# London Cycle Network Plus (LCN+) Annual Report 2006/2007

October 2007

# Camden Consultancy Service | LCN+

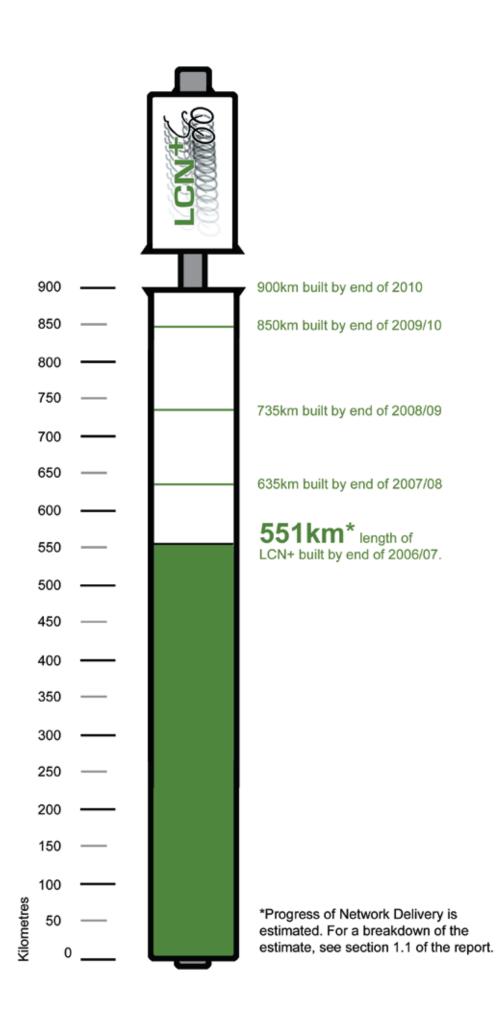






# London Cycle Network Plus (LCN+) Annual Report 2006/2007

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# **Foreword by Transport for London**

Providing a good cycling network is key to realising the Mayor's vision to make London a cycling city. Improvements to the cycling infrastructure along with a whole host of other initiatives mean that it's never been easier, or more attractive, to take to two wheels, whatever our age, ability or culture. For all of us it provides a greener, healthier, and often faster, journey around our city.

The infrastructure improvements being implemented across the Capital are an important part of the cycling story. So far around 60 per cent of the 900 kilometre LCN+ network has been successfully completed. This is a commendable achievement which has only been made possible through collaborative working amongst a range of stakeholders. I would like to thank everyone involved in this process from planning and design, right through to delivery.

With targets to increase cycling by 400 per cent by 2025\*, and complete the remaining 40 per cent of the LCN+ network by the end of 2010, the challenge of creating the

right conditions for cyclists remains a considerable one. I am pleased to say that we are on target to complete the scoping of the remaining work through CRISP studies in 2008. And looking ahead, the 2007 Network Review will consider recommendations made in the CRISP (Cycle Route Implementation and Stakeholder Plan) reports about the costs and delivery of the LCN+ Programme. After that our next objective is to set out, by the end of this financial year, how the programme will be completed.

TfL is committed to work with our partners and to build on our achievements to date to provide an excellent network for cyclists in London.

\* Compared with levels in 2000 - Transport 2025

**David Brown** 

Managing Director, Surface Transport

# Foreword by London Borough of Camden

This is the fifth annual report on the LCN+ project and reports on activities for the period 1st April 2006 to 31st March 2007. During this period 55.5km of route length was delivered leading to the overall completion thus far of 551km of the network.

The LCN+ Borough Programme managed by the LCN+ PM (Project Management) team (part of Camden Consultancy Service) delivered 483 schemes with a final outturn of £14.6M. In addition to this the TfL RND and RNM teams have delivered 95 schemes with a final outturn of £2.1M on the TLRN, so that a total of £16.7M was spent on the LCN+ project during 2006/07.

Five boroughs did not deliver any LCN+ schemes in 2006/07. This was generally due to political issues or resource constraints.

2006/07 saw the majority of CRISP (Cycle Route Implementation and Stakeholder Plan) studies being completed, and the focus shifting to detailed design and implementation.

The barriers to delivery highlighted in 2006/07 were made public in January 2007 with the "High Risk Barriers (Infrastructure) Report" being published and presented to executives, principal engineers and cycle officers from all the London Boroughs and TfL. A strategy has been developed and the resolution of these barriers will be tracked closely.

The Scheme Information Management System (SIMS) was developed by the LCN+ PM team to store all financial and scheme progress information in one database allowing robust project reporting.

The Design Check Procedure (DCP) continues to form a vital component of our technical quality assurance checks. Our Sector teams performed 110 scheme design checks whilst providing input into many more schemes via progress and design meetings.

The Annual Borough Officer workshop held in July 2006 was very well received. Contributions from the Borough Officers as part of the workshops have proved invaluable in reviewing project procedures, processes and strategies.

The implementation of traffic signal schemes in 2006/07 was challenging for both the boroughs and TfL. The TfL Directorate of Traffic Operations (DTO) procedures were amended and rationalised during 2006/07 with the LCN+ PM team now presenting scheme projects to DTO on behalf of the boroughs.

