DIFFERENCES BETWEEN LONDON MOTORCYCLISTS AND THOSE FROM THE REST OF THE UK

Institute for Transport Studies

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Title	**Differences between London motorcyclists and those from the rest of the UK**
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Table of Contents

List of figures

List of tables

Executive summary

The London Road Safety Unit (LRSU) has the responsibility for ensuring that London achieves its road casualty reduction targets. The Mayor has set individual targets for vulnerable road user groups including a 40% reduction motorcycling casualties by 2010. Motorcycling casualties have risen year-on-year from 1996 to 2001, broadly in line with increased ownership and usage. There were 7,043 motorcycle casualties on London's roads in 2002 - a 16% increase over the 1994-1998 average. To address this trend, the LRSU needs to understand the nature of the population of London motorcyclists.

The LRSU commissioned the University of Leeds to carry out an analysis of the characteristics of London motorcyclists. By comparing London motorcyclists to those residing elsewhere in the UK, it was possible to examine if and how they differ in terms of demographic variables, the machines they choose to ride and how they utilise their bikes. A sample of approximately 1000 motorcyclists returned a survey, originally developed for a DfT-funded project. Using postcode data, the sample was divided into 112 motorcyclists who resided in Greater London and 867 who lived elsewhere. The survey asked motorcyclists to provide information regarding:

- Demographics and current motorcycle
- Training undertaken
- Purchasing decisions
- Leisure and group riding
- Seasonal and weather variations
- Accident history

The data suggest that London motorcyclists are more likely to be younger and single, with full-time jobs earning a higher income. They are more likely to own machines under 250cc, compared to the rest of the sample, and much more likely to own scooters. London riders are three times as likely to ride for commuting or as part of work and half as likely to be leisure-only riders. They report choosing to ride a motorcycle mainly to avoid congestion compared to the UK sample's general "love of motorcycling". They also commonly cite financial reasons for running a motorcycle, and that rises in insurance would be one of their main reasons for giving up motorcycling. They use their machines, for commuting trips (or as part of their work), approximately twice as much as the remaining UK population. The frequency of these commuting or at work trips rises steadily from February onwards, peaking in the summer months. From September onwards there is a steady fall towards the end of the year. With London motorcyclists being less likely to be leisure riders, their average number of trips during the summer months is approximately half that of those motorcyclists living elsewhere. They do, however, still increase their leisure trips during the summer months, making four times as many compared to in the winter months. These leisure rides are less likely to involve group rides, compared to those living outside London.

No differences were found between the groups' propensity to undertake voluntary courses, or in riders' self-perception of riding skill. However, accident involvement did differ slightly. London motorcyclists, once they have been involved in an accident, seem slightly more likely to be involved in subsequent accidents. These accidents were found to occur closer to home, whilst commuting or at work and in winter months. Two "clusters" of London motorcyclists were found - those who use their low-powered machines for commuting or at work trips and the remainder who use their machines for a variety of purposes. A number of intervention possibilities are discussed, including the targeting of publicity and training.

1   Background

The London Road Safety Unit (LRSU) has the primary responsibility for ensuring that the Mayor of London's road casualty reduction targets are met. These targets include reductions of 40% for all killed and seriously injured (KSI) casualties, 50% for child KSI casualties and 10% for slight casualties compared with the average for 1994-1998. The Mayor has set individual targets for vulnerable road user groups including a 40% reduction in motorcycling casualties by 2010.

Progress towards the targets has been satisfactory with the notable exception of motorcycle casualties, which have risen year-on-year from 1996 to 2001, broadly in line with increased ownership and usage. There were 7,043 motorcycle casualties on London's roads in 2002, this is a 16% increase over the 1994-1998 average. To address the causes of this trend, the LRSU needs to better understand the factors affecting motorcycle users on London's roads. To reach a position where it is possible to do this effectively, more needs to be known about the riders themselves and the type of motorcycling they engage in.

Data from 2002 show that around 88% of motorcycling casualties are aged between 16 and 44 with increasing numbers coming from younger age groups - the average age of moped casualties has fallen from 27.8 years in 1996 to 25.6 years in 2002. Only around 47% of London's inhabitants are aged between 16 and 44, suggesting that this group is highly over-represented in the motorcycle casualty figures.

DfT data shows that, nationally, motorcycles make up less than 1% of road traffic. This proportion may be higher for London. LRSU estimate that the registered motorcycle population in London is in the region of 110,000. There is evidence that the Congestion Charging scheme has caused an increase in the use of motorcycles - with the full year report showing powered two wheeler movements to have increased by 10-15%.

In 2001, DfT commissioned the Institute for Transport Studies at the University of Leeds to investigate the views and needs of the UK motorcycling population. The survey was able to categorise motorcyclists living in Greater London using their postcode data. LRSU commissioned an additional study to specifically examine the characteristics of the London motorcyclist and discover if they differed from those in the rest of the UK.

2   Development of the survey

The survey evolved using different piloting techniques to ensure ecological validity and the use of appropriate "biking" language. The survey was first distributed to members of the Research Task Force of DfT's Advisory Group on Motorcycling. After consideration of their comments, the survey was piloted with 100 motorcyclists. A thirty page, 60-item survey was then produced and printed into an A5 booklet. A scan of the DVLA vehicle database was undertaken to provide a sample of motorcyclists with a representative stratification of motorcycle engine size. This stratification was calculated using the taxation class information produced in the year 2000. The requested sample is shown in Table 1.

The surveys were distributed by post to 5300 registered keepers of motorcycles with a covering letter and a freepost envelope. 1009 riders responded to the survey, representing a 20% response rate. A copy of the survey can be found in Appendix 1.

Table 1   Sample requested from DVLA

Engine size	*n*
< 50 cc	900
50 cc - 150 cc	1000
150cc - 200cc	100
200cc - 250cc	300
250cc - 350cc	100
350cc - 500cc	400
500cc +	2500
Total	*5300*

3   Owner characteristics

3.1   Geographical distribution

The respondents were asked to provide the first half of their postcode (e.g. SW11). Using mapping software, this data allowed a visual check that the survey respondents were geographically distributed as widely as possible. The resulting map is shown in Figure 1. The shaded areas represent the postcode areas of the respondents. It can be seen that respondents were from a wide geographical distribution, even including the Shetland Islands.

