Report on Road Safety in Kensington High Street

SCOPE: This report examines the casualty records for Kensington High Street before and after the extensive improvement scheme and comments on the data

Graeme Swinburne,
Director of Transportation & Highways,
Royal Borough of Kensington & Chelsea,
Town Hall, Hornton Street,
LONDON, W8

020 7361 3374

Email: Traffic@rbkc.gov.uk

CONTENTS

1.	Introduction	3
2.	Background	3
3.	Scope	4
4.	Casualty Record- Before & After	6
5.	Commentary on Differences	9
6.	Initial Assessment	9
7.	Next Steps	11
8.	Summary	12

1. INTRODUCTION

1.1 This report examines the casualty records for road traffic collisions in Kensington High Street before and after the implementation of a comprehensive improvement scheme.

1.2 The scheme is described in more detail in the next section. As described later road safety was not a primary reason for change.

1.3 Although generally three full years of after data would be the time for review this report has been prepared now because enquiries have been received on the effect of the scheme on casualty levels and the Royal Borough wish to use the experience of this scheme when progressing other major projects. The findings will be updated as further years' data becomes available.

2. BACKGROUND

2.1 The main objectives of the scheme were to maintain and enhance the vitality, viability and attractiveness of Kensington High Street and to re-establish it as one of the premier shopping destinations in London through the use of exceptionally High quality materials, attention to detail and a co-ordinated range of street furniture.

2.2 One of the priorities was to significantly reduce street clutter through radical measures such as removing large areas of pedestrian guard railing, combining traffic signals with lamp columns and rationalising signage.

2.3 A key aim was to improve pedestrian movement and the links between the north and south footways. A number of additional controlled pedestrian crossings have been provided and the layout at the two main junctions in the High Street simplified. These now allow pedestrians to cross the road in one crossing, rather than in stages. This is of particular benefit to wheelchair users and those with pushchairs and overcomes the problem of overcrowding on pedestrian islands that occurred previously.

2.4 In order to return to a more traditional road layout where the kerb alignment closely follows that of the building line, the decision was made to remove all existing kerb buildouts and lay-bys. Existing footway widths have been maintained, and in some cases increased where pedestrian footfall is high. However, whilst further widening could have been carried out, unless there was a clear need, and there was not an adverse impact on traffic flow, footways were not widened.

2.5 Only two types of materials have been used throughout the scheme; York stone and granite. This is a departure from the approach taken by many Local Authorities whereby different coloured materials, which are

generally of low quality, are often used to segregate each category of road user.

2.6 Phase 1 of the scheme involved addressing all of the scheme objectives at a single facility, the controlled pedestrian crossing at Palace Avenue. This design was subject to a Safety Audit, the findings of which were incorporated where agreed and they also were carried through the remainder of the design and construction phases. The main comments from this are set out later in this report and commentary made on each aspect in the light of practical experience of the scheme in operation.

3. SCOPE OF REVIEW

Description of scheme

3.1 The improvement scheme covers the whole length of Kensington High Street from Edwardes Square in the west to the borough boundary at Queens Gate in the east. The local road network means that this link runs into the next sections at either end.

3.2 Over this length the major faculty changes were, from west to east:

- West of Edwardes Square - Alteration to Pelican crossing
- East of Edwardes Square - Alteration to Pelican crossing
- Earls Court Road junction - Modified Traffic signals
- Phillimore Gardens - Alteration to Pelican crossing
- Argyle Road - Junction improvement
- Wright's Lane to LT station - Removal of guard-railing
- Derry Street - New pelican crossing
- Kensington Church Street - Junction improvement
- Old Court Place - Modifications to Pelican crossing
- Kensington Court - Footway widening
- Palace Avenue - Alterations to Pelican crossings

3.3 These 11 locations have been specifically listed because they represent the major changes of the scheme and their casualty records have been tracked in detail.

Programme for works

3.4 The project started on site with preliminary works in October 2000 and the first changes commenced in January 2001. The original programme was for a two-year construction period. However, in May 2001 Transco had to carry out emergency repairs to the gas mains in both the High Street and Kensington Church Street, which delayed the project by over eight months, so that works were finally completed in July 2003.