LCN+ funding levels for the borough programme have increased from £14M in 2006/07 to £17.6M in 2007/08. This funding increase has been echoed for the TLRN LCN+ programme, with allocations rising from £2.1M in 2006/07 to £5M in 2007/08.

We continue to enjoy a productive working relationship with our supply chain partners, and stakeholders who have contributed towards delivering the LCN+.

**Alex Williams** Assistant Director of the Culture and Environment Directorate at the London Borough of Camden

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# **Table of Contents**

	Exe	cutive Summary	7
1.0	Net	work Delivery	8
	1.1	Network delivery 2006/07	8
	1.2	Map of the LCN+	11
	1.3	Map of contributions to the network 2001/02 to 2006/07	13
2.0	Ass	et Contribution	15
	2.1	Asset contribution by asset type in 2006/07	15
	2.2	Asset contribution by all London Highway Authorities in 2006/07	20
3.0	CRI	SP Studies	21
	3.1	CRISP process	21
	3.2	CRISP progress summary	22
	3.3	Map of CRISP studies undertaken in 2006/07	23
4.0	Infra	astructure Barriers	25
5.0	Ass	et Management Initiative	26
6.0	Exp	enditure 2006/07	28
7.0	Hig	hway Authority Overview	30
	7.1	Borough maps and overview	31
	7.2	TfL Road Network Development	164
	7.3	TfL Road Network Management maps and overview	172
8.0	Pro	ject Management	176

# **Executive Summary**

This report is a record of activity for the London Cycle Network Plus (LCN+) project during the 2006/07 financial year.

The LCN+ is a planned 900km network of radial and orbital cycle routes across London on borough roads, the Transport for London Road Network (TLRN) and off-highway which is planned to be complete by end of 2010.

#### **CRISP Studies**

In 2006/07, 64 CRISP studies were commissioned and 32 were finalised representing 80.04km of the network length. Also completed in 2006/07 were 50 studies commissioned in the 2005/06 programme, 11 from the 2004/05 programme and 7 from the 2003/04 programme. In total, Final CRISP reports have been produced for over 750km of the network by the end of 2006/07. The remaining CRISP studies will be completed in 2007/08.

#### **Network Delivery**

Cycle infrastructure was introduced on, or conditions for cycling improved, across 55.5km of the network. The additional work raises the estimated total network complete to date to 551km.

#### **Asset Contribution**

Physical works were carried out to construct or improve 236 assets including cycle lanes and tracks, junction improvements and cycle crossings. This represents 89 linear assets (contributing 37.5km to the network), 91 junctions, 12 crossings, 37 access improvements and 15 assets that overcame strategic network severance.

#### **Asset Management Initiative**

20 Boroughs participated in the Asset Management Initiative accounting for £1.6M of spend. Asset Management Initiative works were completed across 257.9km the borough network.

### **Expenditure**

As at the end of March 2007, 483 schemes progressed on the LCN+ Network with a final outturn of £14.6M (104% of the revised allocation) on borough roads. 95 schemes progressed with a final outturn of £2.1M on the TLRN. Funding was increased mid-way through the year to £14M for the borough programme from the original allocation of £12.5M.

#### **Barriers**

The High Risk Infrastructure Barriers report was issued in January 2007 and this marked the end of the "identification phase" of the process. Quarter four of 2006/07 saw the beginning of the "investigation phase" with a barrier tracker established to collect more information from highway authorities.

# 1.0 Network Delivery

## 1.1 Network Delivery 2006/07

Total length of Network completed = 551km

The total length of network completed is the total of route km delivered and Link sections assessed in CRISP studies that required no further work to meet the LCN+ objectives of being fast, safe and comfortable.

Table 1: Summary of Borough Contributions to Network Delivery

	Length				
Highway Authority	CRISP/Feasibility Commissioned	Design Commissioned	Implementation Completed		
	(km)	(km)	(km)		
Borough (Borough Roads)					
Barking & Dagenham	1.43	2.69	2.50		
Barnet	0.00	0.00	0.00		
Bexley	4.53	7.32	3.99		
Brent	0.35	5.05	0.00		
Bromley	1.75	1.70	1.28		
Camden	21.71	1.27	1.27		
City of London Corporation	0.33	0.48	0.11		
Croydon	0.00	4.92	1.28		
Ealing	0.58	1.37	1.40		
Enfield	1.19	3.32	0.00		
Greenwich	0.32	0.75	0.47		
Hackney	4.89	5.46	2.19		
Hammersmith & Fulham	1.26	0.94	1.31		
Haringey	0.29	2.12	4.17		
Harrow	0.38	1.97	0.56		
Havering	0.00	0.64	0.55		
Hillingdon	10.66	13.05	10.84		
Hounslow	0.48	0.48	1.71		
Islington	0.29	0.29	1.17		
Kensington & Chelsea	0.00	0.00	0.00		
Kingston upon Thames	1.46	1.43	0.75		
Lambeth	2.40	2.09	1.35		
Lewisham	0.67	1.73	1.38		

Merton	3.94	1.14	1.54
Newham	0.00	0.00	0.34
Redbridge	0.06	0.16	0.00
Richmond	0.99	2.68	2.15
Southwark	3.00	3.94	5.29
Sutton	2.68	3.35	0.74
Tower Hamlets	0.00	1.27	1.46
Waltham Forest	0.18	0.32	0.89
Wandsworth	1.64	1.64	0.00
Westminster	0.00	0.00	1.13
Sub-total:	67.46	73.57	51.82
TfL (TLRN)			
RNM	-	-	3.74
RND	98.68	59.48	-
Sub-total:	98.68	59.48	3.74
Grand Total	166.14	133.05	55.56

In 20005/06 the Network Completion System (NCS) was developed to verify network delivery and completion. This system involves the mapping of recommendations from Final CRISP reports into a geographical information management system. In 2006/07 significant work was undertaken to refine the accuracy of the NCS and 60% of Final CRISP reports have now been mapped into the system.