Using these postcodes, three groups were established:

1. Greater London motorcyclists   (n=112)
2. Non-Greater London motorcyclists   (n=867)
3. UK motorcyclists   (n=979)

The shaded areas represent the postcode areas of the respondents.
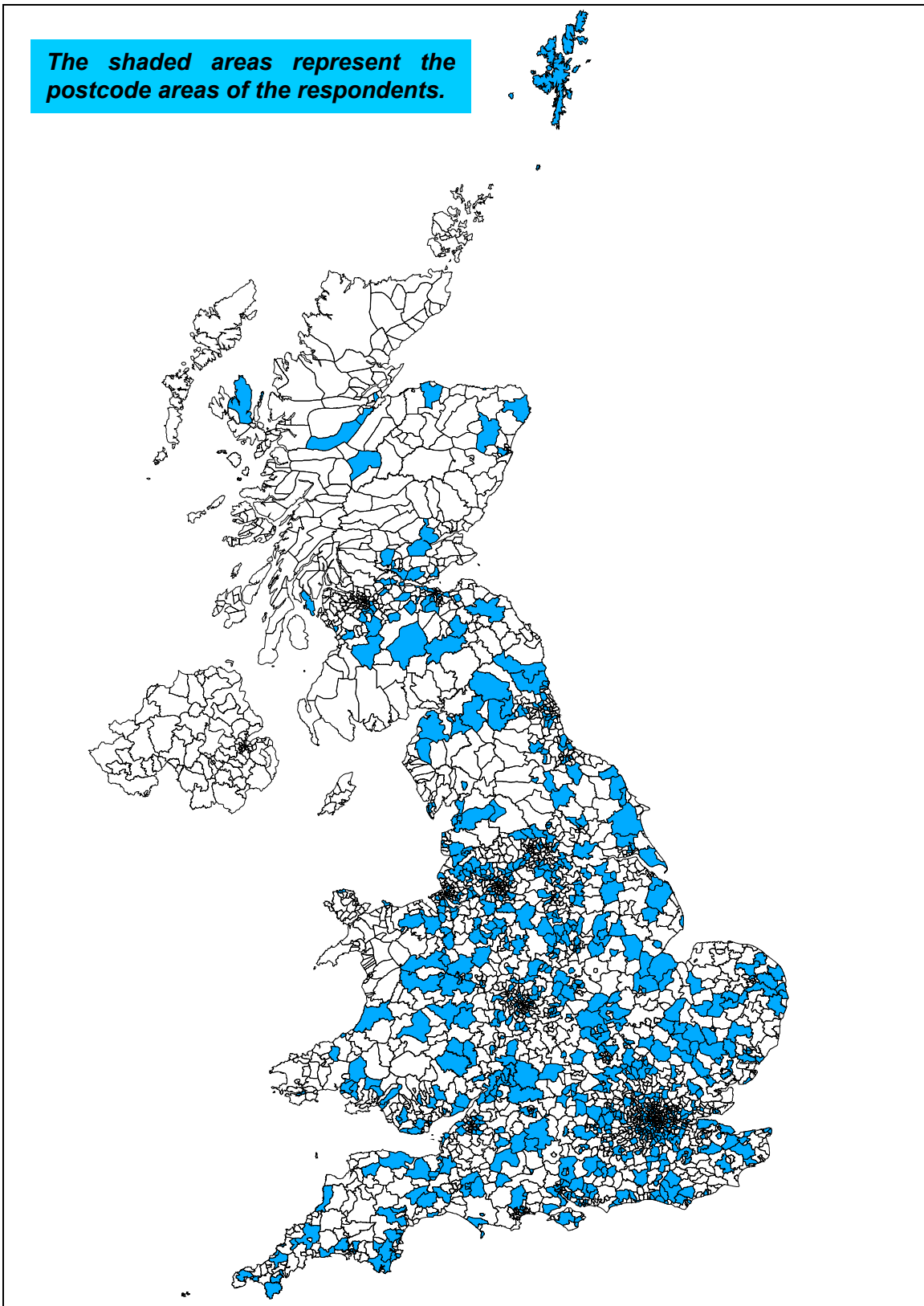
Figure 1   Geographical distribution of survey respondents

3.2 Age

Descriptive statistics for the rider groups are provided in Table 2. Statistical testing revealed there to be no differences in mean age distribution between the three groups.

Table 2   Age by rider group

	Mean	*SD*	*Min*	*Max*	*n*
London	41.94	10.82	18	76	112
Non-London	43.87	12.50	17	85	867
UK sample	43.65	12.32	17	85	979