3.5 The works were split into six distinct phases, to minimise disruption and maintain close control. The sections, and main work elements, were:

	Description	Works start	Works finish
1	-Pelican Modifications: Old Court Yard -Footway widening- Kensington Court -Pelican alterations- Palace Avenue	Jan 2001	Apr 2002
2	-Pelican alterations- Edwardes Sq W -Pelican alterations- Edwardes Sq E	Apr 2001	Sep 2001
3	-Wright's Lane to LT Underground: Removal of guard railing	May 2003	Sep 2003
4	-Pelican alteration- Phillimore Gdns -Junction Improvement: Argyle St	Nov 2001	Dec 2002
5	-New Pelican crossing: Derry Street -Junction Imp: Kensington Church St	July 2002	July 2003
6	- Modified traffic signals: Earls Court Road junction	July 2001	Mar 2002

Safety Audit

3.6 The Stage 1 Safety Audit for the proposed changes at the Palace Avenue pelicans drew attention to four elements:

- Removal of guard-railing did not accord with DfT design guidance;
- Absence of longitudinal and hatched centre markings did not comply with DfT guidance on road markings;
- Tactile paving did not follow the recommended type or layout
- Certain secondary signal aspects were missing.

3.7 The scheme was reviewed again in the light of this audit and some changes made. The overall design philosophy was retained however, with a risk assessment carried out for each phase of the works.

Data Sources

3.8 In addition to the scheme design details, the primary data source was the records of personal injury collisions collated by Transport for London from the Metropolitan Police's STATS 19 forms. This data is held as a computer database ACCSTATS to which all London authorities have direct access. There was also additional information on flows, speeds and observations.

Data Analysis

3.9 Transport for London carries out basic analysis of the records and regularly report these. The performance and trends compared with the government and Mayoral targets is reported regularly in Factsheets and annually in a report entitled '*Towards the year 2010: monitoring casualties in Greater London'.*

3.10 This report uses these outputs directly, further analysis is limited to determining any change or trend.

4. CASUALTY RECORDS- BEFORE & AFTER

4.1 Direct comparisons used in this report relate to the 3-year period before works commenced; ie. Jan 1998 – Dec 2000 and the two year period after all phases of the scheme were completed; ie. Sept 03 to Aug '05.

4.2 The records presented are categorised as follows:

- Totals of all casualties and for each category;
- Split by severity: killed & serious (KSI); and slight;
- Road user: all vehicles, pedestrian, pedal cycle and powered two wheeler;
- Child: Killed and Serious (KSI).

4.3 To put the assessment into context, data from the 'Towards 2010' series was used. Data for the whole of London was used to identify overall changes and trends and provide a comparison. The character of Kensington High Street (and other distinctive shopping streets) makes it difficult to assemble similar streets to act as a specific control; therefore the more extensive but generic data from the reports has been used.

4.4 The three Tables below present summary figures for three data sets: All London roads for which the borough is highway authority; RB Kensington & Chelsea and Kensington High Street. It should be noted that on the creation of TfL in July 2000, there were changes in the designation of roads and the responsible highway authority; therefore direct comparisons cannot be made without more extensive work. Notwithstanding this, it is considered that the data sets are compatible for general comment.

Table 4.1: Annual casualties by road user- All London Borough Roads

		1998	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005** ($^1/_2$ yr)
Pedestrians	KSI	1549	1460	1444	1409	1240	1165	1035	*561*
	Slt	5643	5757	5367	5101	4706	4472	4057	*2454*
	Total	7192	7217	6811	6510	5946	5637	5092	*3015*
Cycles	KSI	467	367	307	337	301	324	250	*160*
	Slt	2820	2768	2323	2106	1982	1913	1946	*1130*
	Total	3287	3135	2630	2443	2283	2237	2198	*1290*
P2W	KSI	663	695	815	866	814	752	599	*385*
	Slt	3873	4133	4377	4418	3791	3511	3046	*2115*
	Total	4536	4828	5192	5284	4605	4263	3645	*2500*
TOTALS All users	**KSI**	**4964**	**4289**	**4440**	**4382**	**4014**	**3689**	**3038**	***1560***
	Slt	**27929**	**28673**	**28419**	**27247**	**25427**	**23609**	**21676**	***13853***
	Total	**32893**	**32962**	**32859**	**31629**	**29441**	**27298**	**24714**	***15413***
Children	KSI	804	636	613	612	510	449	400	*160*

Sources: Towards 2010: monitoring casualties in Greater London Issues 1-5 (LRSU, TfL) & Annual Reports 1998 & 1999 (LAAU)

Data coverage: 1998 & 1999 figures are for all non-designated borough roads
2000-04 are for all borough roads (ie. Excluding TLRN) & 2005 for all roads

Table 4.2: Annual casualties by road user – RB of Kensington & Chelsea

		1998	1999	2000	2001	2002	2003	2004
Pedestrians	KSI	81	60	64	52	46	47	34
	Slt	251	249	211	202	158	145	131
	Total	332	309	275	254	204	192	165
Cycles	KSI	20	17	27	32	22	13	14
	Slt	142	144	126	111	93	93	82
	Total	162	161	153	143	115	106	96
P2W	KSI	32	36	47	27	44	38	32
	Slt	231	254	273	226	202	188	173
	Total	263	290	320	253	246	226	205
TOTALS All users	**KSI**	**185**	**159**	**187**	**151**	**148**	**125**	**105**
	Slt	**1012**	**1003**	**1060**	**828**	**747**	**717**	**636**
	Total	**1197**	**1162**	**1247**	**979**	**895**	**842**	**741**
Children	KSI	15	5	14	6	12	7	2