CRISP reports provide carefully considered reviews of small lengths of the network (referred to as Links) and make recommendations regarding the work required to complete each length with budget estimates of work value. In the NCS, CRISP recommendations are mapped to the segment of the Link that they relate to. The length of the segment then relates to the length covered by the CRISP report datasheet.

Where a CRISP report does not make any recommendations on a section of a Link it is assumed that no work is required and this section of the network is regarded as complete. When all recommendations for a section of a Link have been satisfied (or addressed) the length of this section is then considered complete and counts toward network completion.

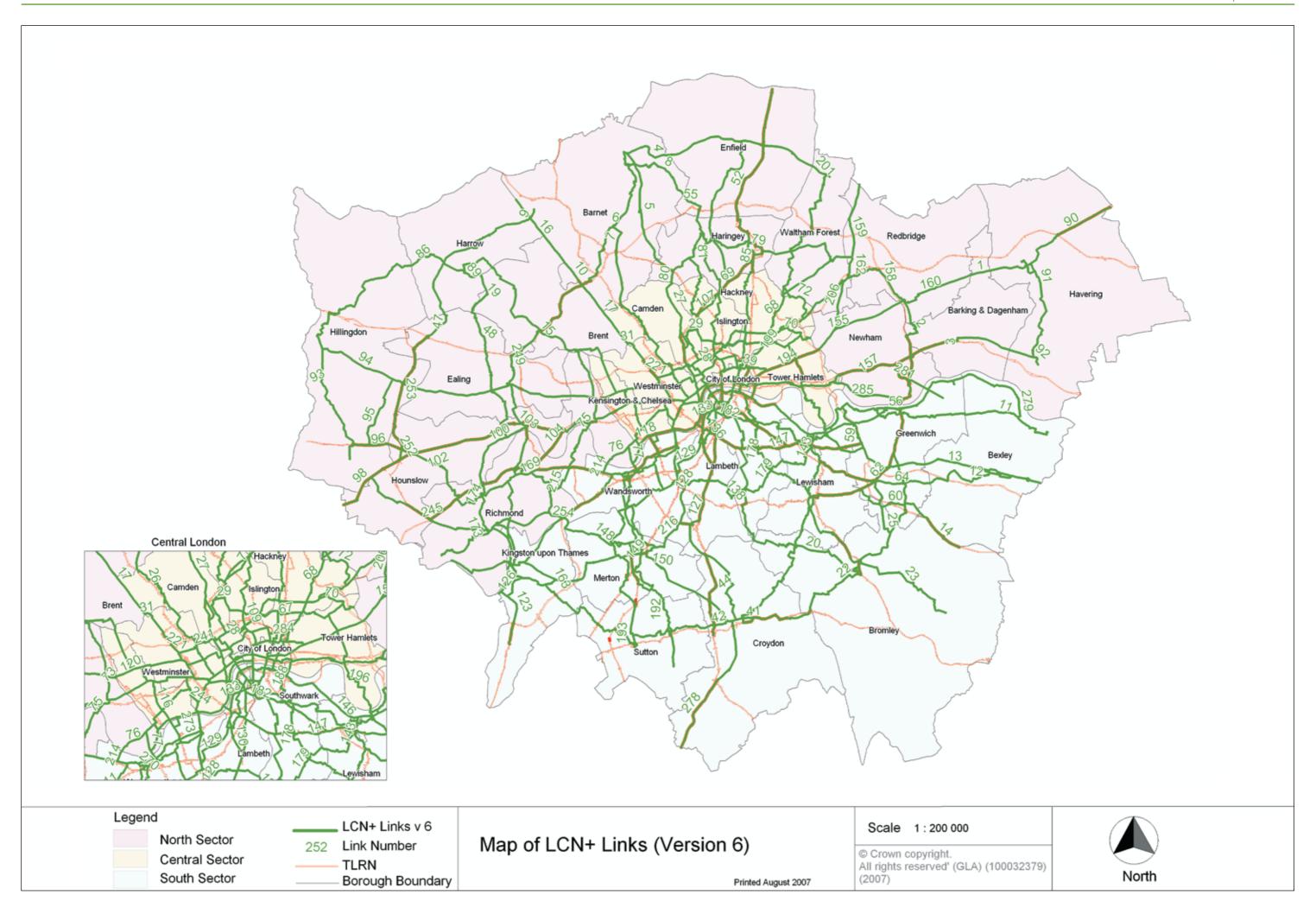
Approximately 275 Links are required to be studied through the CRISP process to evaluate the entire network. As the remaining CRISP Final reports are mapped and completed schemes are accepted as meeting the CRISP datasheet recommendations, the NCS will be able to provide a clearer and more accurate picture on overall network completion.