However, from the age distributions (Figure 2), it can be seen that there is a tendency for London motorcyclists to be younger, with a modal (most common) age being 35-40 years.
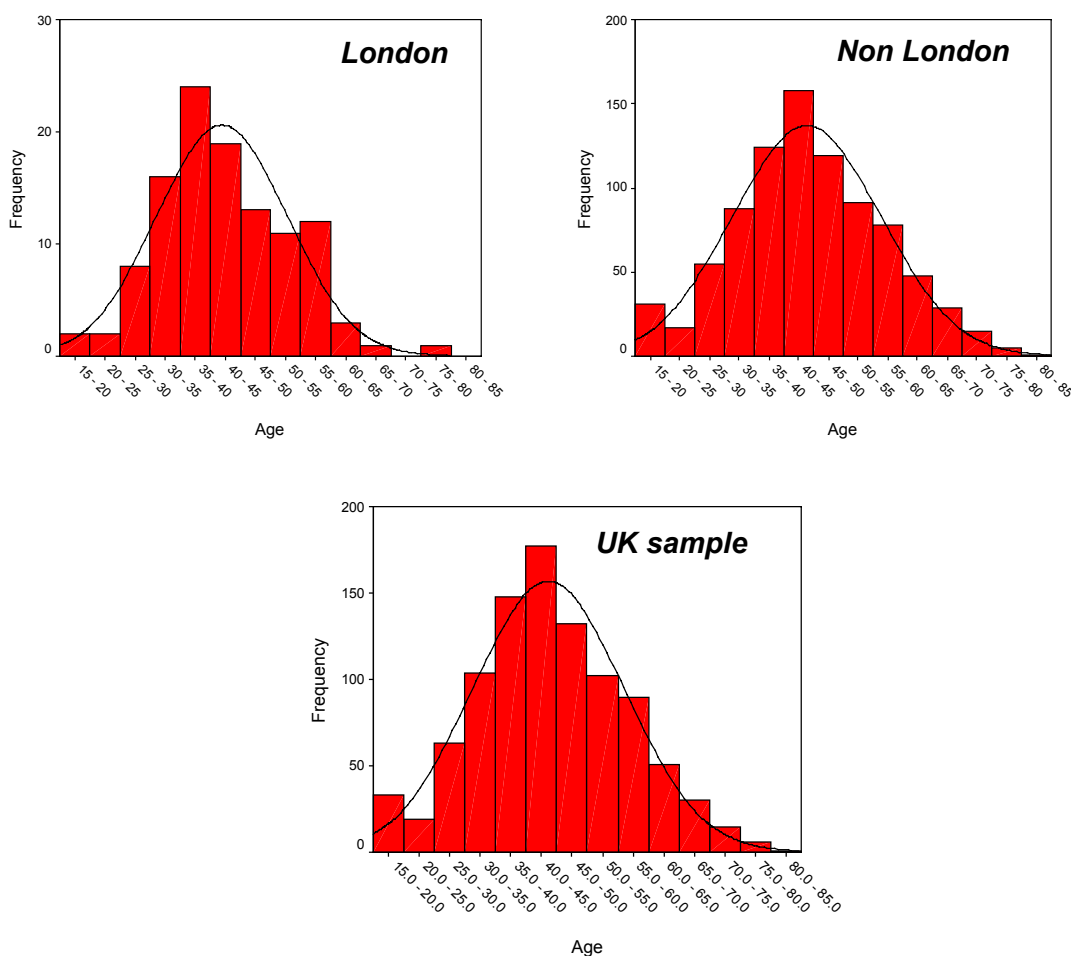
Figure 2   Age distributions[1]

3.3 Family commitments

Seventy four percent of all riders were either married or living with a partner. London motorcyclists were marginally more likely to be single, or living with a partner, rather than married, (Figure 3). Approximately 23% of London motorcyclists were single, compared to the sample average of 16%.

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[1] The age category 15-20 yrs does not include illegal riders; it is simply used for ease of analysis

Marital status

No. of dependent children (under 18)
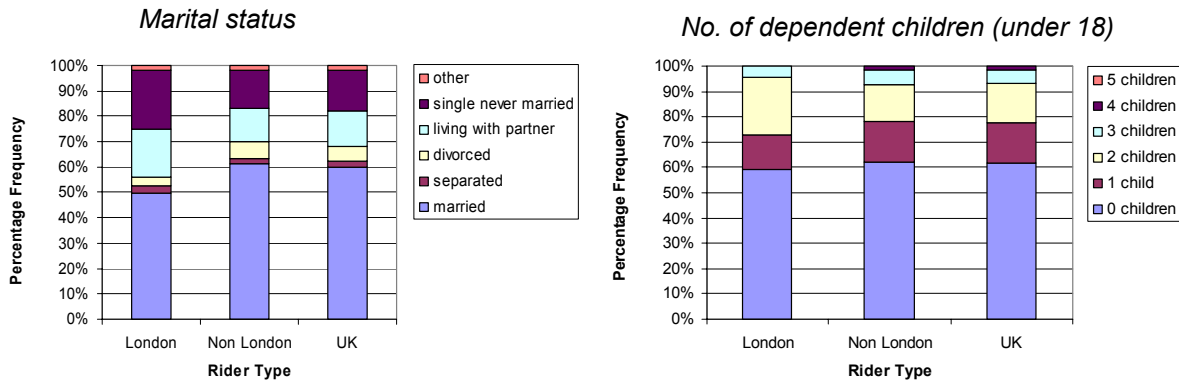
Figure 3   Family commitments

Thirty eight percent of all riders had one or more children (under 18 years) living at their address. Those motorcyclists living in London were less likely to have more than three children compared to those living elsewhere. This may be a direct reflection of the age of the London sample, being slightly lower.

3.4   Employment

Analysis of the whole sample showed that 78% of motorcyclists were in full time employment, with London motorcyclists more likely to be so (Figure 4). Those motorcyclists living in London were, as a result, less likely to be retired or in full-time education. Based on this occupation information, riders were classified according to the National Statistic Socio Economic Classification (NS-SEC) scheme.   This groups individuals into eight 'analytic classes' (Appendix 2). For example, those grouped in the '1.1' class represent individuals holding senior managerial and professional positions such as chief executives and directors. It can be seen that compared to the UK sample, London motorcyclists were more likely to be in more senior positions of management. This is despite the fact that they were generally younger.

Employment status

NS-SEC classification
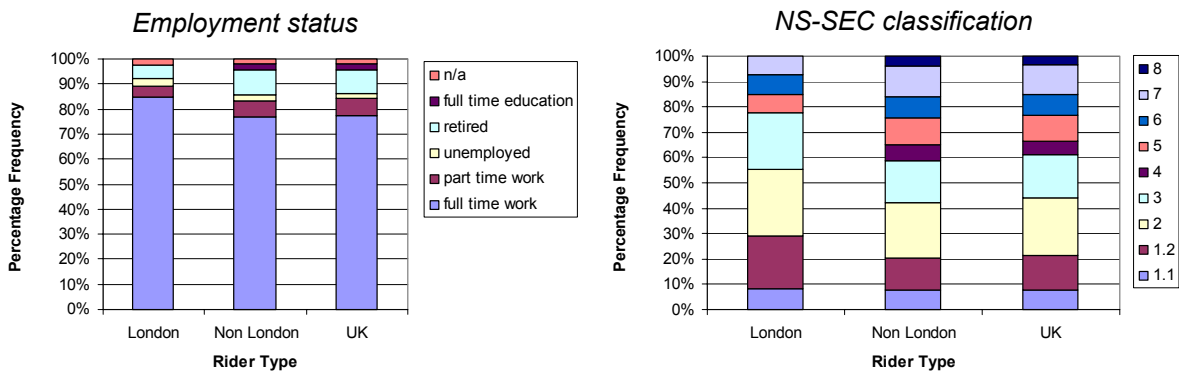
Figure 4   Employment

3.5   Income and expenditure

For the whole sample, 30% of motorcyclists earned over £30,000. Whilst 26% of motorcyclists who live outside the London area earned over above this figure, 50% of London motorcyclists did (Figure 5).