Sources: Towards 2010: monitoring casualties in Greater London Issues 1-5 (LRSU, TfL) & Annual Reports 1998 & 1999 (LAAU

Table 4.3: Annual casualties by road user – Kensington High Street

		1998	1999	2000		2003 Sept- Dec (4 mths)	2004	2005 Jan-Aug (8 mths)
Pedestrians	KSI	4	6	2		2	0	1
	Slt	23	21	23		2	6	8
	Total	27	27	25		4	6	9
Cycles	KSI	1	0	1		1	2	1
	Slt	10	12	9		4	3	7
	Total	11	12	10		5	5	8
P2W	KSI	1	2	4		0	0	1
	Slt	12	12	13		2	9	7
	Total	13	14	17		2	9	8
TOTALS All users	**KSI**	**10**	**7**	**9**		**3**	**2**	**3**
	Slt	**53**	**69**	**65**		**16**	**29**	**26**
	Total	**63**	**76**	**74**		**19**	**32**	**29**
Children	KSI	1	0	1		0	0	0

Sources: LRSU and LAAU ACCSTATS Statistics

Casualty Reduction Targets

4.5 Casualty reduction targets were set nationally by government and adopted in a modified form by the Mayor. In the light of London's strong performance to date the Mayor has recently increased the targets in certain categories: The target is by 2010 when compared with the average for the years 1994-98.

Table 4.4: Casualty reduction targets in London

	Road user	National	Mayor's original	Mayor's revised
Killed & Serious (KSI)	Pedestrian	Overall 40%	40%	50%
	Cycle		40%	50%
	P2W		40%	40%
	Other		In overall	In overall
Slight		10%	10%	25%
Child (KSI)		50%	50%	60%

Targets are shown here because monitoring is centred on progress towards them

Before & After comparisons

4.6 The Table below brings together the before and after data. Annual average casualty numbers are shown across the various road user and severity categories, together with percentage changes.

Table 4.5: Comparison of Before & After Casualties

		Borough roads - all London			All RBKC roads			Kensington High St		
		B	**A**	**%**	**B**	**A**	**%**	**B**	**A**	**%**
Peds	KSI				68.5	35.5		4.0	1.5	-62.5
	Slt				237.0	139.0		22.3	8.0	-64.1
	Total	7073.3	5558.3	-21.6	305.5	174.5	**-42.9**	26.3	9.5	**-63.9**
Cycles	KSI				21.3	15.5		0.7	2.0	+185.7
	Slt				137.3	103.5		10.3	7.0	-32.0
	Total	3016.3	2239.3	-25.8	158.6	119.0	**-25.0**	11.0	9.0	**-18.2**
P2W	KSI				38.3	32.0		2.3	0.5	-78.3
	Slt				252.7	184.5		12.3	9.0	-26.8
	Total	4852.0	4171.0	-14.0	291.0	216.5	**-25.6**	14.6	9.5	**-34.9**
TOTAL All Users	**KSI**				177.0	105.5		8.7	4.0	-46.2
	Slt				1025.0	675.5		62.3	36.0	-42.2
	Total	32904	27151	-17.5	1202.0	781.0	**-35.0**	71.0	40.0	**-43.7**
Child	KSI	684	424	-38.0	11.3	4.0	-64.6	0.7	0.0	0

Sources: LRSU and LAAU ACCSTATS Statistics

Note: Before value is the 1998-2000 average; the After value is the annual average of the two years post-implementation (Sept 03 to Aug 05 inclusive) for all RBKC and Kensington High Street, BUT 2002-04 average for all London borough roads

5. COMMENTARY ON DIFFERENCES

5.1 In comparing these two periods it is important to stress at the outset that:

- The periods are different lengths and the 'after' is a shorter period than would normally be used;
- Within the individual road user categories the actual number of casualties is small, particularly for the High Street itself, therefore a change of one can lead to disproportionate percentage changes;
- No detailed analysis of individual collisions has been conducted yet;
- No account has been taken of external variables.