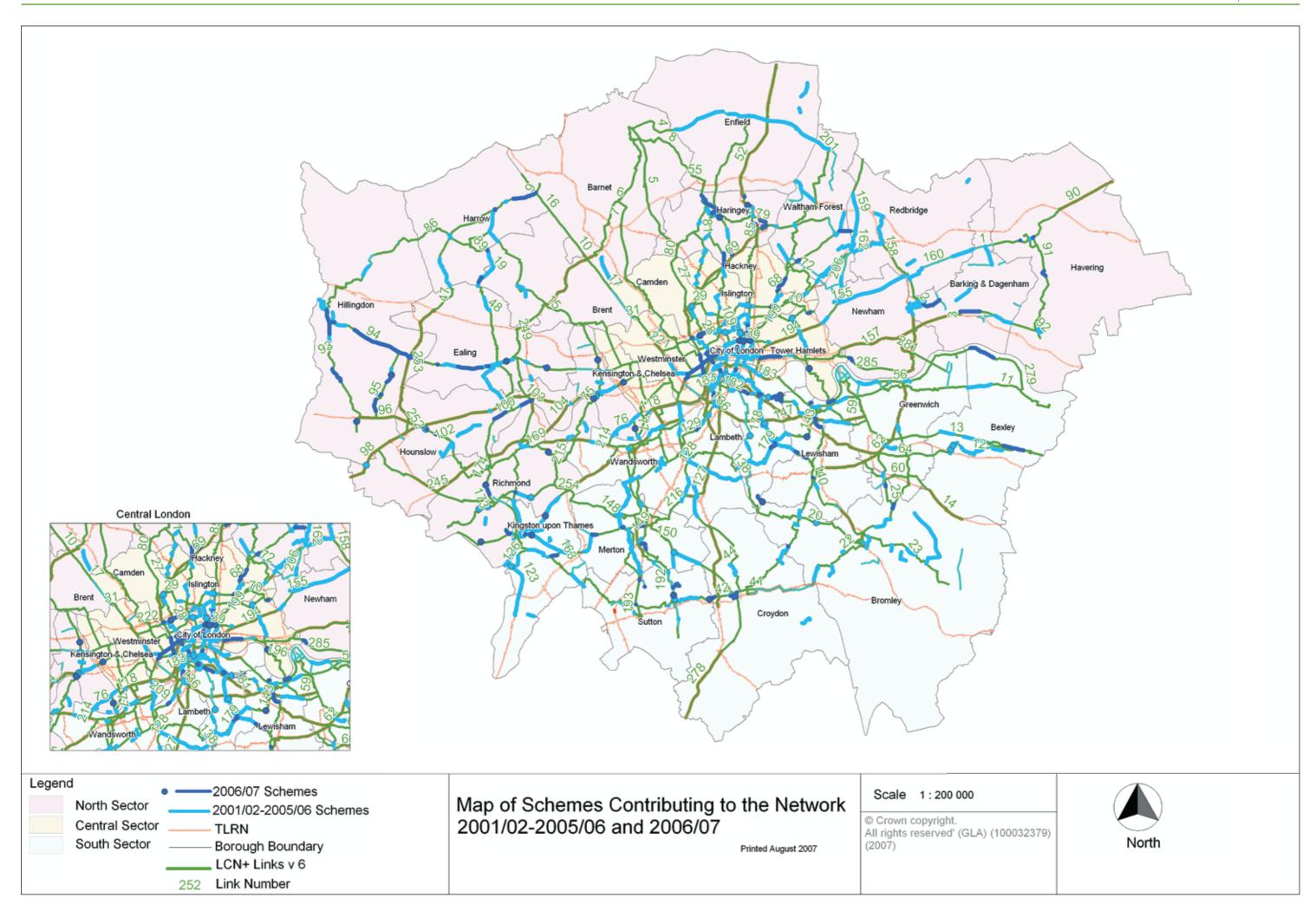
# 1.2 Map of the LCN+

See map opposite

# 1.3 Map of contributions to the network 2001/02 to 2006/07

See map overleaf





# 2.0 Asset Contribution

## 2.1 Asset Contribution by Asset Type in 2006/07

The completion of LCN+ schemes over the course of the 2006/07 financial year, has delivered the following assets:

 Table 2: Assets delivered through LCN+ schemes in 2006/07



### Cycle lanes

Cycle lanes provide a facility for cyclists where motor traffic volumes and/or speeds are medium or high or to by-pass queuing motor traffic.

#### 15.1km

LCDS Chapter 4

### Cycle tracks

Cycle tracks Cycle tracks are provided off the carriageway, within the public highway.

#### 6.8km

LCDS Chapter 4



Paths shared by cyclists and pedestrians, usually away from the highway.

#### 4.7km



## Motor traffic speed reduction

Measures include vertical (sinusoidal humps, speed cushions etc) and horizontal (traffic islands, chicanes and kerb build-outs) deflections and speed limit reduction.