Gross personal annual income   *Monthly disposable income*
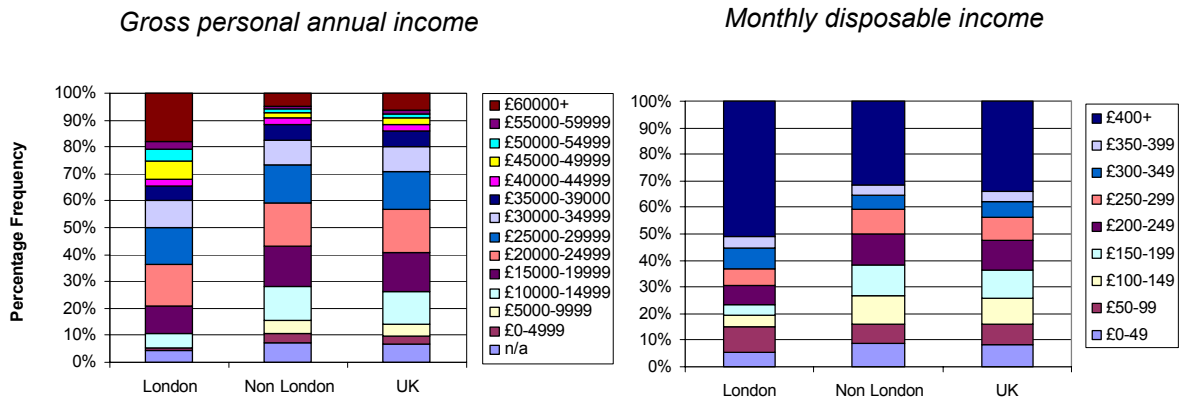
Figure 5   **Annual and disposable income**

Nearly 20% of London motorcyclists reported a gross personal income of over £60,000 compared to 4% of non-Londoners. This reflects national income figures, where the national average wage is £25,000 compared to London wages averaging £36,000. As a result of this higher earning power, the London-based motorcyclists have a higher disposable income. This allows them to spend more on motorcycle related clothes and modifications (Figure 6).
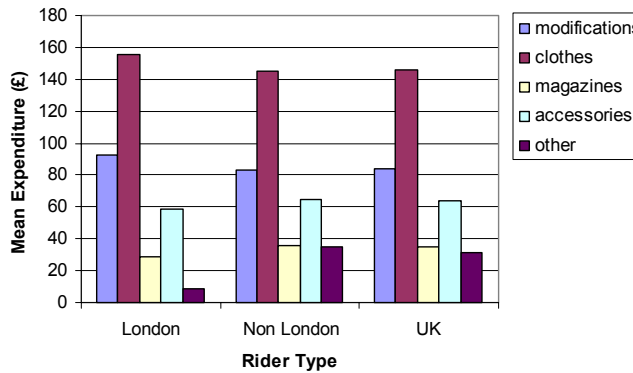
Figure 6   **Mean expenditure on motorcycling items**

3.6   Vehicles owned

Figure 7 and Figure 8 suggest that most riders have a car licence and access to a car.
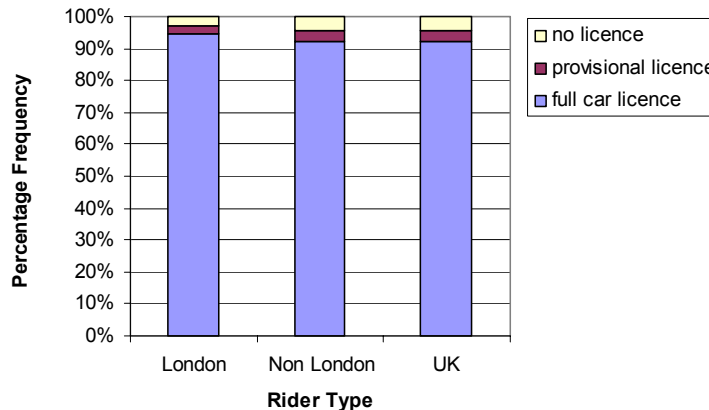
Figure 7   **Types of car driving licence held**

There were no differences between the groups. However, London motorcyclists were more likely to own just the one motorcycle.
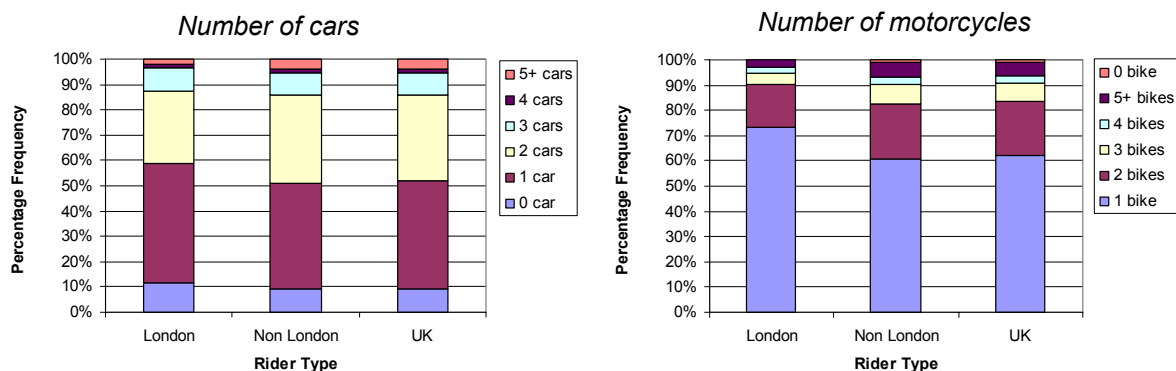
Figure 8   Vehicles owned

3.7   Current motorcycle ownership

Riders were asked to provide details of the motorcycle that they currently use the most in terms of its manufacturer, model and engine capacity. This information also allowed motorcycles to be classified in terms of motorcycle type (e.g. moped, custom, adventure sport). The classification used for different motorcycles types can be found in Appendix 3.

The engine capacities of motorcycles were classified according to the current taxation classes. Table 3 provides a comparison between the current UK motorcycle fleet (categorised by engine capacity) and the sample obtained in the current survey, split by rider group. The table suggests that although the survey sample was well represented by the intermediate sized motorcycles, the 501+cc motorcycle rider was somewhat over represented and the lower capacity motorcycle rider under represented.

