4 Continue dialogue and discussions with the DfT to improve cycle safety and HGV safety, through work on the development of appropriate standards, regulation, joint campaigns and messaging on areas such as safe positioning.	Completed and ongoing	35
4.9.5 Work with the motoring and freight industry to improve cyclist safety to explore new ways to engage and understand the industry perspective and communicate messages (such as through training and promotion) and to develop technical solutions that could improve cyclist safety.	Completed	35
4.9.6 Further investigate the role of vehicle design to improve driver visibility (eg height of driver, sight lines) in reducing collisions.	In progress	35
4.9.7 Improve the coordination, promotion and procurement of high-quality cycle training services for both adults and children in line with DfT- approved quality standards.	Completed and ongoing	36
4.9.8 Develop new alliances with cycle manufacturers and retailers to capture opportunities for these groups to disseminate safety messages to cyclists and direct new cyclists towards training when they purchase a bike.	Completed	36

APPENDIX 4

Better Junctions
Top 100 junctions for review

Transport for London

Location	Borough
Aldgate Gyratory	City of London
Ambleside Avenue / Mitcham Lane	Lambeth
Apex Corner / Hampton Road West	Hounslow
Archway Gyratory	Islington
Battersea Bridge Road / Westbridge Road	Wandsworth
Battersea Park Road / Latchmere Road	Wandsworth
Battersea Park Road / Nine Elms Lane / Havelock Terrace	Wandsworth
Bishopsgate / Camomile Street	City of London
Blackfriars Bridge / Victoria Embankment Northbound	City of London
Blackfriars Road / Stamford Street	Southwark
Borough High Street / Southwark Street & St Thomas Street	Southwark
Bow Roundabout	Tower Hamlets / Newham
Bow Road / Campbell Road	Tower Hamlets
Brixton Hill / Josephine Avenue	Lambeth
Brixton Hill / Trent Road / Brixton Water Lane	Lambeth
Bromley Common / Oakley Road	Bromley
Bromley Road / Canadian Avenue	Lewisham
Cable Street	Tower Hamlets
Camden Road / St Pancras Way	Camden
Clapham Common / The Pavement	Lambeth
Clapham Common Southside	Lambeth
Collier's Wood High Street / Christchurch Road	Merton
Cromwell Road / Gloucester Road	Kensington & Chelsea
Dalston Junction	Hackney
Edgware Road / M1 Slip	Barnet
Edith Grove / Kings Road	Kensington & Chelsea
Elephant & Castle Northern Roundabout	Southwark
Euston Circus	Camden
Farringdon Road / Clerkenwell Road	Islington
Farringdon Road / Calthorpe Street	Islington
Great Cambridge Road / Hoe Lane	Enfield
Great Cambridge Road / White Hart Lane	Enfield
Great West Road / Chiswick High Road	Hounslow
Great West Road / Shield Drive	Hounslow
Grosvenor Road / Chelsea Bridge	City of Westminster / Kensington & Chelsea
Grosvenor Road / Lupus Street	City of Westminster
Highbury Corner	Islington
Holloway Road / Jacksons Road	Islington
Homerton High Street / Ponsford Street	Hackney
Hook Road / Bridge Road	Kingston-upon-Thames
Horseferry Road	Tower Hamlets
Hyde Park Corner (NW Corner)	Westminster
Hyde Park Corner (Knightsbridge Slip)	Westminster
Jamaica Road / Lower Road / Rotherhithe Roundabout	Southwark
Jamaica Road / Southwark Park Road	Southwark
Jamaica Road / St James Road	Southwark
Kennington Road / Cleaver Street	Lambeth
Kew Bridge / Spring Grove / Kew Bridge Road	Hounslow
King William Street / Gracechurch Street	City of London
Kingsland Road / Middleton Road	Hackney
Kings Cross / Pentonville Road	Islington / Camden
Lambeth Bridge Northern Roundabout	City of Westminster
Lambeth Bridge Southern Roundabout	Lambeth
London Road Roundabout (Chertsey Road / London Road)	Richmond-upon-Thames
Ludgate Circus	City of London