#### 3km

LCDS Chapter 3



### Signage and road markings

Signs and surface markings communicate advisory, regulatory and route direction information.

**22.5km**(The asset type and layout has not changed so this figure is not counted as contributing to completed route length)

LCDS Chapter 6



#### Surface/condition upgrades

Rectification of surface defects as identified through the asset management initiative

**257.9km** (The asset type and layout has not changed so this figure is not counted as contributing to completed route length)

LCDS Chapter 7



#### Other

Other linear treatment that improves cycle conditions and not included in other categories (eg changes to vehicle parking/loading)

#### 7.8km

#### **Junctions**



#### Signal Works (treated & provided)

At signal controlled junctions, vehicle and pedestrian movements are controlled to manage competing demands

6 no.

LCDS Chapter 5



Horizontal deviations are used to improve sight lines or reduce motor vehicle speeds **17 no.** 

LCDS Chapter 5



Entry treatments may include narrowing side road carriageway, tightening kerb radii and raising the carriageway. Contrasting paving is used to raise awareness

37 no.

LCDS Chapter 3



#### **Roundabouts Treated**

Treatments may include, controlling entry, circulatory and exit speeds, reducing unused carriageway space, including reducing the number of approach lanes, providing an alternative route or bypass; signalisation or conversion to signal control

6 no.



## Advanced stop line boxes

Cycle ASLs and complementary facilities help to give cyclists priority at signalised junctions and raise driver awareness of cyclists.

23 no.

LCDS Chapter 5

## **Crossings**



## Signalised (treated & provided)

Toucans are the most common type of combined cycle and pedestrian crossing.

8 no.

LCDS Chapter 5



## Non-signalised

Priority is usually indicated by give-way or stop signs and associated markings. Improvements for cyclists can include provision of islands, change of priority and horizontal or vertical alignment changes.

4 no.

LCDS Chapter 5

#### **Access**



### Cycle gap

A cycle gap allows cyclists to pass a restriction on motor-vehicles

10 no.



## Point no entry

Point closures are used to close motor vehicle access to a street (one-way or two-way) while retaining cycle access

2 no.

LCDS Chapter 3



May include provision of access for cyclists through pedestrianised areas

25 no.

LCDS Chapter 3

## **Severance Resolution**



#### **Severance Resolution**

May include new or improved subways / bridges under or over waterways, roads or railways, land purchase or securing right of access

15 no.

LCDS Chapters 2 and 7

**Note 1:** 1.3km of bus and cycle lanes were implemented as contribution to TfL bus priority schemes. This is included in the overall route length delivered.

**Note 2:** 16 cycle parking spaces were implemented as ancillary elements of three borough LCN+ schemes.

**Note 3:** The design responsibility for schemes illustrated in this document is the responsibility of the relevant highway authority.

# 2.2 Assets delivered by Highway Authority 2006/07

Table 3: Asset contribution by Highway Authority

Highway Authority	Linear Measures (km)	Junctions	Crossings	Access	Severance Resolution
Barking	0.42				
Barnet					
Bexley	3.99	4		2	
Brent					
Bromley	1.30	6	1	1	
Camden	1.02	8			
City of London Corporation	0.11			3	1
Croydon	1.28	1			1
Ealing	1.31	5	1	2	
Enfield					
Greenwich	0.47			1	
Hackney	0.10	1		1	
Hammersmith & Fullham	1.31	2	3	1	
Haringey	3.84	3	1	5	3
Harrow			2		
Havering	0.55	2	1		
Hillingdon	4.88	19			
Hounslow	1.61	8			
Islington	1.17	1		3	
Kensington & Chelsea					
Kingston	0.33	2		3	5
Lambeth	0.58	1		2	
Lewisham	0.49	1		7	
Merton	0.62	3			1
Newham	0.34	3			
Redbridge					
Richmond	1.76	4	1		1
Southwark	2.43	11	1	5	3
Sutton	0.73	1	1		
Tower Hamlets	1.27	2		1	
Waltham Forest	0.89				
Wandsworth					
Westminster	0.95	1			
TfL	3.74	2			
Totals	37.49	91	12	37	15

# 3.0 CRISP Studies

#### 3.1 CRISP Process

In order to ensure that the LCN+ meets the strategic needs of current and potential cyclists, with a few exceptions, all Links have had, or will have had, a CRISP (Cycle Route Implementation and Stakeholder Plan) undertaken on them. TfL (CCE) issued a Generic Brief for CRISP studies to all boroughs and TfL Area Teams to use when commissioning the CRISP report.

A CRISP study identifies strategic solutions to provide good conditions for cycling along a Link. It allows stakeholders to contribute to scheme development at an early stage. CRISP study recommendations are the basis for the programme to complete the network.

The CRISP process consists of the following stages:

Stage 1	Pre CRIM Report Assessment of existing information
Stage 2	Cycle Route Inspection Meeting (CRIM) Site visit, including all key stakeholders, to review existing conditions and assess barriers for cyclists along the Link
Stage 3	Draft CRISP Report Production of datasheets for each section/element that needs addressing along the Link, a schedule of estimated costs and a proposed programme of works. It should also address any route verification issues. This stage also includes the draft CRISP review meeting
Stage 4	Final CRISP Report  Amendment of the Draft CRISP Report taking account of feedback on the report from key stakeholders

A Master Schedule of all LCN+ Links showing the Progress of CRISP studies against milestones is available on the LCN+ website.