Table 3   Comparison of UK motorcycling population and survey sample[2]

Engine size	*UK Population (%)*	*Survey Sample (%)*		
		London	Non-London	UK sample
0-50 cc	17%	11%	9%	9%
51-150 cc	19%	18%	7%	9%
151-200 cc	2%	3%	1%	1%
201-250 cc	5%	2%	5%	4%
251-350 cc	1%	0%	1%	1%
351-500 cc	7%	6%	8%	8%
501+ cc	49%	60%	69%	68%
Total	**100%**	**100%**	**100%**	**100%**

Figure 9 shows the types of motorcycles owned. Compared to the sample as a whole, London motorcyclists are much more likely to own those with engine size 51-150cc, classed as scooters.

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[2] Note: taxation classes 50-125cc and 126-150 cc are collapsed due to scant data. Data is from 2000.

Engine size | Motorcycle type
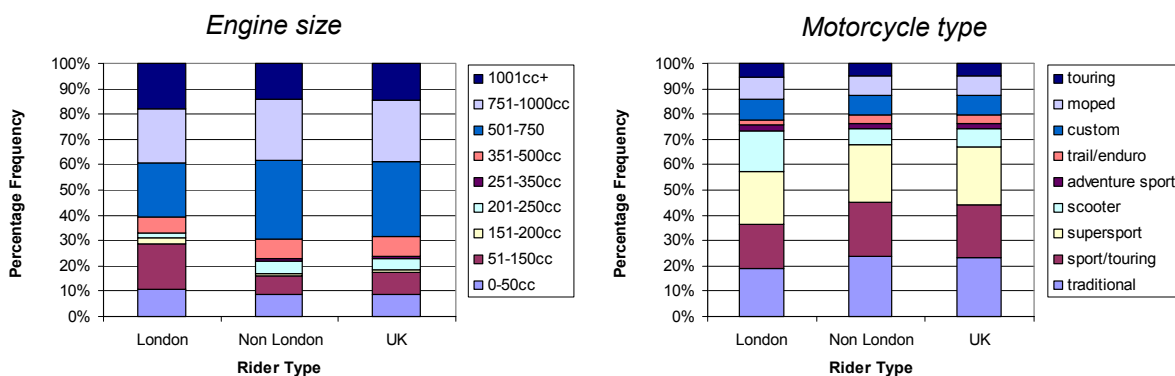
Figure 9   Motorcycle ownership

3.8   Journey type

By categorising motorcyclists by the type of riding they engage in, it was possible to ascertain whether London motorcyclists, for example, were more likely to be commuters[3] than leisure riders. Indeed, London riders were almost three times as likely to ride as a commuter or as part of work and half as likely to be leisure riders compared to those living elsewhere (Table 4). The proportion of multi-use riders was similar across groups.

Table 4   Riders characterised by type of riding

	London		Non-London		UK sample	
	n	% of group	n	% of group	n	% of group
Commuter/work rider	31	28%	89	11%	120	13%
Leisure only rider	15	14%	270	32%	285	30%
Multi-use rider	63	58%	469	56%	532	56%
Miscellaneous rider[4]	0	0%	9	1%	9	1%

For London riders, it can be seen that the choice of machine for their commuting or at work trips is a relatively low powered one, half of which are classed as mopeds or scooters, Figure 10.

Engine size | Motorcycle type
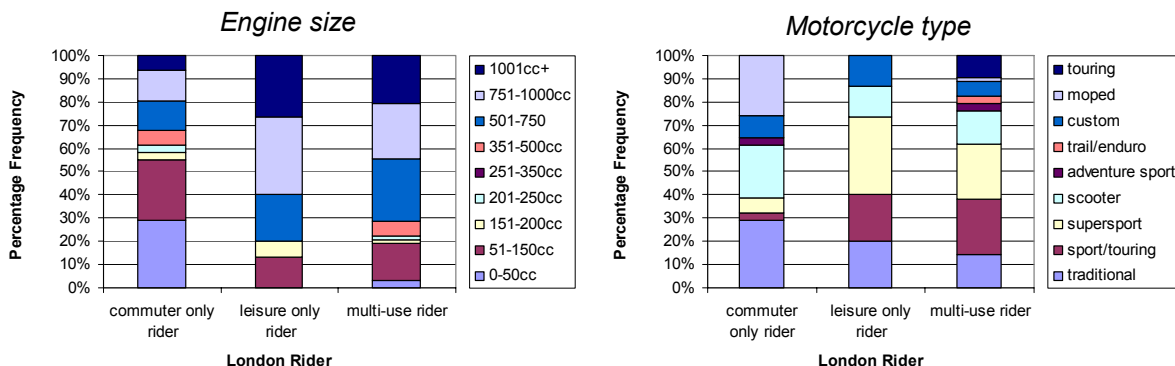
Figure 10   Journey type by motorcycle ownership (London only)

3.9   Experience

Riders were classified according to their experience. Riders who have returned to motorcycling after a number of years away from riding are of particular concern to a number

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[3] Commuters also refer to those who ride as part of their work (e.g. dispatch riders)
[4] Those who did not report commuter or leisure trips but who did make other trips (e.g.shopping)

of parties (e.g. DfT, police), and thus formed their own category. These riders will be referred to as **returning** riders. A further group of riders are those who have built up a wealth of experience over a considerable length of time. These riders have generally not taken a substantial break from the activity and will hence be referred to as **long-term** riders. A final group logically emerges defined as those who have recently taken up motorcycling, termed **new** riders. This group accounts both for those who gain their licence at a young age and those who take up motorcycling later in life. The groups were defined as:

New rider: A motorcyclist who had taken up riding after 1996. The year 1996 was chosen as a cut off point since it is this year and onwards that shows a steady rise in motorcycle casualties in the UK. Of course, it is not clear whether this increase is due to an increase in the number of riders or to other factors.

Long-term rider: A motorcyclist who began riding before 1996 and had ridden continuously, without having taken a break of ten years or more.

Returning rider: A motorcyclist who returned to riding from 1990 onwards having taken a break of 10 years or more. 1990 was chosen as a cut off point to provide a sufficiently large sample for statistical testing.