Marble Arch Gyratory	Westminster
Marylebone Road / Marylebone High Street	Westminster
Mile End Road / Burdett Road / Grove Road	Tower Hamlets
Mile End Road / Cambridge Heath Road	Tower Hamlets
Mile End Road / Stepney Green	Tower Hamlets
Mile End Road / Vallance Road	Tower Hamlets
Nags Head Gyratory	Islington
Old Street Roundabout	Islington
Oval Triangle	Lambeth
Queens Circus	Wandsworth
Queens Road / Asylum Road	Southwark
Seven Sisters / Blackstock Road	Islington
Seven Sisters Road / Isledon Road	Islington
Shooters Hill Road / Stratheden Road	Greenwich
Shoreditch High Street / Great Eastern Street / Commercial Street	Hackney
Southwark Bridge Road / Marshalsea Road	Southwark
St George's Circus	Southwark
Stamford Hill / Belfast Road	Hackney
Stockwell Gyratory	Lambeth
Streatham High Road / Strenhold Road	Lambeth
Swiss Cottage Gyratory	Camden
Talgarth Road / Gliddon Road	Hammersmith & Fulham
Tanner Street / Jamaica Road	Southwark
The Highway / Dock Street	Tower Hamlets
Tibbets Corner	Wandsworth
Tooting Broadway / Mitcham Road	Wandsworth
Tooting High Street / Blackshaw Road / Longley Road	Wandsworth
Tottenham Hale Gyratory	Haringey
Tower Bridge Road / Abbey Street	Southwark
Tower Bridge Road / Druid Street & Queen Elizabeth Street	Southwark
Trinity Road / Tooting Bec Road	Wandsworth
Upper Richmond Road West / Sheen Lane	Richmond-upon-Thames
Upper Richmond Road West / Clifford Avenue	Richmond-upon-Thames
Upper Thames Street / Queen Street Place	City of London
Vauxhall Bridge Road / Drummond Gate	Westminster
Vauxhall Bridge Road / Millbank / Grosvenor Road	Westminster
Vauxhall Cross Gyratory	Lambeth
Victoria Embankment / Bridge Street	Westminster
Victoria Embankment / Savoy Place	Westminster
Victoria Gyratory	Westminster
Waterloo Roundabout	Lambeth
Well Hall Roundabout (Rochester Way / Well Hall Road)	Greenwich
Willow Tree Roundabout (A312 The Parkway)	Hillingdon
York Road / Plough Road	Wandsworth
York Road / Wandsworth Bridge South	Wandsworth

Source: https://www.tfl.gov.uk/corporate/projectsandschemes/22780.aspx

London Assembly Transport Committee's Investigation into Cycling

TfL's response to additional questions from the Transport Committee

Questions relating to the main submission

Q1) p. 21 - Cycling spend - please could you provide this as a proportion of TfL's overall budget. It is currently provided only as a percentage of Surface Transport budget.

Appendix 1 shows the cycling budget.

For the financial year 2012/13 the total budget allocation for the whole of TfL, Surface Transport and for cycling are as follows:

TfL budget	£7.38bn
Surface Transport budget	£1.1bn
Cycling budget	£72.6m

The cycling budget is 6.6% of the total of Surface Transport's budget and 2% of the total budget for TfL for the financial year 2012/13. This compares to 1.9% of the Surface budget and 0.7% of the TfL budget in 2003/4.

Questions relating to Appendix 1of TfL's original submission

Q2) Is the cycle hire scheme operational expenditure net of income received from the scheme?

Yes

Q3) Will we be provided with the breakdown of planned cycling spend to 2014/15 once the new Business Plan is published?

The TfL Board will approve the new TfL Business Plan in December 2012. Once the Plan is published, the overall figure for planned cycling spend will be provided. It will not be possible to provide a detailed breakdown of spend within the cycling budget until delivery programmes have been planned in more detail.

Q4) Please detail the activities included within 'other schemes'

'Other schemes' include both London Cycling Network (LCN) schemes on the Transport for London Road Network (TLRN) and other TLRN cycling schemes which are not related to Cycle Hire or Cycle Superhighways.

Q5) What was spent on improving cycle safety at junctions prior to 2011/12?