## 3.2 CRISP Progress Summary

During 2006/07 of the 64 CRISPs commissioned 43 reached the draft report stage and 32 were finalised. 190 Links out of a total of 275 Links were completed by the end of the financial year.

Some of the studies commissioned in 2006/07 are running into 2007/08 as they were programmed to begin in the last quarter.

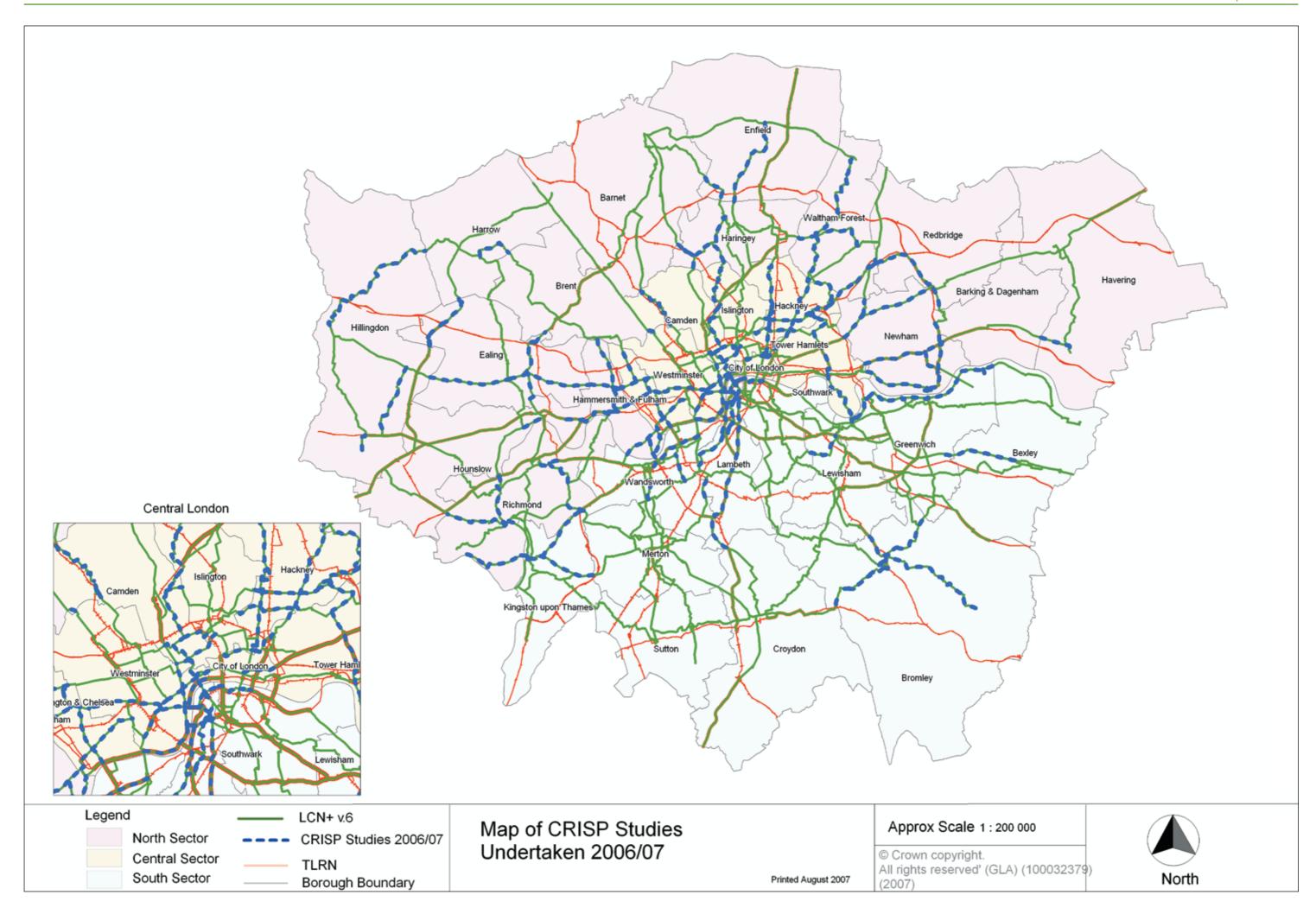
NB: Figures may vary from those reported in the 2005/06 annual report. This is due to changes in the programme and priority of studies.