The groupings can be seen in Table 5. Compared to the UK sample, London riders were more likely to be new riders and less likely to be returning riders. The probability of them being long-term riders was the same as for the general UK motorcycling sample.

Table 5   Riders characterised by experience

	London		Non-London		UK sample	
	n	% of group	n	% of group	n	% of group
New rider	38	34%	175	21%	213	22%
Long-term rider	58	52%	477	56%	535	56%
Returning rider	16	14%	195	23%	211	22%

With regards to experience, London riders were either mostly new or long-term, with only 10% being classed as returning riders. There were no new riders in London who took up motorcycling solely for pleasure, Figure 11.

Figure 11   Journey type by rider type (London only)

3.10 Purchasing decisions

93% of London motorcyclists purchased their new machine through a dealer, whereas they sourced second-hand ones equally via a dealer and privately. Overall, Figure 12 shows that, as in the rest of the country, London motorcyclists tend to buy from dealers as opposed to privately.
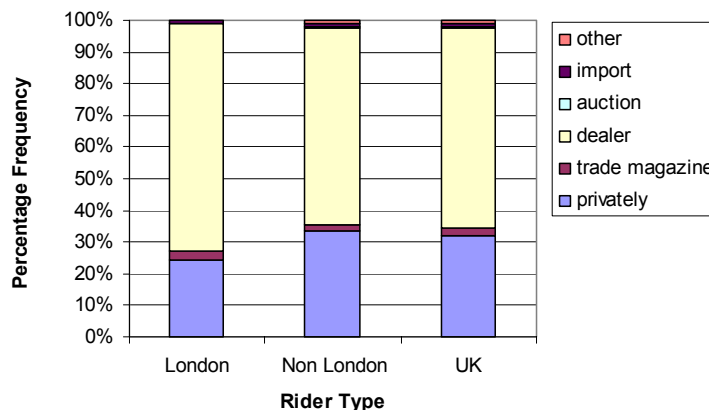
Figure 12   Place of purchase

When the reasons for buying their current motorcycles are examined by rider groups, differences are clearly apparent (Table 6). As noted earlier, motorcyclists were more likely to be commuters or ride as part of their work if they lived in London. This is reflected very clearly in their reasons for purchasing their motorcycle. London riders use their motorcycle to avoid congestion and deem them cheaper to run and insure (this is despite the fact they are higher earners). Engaging in leisure rides is, unsurprisingly, low down on their priority list. In comparison, those who live outside Greater London cite the "love of motorcycles" as being their top reason for choosing to purchase a motorcycle.

Table 6   Most common reasons for buying current motorcycle

Most common…	*London*	*Non London*	*UK*
1st reason for buying	to avoid congestion	love of motorcycles	love of motorcycles
2nd reason for buying	cheaper to run/independence and freedom	independence and freedom	independence and freedom
3rd reason for buying	cheaper to insure	to engage in leisure activity	to engage in leisure activity
4th reason for buying	to engage in leisure activity	to avoid congestion	to avoid congestion
5th reason for buying	insufficient car parking	image associated	image associated

3.11 Motorcycle usage: Seasonal and weather variations

Using the same data manipulated to create journey type it was possible to look at the nature of trips by rider type in more detail.

Figure 13 suggests that London riders make, on average, twice the number of commuting or at work trips as those in the rest of the UK, and that this varies little throughout the year. As discussed above, London riders make proportionally less leisure trips, but those that are made follow the same seasonal pattern as in the rest of the country.
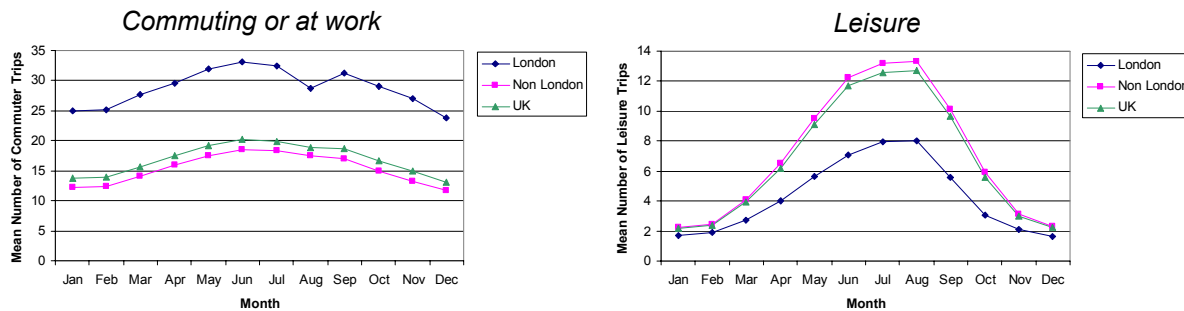
Figure 13   Mean number of trips by month

3.12 Self reported rider skill

As a way of trying to quantify riders' perceptions of their own skills, they were asked how confident they felt about riding in the dark, in wet weather conditions and on a motorcycle with which they have very little experience. Mean responses for each tended towards 'very confident', i.e. higher values on the scale, and there was no effect of rider group (Figure 14).
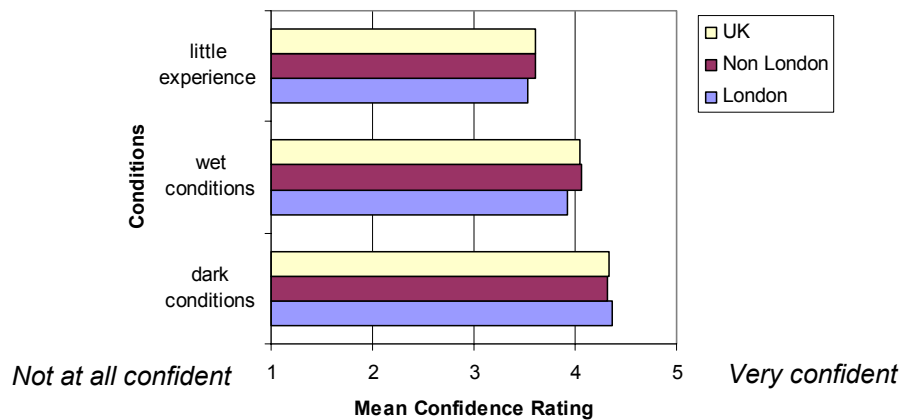
Figure 14   Self reported riding confidence