5.2 Whilst not necessarily factors in this review the number of variables that can affect collision and casualty rates is extensive. Examples that could have been influential are:

- Weather
- Vehicle design
- Remedial programmes
- Publicity campaigns
- Infrastructure investment
- Congestion charging
- State of the economy
- Modal choice
- Cost of public transport
- Travel fashions
- Tourist levels

5.3 Notwithstanding all of these, these initial results are encouraging and indicate that the innovative approach to design and layout and the type of materials, street furniture and equipment used has not had an adverse effect on safety and may have contributed to a slightly higher overall percentage reduction than that for the Royal Borough as a whole.

6. INITIAL ASSESSMENT

6.1 This section comments on the overall findings so far and provides illustrations in respect of the individual elements where design and/or facilities were introduced that did not fully follow conventional guidance. The background data for this includes the assigned contributory factors and therefore is interpretive. The contributory factors provide a guide only and may not include all possible factors. In addition the assignment method for these was changed as part of the STATS 19 changes in January 2005. Also, the responsibility and location of STATS19 data process within the MPS has been changed during this period

General

6.2 Initial review of the individual collision has not identified any incident where the design, facility or materials was contributory.

Guard railing

6.3 Although there were injuries to pedestrians who crossed at locations where previously guard-railing was installed, the overall reduction in casualties and their severity suggests that this change has not produced an adverse impact on safety overall.

6.4 Observations suggest that there may have been some behavioural change for both pedestrians and drivers. Vehicle speeds have reduced slightly and drivers appear more alert to the presence of pedestrians and that they cross the high street over its whole length. Pedestrians are aware that they can cross almost anywhere but appear to prepare by looking for approaching traffic rather than relying on controlled faculties and others actions.

Lighting/LUP

6.5 Kensington High Street was lit to the BS standards before the improvement scheme. The lighting pattern for the whole street was re-designed as part of the scheme to take account of the type of columns chose and the need to position them so that signal aspects could be mounted on them. The lanterns give white light to assist crime prevention and safety.

6.6 The average percentage of collisions during the Lighting Up Period (LUP) before the scheme was 30.8% and after was 21.1%. Therefore the lighting changes have contributed to the reduction and with careful design it is possible to amend traditional column patterns without an adverse effect on safety.

Signal aspects

6.7 At certain locations the location and number of secondary aspects were reduced to minimise street clutter. At certain locations secondary aspects were omitted completely.

6.8 Information on the standard ACCTSTATS is not specific enough to analyse behaviour at signals. More work will be carried out on this aspect but the overall reduction in incidents suggests that careful design is key rather than slavish adherence to automatic numbers.

Centre markings

6.9 The omission of the longitudinal road markings and hatched areas between refuges and centre islands was intended to contribute to a ‘cleaner; less fussy appearance.

6.10 Before the scheme there were 12 collisions (4 per year average) where U-turn was included in the record as a contributory factor and 3 (1.5 per year average) such incidents after. As the annual rate has dropped for the overall length of the High Street it is considered that these markings only need to be installed where conditions specifically warrant them.

Cycle Stands in the centre of the road

6.11 At 4 locations, cycle stands were installed in the unused central section of the carriageway. Concerns were expressed that cyclists could be at greater risk using these, both while riding and as pedestrians.

6.12 There have been no casualties relating to these facilities and it is considered that where space and conditions allow this provides a useful alternative location to the footway.

Anti skid surfacing

6.13 There was already anti-skid surfacing at all signalled locations in the High Street and the surfacing was maintained to a high standard. As part of the scheme, this was renewed, additional lengths laid and all the remainder re-surfaced.

6.14 The three year average percentage of collisions occurring on wet roads or where skidding was noted as a contributory factor before the scheme was 15.9% and 11.3% after. The small improvement in the rate indicates that anti-skid surfacing and high maintenance standards can contribute to minimising casualty levels.

7. NEXT STEPS

7.1 The initial results for the two years after the completion of the full scheme will be updated to provide three years and monitored thereafter. More detailed analysis of the individual collisions will be carried out to assess the occurrence of any patterns.

7.2 It is hoped that a robust approach can be developed to carrying out a behavioural study that would provide an objective assessment of the anecdotal observations described above.

8. SUMMARY

8.1 The improvement scheme's objectives were to maintain and enhance the vitality, viability and attractiveness of Kensington High Street and to re-establish it as one of the premier shopping destinations in London through the use of exceptionally high quality materials, attention to detail and a co-ordinated range of street furniture. Road safety and security were important aspects but casualty reduction not a primary objective.

8.2 Overall the casualty reductions over the scheme's length have matched or exceeded the equivalent figures for the whole of the Royal Borough and the general figures for al London.

8.3 The data will be updated for the full three years post-completion and more detailed work is planned on the data for individual road user groups, other influential changes and user behaviour.

8.4 The initial encouraging results indicate that innovative change, coupled with careful detailed design, risk assessment and construction, can be achieved outside current guidance and without an adverse impact on road safety.