**Table 4:** CRISP Progress and Programme Summary

Financial Year		Programmed	Commissioned	Draft Report	Final Report
2003/2004	Links	8	8	8	8
	km	28.20	28.20	28.20	28.20
2004/2005	Links	68	68	68	68
	km	289.73	289.73	289.73	289.73
2005/2006	Links	94	94	87	84
	km	322.98	322.98	302.47	299.67
2006/2007	Links	72	64	43	32
	km	242.02	217.83	148.62	80.04
Total	Links	242	234	206	192
	km	958.04	853.12	771.02	757.97

## 3.3 Map of CRISP studies undertaken 2006/07

See map opposite



# 4.0 Infrastructure Barriers

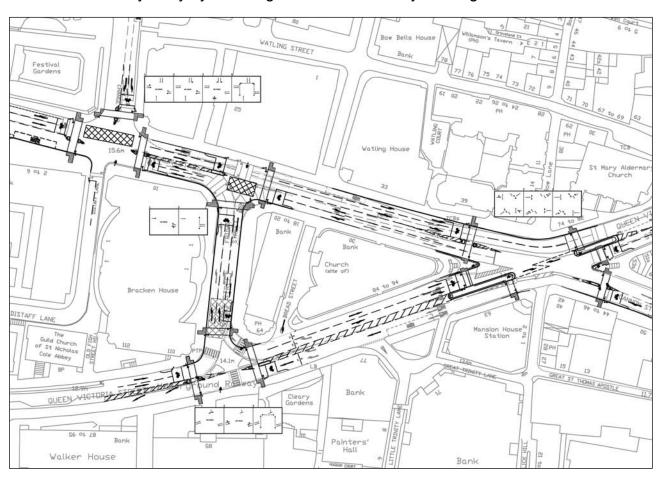
The LCN+ High Risk (Infrastructure) Barrier report was issued in January 2007 to all TfL and Borough engineers involved in scheme development and implementation as well as senior executives of the same organisations. The report highlighted 140 locations ranging from complex and busy junctions and gyratories to narrow road spaces, bridges and one-way streets. The barriers were identified with the purpose of enabling the authorities responsible to allocate sufficient effort to address them by the end of 2010.

The LCN+ PM team will monitor and manage the resolution of the high-risk infrastructure barriers for the borough programme, with TfL addressing those on the TLRN.

By the end of 2006/07 a tracking system was set up and being populated to monitor the progress of the barriers and their resolution. It is planned that the Barrier tracker will be published on the LCN+ website during 2007.

Figure 1 below gives an example of how the boroughs are working to resolve barriers.

**Figure 1:** 2006/07 preliminary design option to resolve the infrastructure barrier at the Mansion House Gyratory by reverting the road to two-way working.



# 5.0 Asset Management Initiative

In 2006/07 Asset Management Initiative (AMI) works were completed across a total of 257.9km of the borough network. See table 5 for a full borough by borough breakdown.

The pilot AMI commenced in 2004/05 providing the boroughs the opportunity to improve the surface quality and address general maintenance issues along the LCN+, which were not being dealt with under normal maintenance programmes and in locations where changes to the highway layout are not required.

The process involved a survey of the LCN+ Links in each borough, carried out by a single appointed surveyor by agreement with the borough, ensuring a consistent approach across the network. The results were sent to the borough to produce an estimate for the repair of the identified faults. Funding was made available through the LCN+ variation process and approved by TfL.

Following the pilots, the AMI was rolled out to the remaining boroughs. To the end of 2006/07 over £3.2M has been allocated to 23 boroughs, with the majority of the remaining 10 planning AMI works in 2007/08.

In 2006/07, a second round of surveys commenced to assess the changes in the maintenance needs following the first round of surveys and to pick up additional faults which may have developed since the original surveys were carried out. Analysis of the data from the second round of surveys showed that the number of faults had been reduced significantly since the maintenance work had been completed.

**Figure 2:** Shows the total number of repairs made by five sample boroughs (Camden, Bromley, Hammersmith & Fulham, Bromley and Southwark) and gives an indication of the most common fault types.

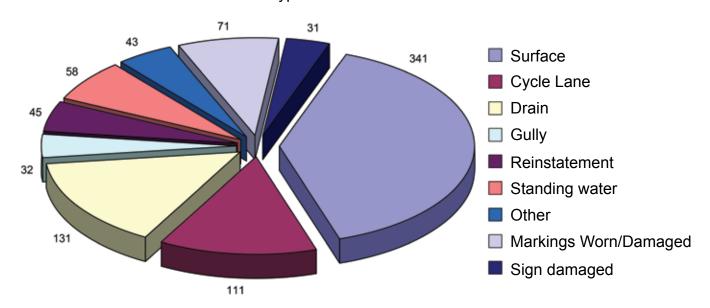


Table 5: Spending on the Asset Management Initiative to date

	<b>2004/05</b> Start Year		2005/06		2006/07	
Borough	Outturn (£k)	Length treated (km)	Outturn (£k)	Length treated (km)	Outturn (£k)	Length treated (km)
Barking & Dagenham					5	0
Barnet						
Bexley					145	26.9
Brent					30	16.7
Bromley			3.7	0	25	15
Camden	105	0.8			203.4	2.3
City of London Corporation						
Croydon					37.8	23.5
Ealing					145.6	26.1
Enfield					5	0
Greenwich					5	0
Hackney					5	0
Hammersmith & Fulham			28	8.4		
Haringey			212.5	26.3		
Harrow					5	0
Havering					5	0
Hillingdon						
Hounslow			135	16.6		
Islington			231	19.9		
Kensington & Chelsea						
Kingston upon Thames	3		256.3	28.5		
Lambeth					232	19.3
Lewisham			20.8	1.8	160.6	6.3
Merton	34	1.1			77	18
Newham			55	7.4		
Redbridge	42.6	2.4	182	10.4		
Richmond					51	45.5
Southwark			283	32.5		
Sutton			73.1	11.6		
Tower Hamlets					91	0.4
Waltham Forest					127	2.9
Wandsworth					80	26.8
Westminster					150	28.2
Total	184.6	4.3	1480.4	163.4	1,585.4	257.9

**Note:** £5k outturn in 2006/07 refers to fees incurred in the preparation of an estimate to undertake AMI works.

# **6.0 Expenditure 2006/07**

The total outturn spend for LCN+ in the 2006/07 financial year was £16.7M (£14.6M borough, £2.1M TLRN). Table 6 shows a comparison of the original allocation with the final outturn spend, including accruals.