3.13 Rider training

18% of the riders surveyed had completed at least 1 voluntary training course. Figure 15 illustrates that there is no difference in voluntary course uptake between rider groups.
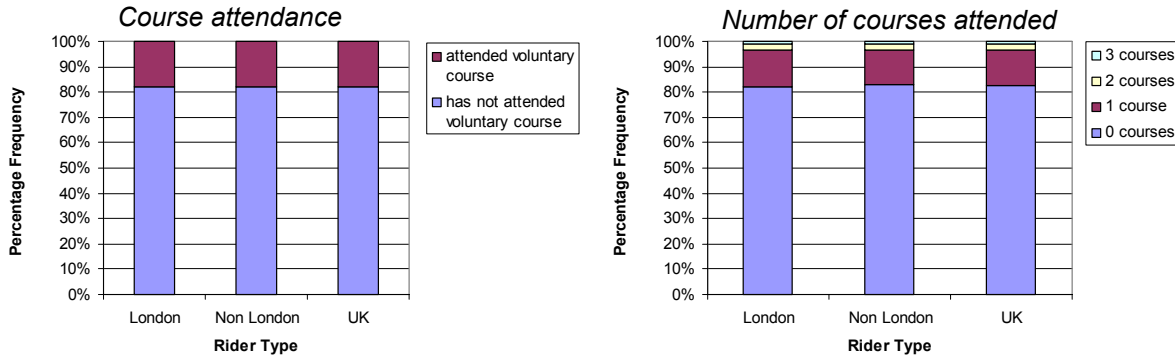
Figure 15   Voluntary training course attendance

When the actual number of courses attended is examined, very few had attended more than one course, the most popular among London riders being CSM, Figure 16.

- IAM = Institute of Advanced Motorists
- Honda MAC = Honda Motorcycle Appreciation Course
- ACU = Autocycle Union
- CSM = Cambridge School of motoring
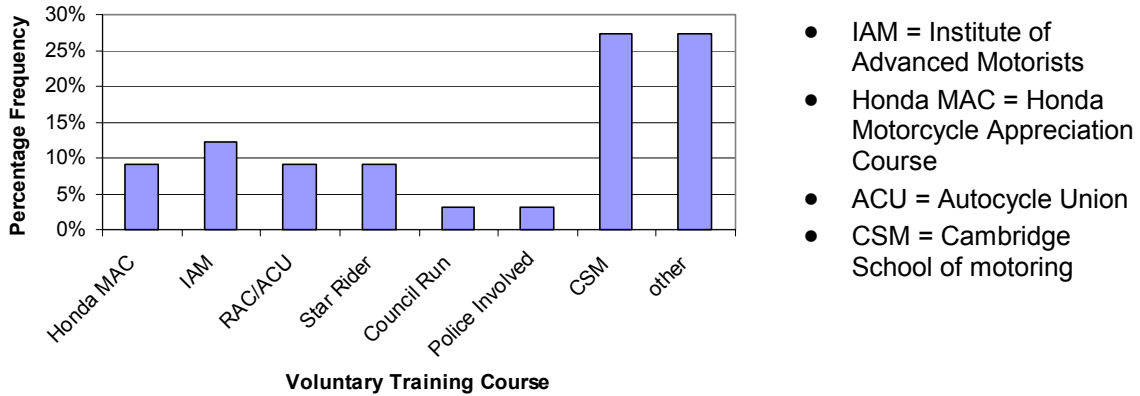
Figure 16   Type of voluntary training course attended (London only)

The popularity of police-organised training courses has increased in the current decade (probably due to their increased availability), as have the Honda MAC, Figure 17.
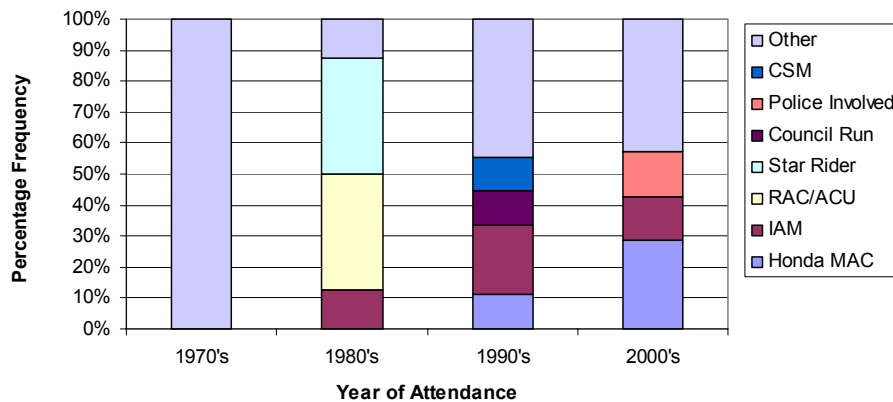
Figure 17   Voluntary courses attended by year of attendance (London only)

Motivations for attending these voluntary training courses tended to be improving and refreshing motorcycling skills (Figure 18).
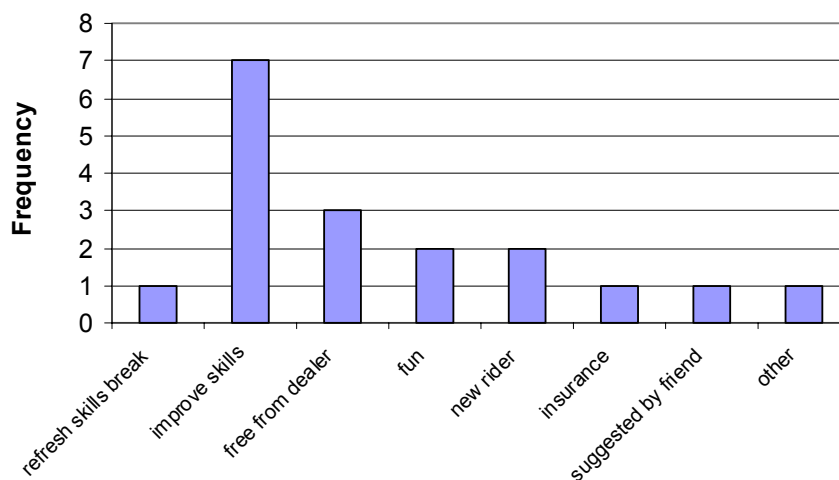
Figure 18   Reasons for undertaking voluntary training course (London only)

3.14 Accidents

A broad overview of accident involvement data was collected. The data should be treated with caution, as they are frequencies and do not account for exposure. Twenty four percent of all UK riders had been involved in one accident or more during the last three years (Table 7). When the two rider groups are compared, it can be seen that 77% of non-London riders have not been involved in an accident in the previous three years, compared to 68% of London riders. In addition, London riders, once involved in an accident, appear to have a higher likelihood of being involved in subsequent ones (see shaded section of Table 7). This is perhaps due to their reported frequency of damage only accidents, Table 8.