Prior to 2011/12, funding for improvements to junctions specifically for improving the safety of cyclists, would have come from the budget such as 'Cycle Superhighways'

and ‘Other schemes’ (which includes the London Cycling Network (LCN) and Non LCN Transport for London Road Network). Improvements to junctions through other programmes (such as major schemes and road safety schemes) also contribute to the safety of cyclists, but may not be specifically identified within the cycling budget. Futhermore, a significant proportion of money allocated to boroughs for their Local Implementation Plans would have contributed to improving safety at junctions. Most junction improvements have multiple modal benefits (e.g. bus priority, walking, road safety, urban realm) and are therefore designed holistically. It is therefore not possible to attribute particular financial sums to cycle safety at junctions as a free standing objective.

Q6) Why has spend on cycling promotion campaigns and training reduced since 2007/08?

The budget for cycling promotion, campaigns and training in the financial years 2006/7 and 2007/8 included spend by TfL on the Tour de France, and was therefore higher than in subsequent years.

Q7) Is there a legacy from the ODA funded Olympic Cycle Network spending?

Yes. Over 75km of walking and cycling routes in East London have been enhanced by Transport for London and delivery partners following £10m investment from the Olympic Delivery Authority. In total 113 schemes were delivered across eight key routes, with improvements including resurfacing, widening cycle lanes, re-aligning cycleways and improving road crossings. These routes were designed with legacy in mind, to improve connectivity for pedestrians and cyclists in East London. The infrastructure will remain after the Games to provide enjoyable and useful travel options for years to come. Ninety per cent of customers are satisfied with the new routes.

To ensure the Olympic Park is conducive to cycling in the future, the London Legacy Development Corporation (LLDC) is working with Transport for London and other partners to ensure the new cycle routes within the Olympic Park link to the existing cycle network.

Alongside the route improvements, a comprehensive programme of way-finding has been delivered by TfL to aid navigation. Around 280 permanent signs have been installed along the eight routes. Bi-annual counts and perception monitoring will continue until 2014 and pedestrian/cycle counters to monitor long term use in legacy.

Q8) Who has provided the estimate of borough LIP funding for cycling in 2012/13; is this TfL or the boroughs' estimate?

Each of the boroughs have provided information to TfL on what they estimated they would spend from their LIP allocation on cycling. This information is collated by TfL to provide an overall picture.

Q9) How do the allocations between types of cycling activity compare to other cities in terms of capital/revenue split, spend on road space type initiatives, awareness campaigns, etc?

Page 23 of the document submitted by TfL provided the spend per head on cycling in a year, compared with other cities.

Appendix 2 attached provides a breakdown of spend in the Municipality of Copenhagen . The majority of the spend is on infrastructure and what are termed in Copenhagen as 'cycling packages'.

Appendix 3 gives an example of a "cycle package" and the breakdown. This is only the proposed breakdown of spend and has not yet been agreed so is subject to change. Appendix 3 is from the municipality of Copenhagen homepage, link: http://www.kk.dk/~/media/316C0F2BC112448EB327D310146A8D2B.ashx

TfL does not have access to the same level of detail for other cities and how they allocate their cycling revenue at this time so we hope that this comparison is useful.

Questions relating to Appendix 2 of TfL's original submission

Q10) Please can you provide cycle safety indicators for the rest of the TLRN - not just cycle superhighways - from 2008 onwards (or earlier)

Cycle safety is measured by cycling casualties and cycling collisions. The most recent cycling casualty and collision figures for the TLRN are published in the fact sheet 'Pedal cycle collisions and casualties in Greater London'. The fact sheet can be viewed via the following link:

http://www.tfl.gov.uk/assets/downloads/pedal-cyclist-collisions-and-casualities-in-greater-london-sep-2011.pdf

This factsheet looks into the scale and nature of road traffic collisions resulting in injury to pedal cyclists in the Greater London area. It gives an overview of pedal cyclist (P/C) casualties for the period 1986 to 2010 and then looks in detail at the profile of the casualties and factors relating to the collisions that occurred in 2010 (the latest year for which finalised data are available at the time of writing).

Q11) How do the actual accident numbers/collisions compare to targets?

The previous casualty reduction targets had an end date of 2010. The previous target was a 50% reduction in the number of pedal cyclists killed or seriously injured (KSI) by 2010 from a baseline of the average number of casualties for 1994-98. This target was not met, although P/C KSI collisions reduced by 18% in 2010 compared to the 1994-98 baseline.