**Table 6:** Allocation and outturn spend by Borough & TfL Road Network Development and Road Network Management

Borough/TfL Area	Original Allocation (£k)	Final Outturn (£k)
Barking and Dagenham	93	118
Barnet	0	0
Bexley	542	782
Brent	400	376
Bromley	347	468
Camden	394	728
City of London Corporation	287	458
Croydon	260	557
Ealing	435	582
Enfield	300	58
Greenwich	327	362
Hackney	527	508
Hammersmith & Fulham	312	450
Haringey	282	665
Harrow	389	267
Havering	107	325
Hillingdon	635	797
Hounslow	527	549
Islington	461	505
Kensington & Chelsea	5	7
Kingston	307	261
Lambeth	666	708
Lewisham	218	458
Merton	729	306

Newham	235	223
Redbridge	415	182
Richmond	267	413
Southwark	596	703
Sutton	145	133
Tower Hamlets	276	296
Waltham Forest	260	424
Wandsworth	437	174
Westminster	475	908
Project Management	850	850
Funds not allocated*	1500	0
Sub total	14,006	14,601
TfL RND	as outturn	1,353
TfL RNM	as outturn	704
Sub total	as outturn	2057
Total		16,658

**Note 1:** This outturn estimate is based on information available at the time of this reports preparation. Final claims and accruals from boroughs are not due until 31 August 2007 and may continue to be submitted following that date.

**Note 2:** In February 2007 TfL approved a budget increase of £1.5M to allow boroughs to bring forward schemes into the programme in order to accelerate completion of the network.

# 7.0 Highway Authority Overview

7.1	Borough Maps and Overview	
	Barking & Dagenham	32 - 33
	Barnet	
	Bexley	36 - 39
	Brent	
	Bromley	44 - 47
	Camden	
	City of London Corporation	54 - 57
	Croydon	
	Ealing	62 - 67
	Enfield	68 - 69
	Greenwich	70 - 73
	Hackney	74 - 79
	Hammersmith & Fulham	80 - 83
	Haringey	84 - 87
	Harrow	88 - 91
	Havering	92 - 95
	Hillingdon	96 - 101
	Hounslow	102 - 105
	Islington	106 - 111
	Kensington & Chelsea	112 - 113
	Kingston	114 - 117
	Lambeth	118 - 123
	Lewisham	124 - 129
	Merton	130 - 133
	Newham	134 - 135
	Redbridge	136 - 137
	Richmond	138 - 141
	Southwark	142 - 149
	Sutton	150 - 153
	Tower Hamlets	154 - 155
	Waltham Forest	156 - 157
	Wandsworth	158 - 159
	Westminster	160 - 163
7.2	TfL Maps and Overview	
	Road Network Development (RND)	164 - 171
	Road Network Management (RNM)	172 - 175

## 7.1 Borough Maps and Overview

This section of the report represents the information obtainable from highway authorities at the end of 2006/07. Each borough officer has been asked to provide a written overview of their boroughs progress and this is presented alongside a comprehensive list of their LCN+ schemes in 2006/07

**Photos:** All photos aim to highlight the implemented asset and also show cyclists using the facility mentioned. This is not always possible. It should also be noted that some photos may show incomplete schemes or schemes undergoing construction. In these cases the photo chosen is the best representation of the scheme at the time the report was being compiled.

**Scheme Code:** This is a unique identifier used by TfL Borough Partnerships to track an individual scheme's budget allocation and progress.

**Link Number:** Each borough has unique Links which form part of the network. Links can be both orbital and radial and usually run from borough boundary to borough boundary. All LCN+ Links have been identified as strategic routes for cycling.

**Location:** The exact location of the scheme is represented here. "Junction with" has been shortened to "j/w".

**Description:** A short description of the scheme in terms of assets delivered and benefits to cyclists. The London Cycling Design Standards are used as a reference for all technical descriptions.

**Cost:** The total cost of the scheme at the time of this reports publication. This is subject to change in some cases as the financial claims and accruals deadline is after the submission of this report.

**Length:** For implemented schemes this figure refers to the route length of the scheme. In the case of designs and feasibility studies the study area length is shown. Implemented lengths are shown in blue on the maps.

\*Spur schemes or off-network schemes do not contribute to overall network completion length.

**2006/07 Schemes:** A list of all the 2006/07 LCN+ schemes with project phase information (FCDI) can be found on the LCN+ website - www.londoncyclenetwork.org.uk

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