Developing a London-wide Road Safety Plan is one of the proposals in the 2010 Mayor's Transport Strategy and public consultation on TfL's new *Road Safety Action Plan for London:2020* is currently underway. The new plan proposes the priority areas for action in order to deliver a 40 per cent reduction in the number of KSI casualties on the Capital's roads by the end of 2020. The proposed new target for London will be based on reducing KSIs from a baseline of the 2005-09 average.

Q12) Will we be provided with the breakdown of targets for cycling safety indicators to 2014/15 once the new Business Plan is published?

The proposed overall new road safety target has been published in the draft Road Safety Action Plan and we are currently consulting on views on this. It is our intention to continue to publish regular information annually on performance related to cycling casualties in future.

Appendix 1 TfL's cycling expenditure

Cycling Expenditure in TfL - Actual and Planned

As at Quarter One 2012/13

£m Year Ending March:		Actual									Planned (See note 1)
		2003/4	2004/5	2005/6	2006/7	2007/8	2008/9	2009/10	2010/11	2011/12	2012/13
Cycle Hire Opex Costs	*Opex*							2.3	19.7	10.3	3.8
Cycle Hire Capex Costs	*Capex*						0.9	14.6	44.8	31.4	11.4
Cycle Hire (Total net costs)							**0.9**	**16.9**	**64.4**	**41.6**	**15.1**
Cycle Superhighways	*Opex*							1.1	4.8	4.4	10.6
Cycle Superhighways	*Capex*							3.7	16.4	10.5	15.0
Cycle Superhighways								**4.8**	**21.2**	**14.9**	**25.6**
Greenways	*Opex*				1.4	4.1	3.4	4.0	2.2	0.8	1.9
Better Junctions	*Opex*									0.3	0.9
Better Junctions	*Capex*										18.0
Better Junctions										**0.3**	**18.9**
Cycle Parking	*Opex*	0.3	1.6	1.2	1.7	1.8	2.9	3.0	2.0	1.7	2.3
Promotion, campaigns, training	*Opex*	1.0	1.3	1.8	5.9	8.7	4.4	4.0	2.6	3.1	3.2
Olympics (see Note 2)	*Opex*						2.5	1.6	3.6	2.7	0.3
Biking Boroughs	*Opex*									1.3	1.5
Other Schemes	*Opex*	0.9	0.9		1.5	3.0	1.9	1.1	0.4		0.0
Other Schemes	*Capex*	0.4	1.2	3.8	1.9	2.0	3.9	5.1	2.8	4.4	4.0
Other Schemes		**1.3**	**2.1**	**3.8**	**4.8**	**9.1**	**9.2**	**10.2**	**5.4**	**5.3**	**4.0**
Total cycling expenditure		**2.6**	**5.0**	**6.8**	**12.4**	**19.6**	**19.9**	**40.4**	**99.3**	**70.8**	**72.7**
Borough cycling expenditure:											
Ring fenced funding for Borough cycling projects (Borough LIPS)		11.0	9.3	15.1	19.0	20.7	24.4	16.8			
Estimated allocation of borough LIP funding to cycling schemes									(see note 3)	10.9	28.1
Other relevant cycling expenditure:											

Appendix 2 Overall Cycling Expenditure in the City of Copenhagen

Cycling Expenditure in the City of Copenhagen - Actual and Planned, mill. Danish kroner.	Calendar year								
	2005	2006	2007	2008	2009	2010	2011	2012	
Cycle package 1		33							
Cycle package 2			62						
Cycle package 3				73					
Aabuen	30	8							
Brew Bridge (supplementary grant)	8								
Kickstart (Cycle package Osterbro)						108*			
Cycle package 4							82**		
Projects with contribution from the danish cyclefound 2009 (incl. The ammount of contribution) among other projects the Brew Ramp					42		18		
Norrebro Street (part 1) (1/3 of the total amount)					12				
Bridge over Scandia Street							50		
Norrebro Street (part 2) (1/3 of the total amount)								11	
Cycle package 5								75	Total amount
Cycle projects in total	**38**	**41**	**62**	**73**	**54**	**108**	**150**	**86**	**612**
Other funded projects									
Cyclebridge					35				
Bridge over the inner harber						165			
on cycleconditions when renovation and building of roads, squares and new areas. * Incl. 33 mill. Danish kroner in fonds from the state for parth bridges by Nordhavnsvej (North harbor road), ** Incl. 7 mill. danish kroner in fonds from the state.									