Table 7   Distribution of accidents within the rider type groups

No. of accidents	*London*	*Non-London*	*UK*
0	68 %	77%	76%
1	15%	17%	17%
2	12%	3%	4%
3	4%	1%	1%
4	1%	1%	1%
5 or more	1%	1 %	1%
% involvement in all reported accidents	12%	88 %	n/a

Table 8   Mean number of accidents by rider type and accident severity

	London	*Non-London*	*UK*
Serious injury	0.07	0.06	0.06
Slight injury	0.25	0.27	0.26
Damage only	0.25	0.19	0.20

Table 9, Table 10 and Table 11 provide insight into the nature of these accidents using modal or mean responses, where appropriate. Whilst, as for the majority of accidents reported, they occurred in an urban area, London motorcyclists were usually closer to home,

on a commuting or at work trip and in winter months when an accident occurred. Outside London, particularly for serious accidents, motorcyclists were more likely to be involved in accidents further away from home, whilst riding for leisure in the summer months.

Table 9   Serious injury accident

	London	*Non-London*	*UK*
Road class	urban	urban	urban
Familiarity with road (months)	23.88	14.75	16.27
Distance from home (miles)	19.75[5]	30.74	28.91
Month	Dec/Oct	May	June
Year	2001	1999	2001
Time of day	pm	pm	pm
Time of week	weekday	weekday	weekday
Trip purpose	commuting or at work	leisure	commuting or at work
Engine capacity (cc)	875.88	640.80	679.98
Experience (months)	26.03	21.95	22.66
What else was involved?	moving vehicle	moving vehicle	moving vehicle
Who was to blame?	another road user	another road user	another road user
Reported to police?	yes	yes	yes

Table 10   Slight injury accident

	London	*Non-London*	*UK*
Road class	urban	urban	urban
Familiarity with road (months)	25.00	18.90	20.07
Distance from home (miles)	20.93	37.33	34.14
Month	Jan	Jun	Jun
Year	2001	2000	2000/2001
Time of day	pm	pm	pm
Time of week	weekday	weekday	weekday
Trip purpose	commuting or at work	commuting or at work	commuting or at work
Engine capacity (cc)	720.62	502.02	543.75
Experience (months)	52.71	22.33	28.13
What else was involved?	moving vehicle	Nothing else	moving vehicle
Who was to blame?	other road user	other road user	other road user
Reported to police?	no	no	no

Table 11   Damage only accidents

	London	*Non-London*	*UK*
Road class	urban	urban	urban
Familiarity with road (months)	26.58	17.22	18.58
Distance from home (miles)	13.93	47.25	42.13
Month	Oct	Jun/Nov	May/Jun
Year	2001	2001	2001
Time of day	pm	pm	pm
Time of week	weekday	weekday	weekday
Trip purpose	commuting or at work	commuting or at work	commuting or at work
Engine capacity (cc)	688.60	589.51	605.66
Experience (months)	20.80	21.09	21.44
What else was involved?	moving vehicle	moving vehicle	moving vehicle
Who was to blame?	another road user	another road user	another road user
Reported to police?	no	no	no

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[5] This unexpectedly high figure is the result of four large outlying values

3.15 Leisure riding

Figure 19 suggests that the most important characteristics of a good motorcycling route were wide sweeping roads with impressive views and little traffic, on a fine and dry day. Long straights, tight bends and fast downhill roads were preferable to a lesser extent. The possibility of 'knee down' bends (i.e. tight cornering) did not feature as particularly important for any type of rider. Rider groups did not differ in their appreciation of a 'good motorcycling' route nor in the ways in which they derived enjoyment from such rides.

The only slight difference in scores lies in the importance of speed. London riders appear to value this more, perhaps reflecting the congestion they endure on non-leisure rides.
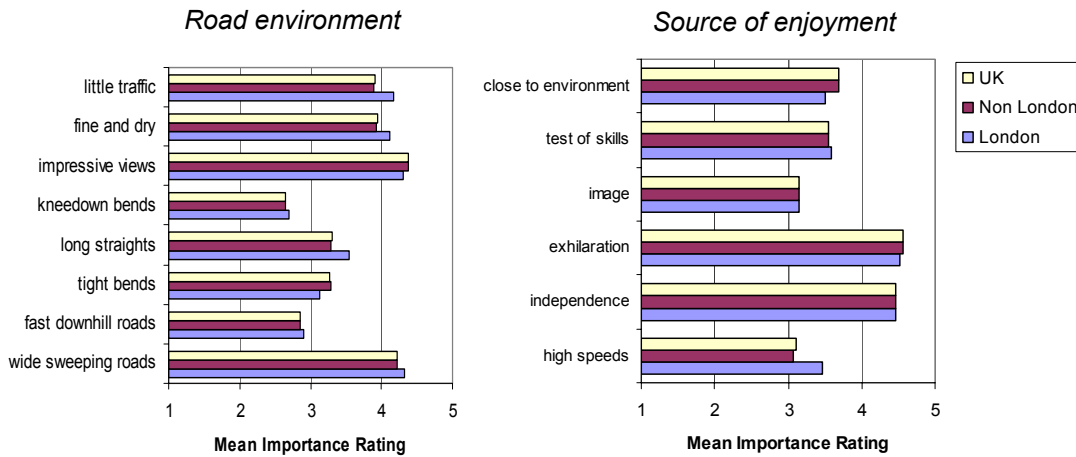
Figure 19   Characteristics of leisure rides

28% of riders typically leisure ride within 26 and 50 miles of their home (Figure 20) and approximately 20% of riders engaged in leisure rides outside their county. London riders are more prone to take shorter leisure rides, presumably either due to the type of bike they ride or due to time constraints.
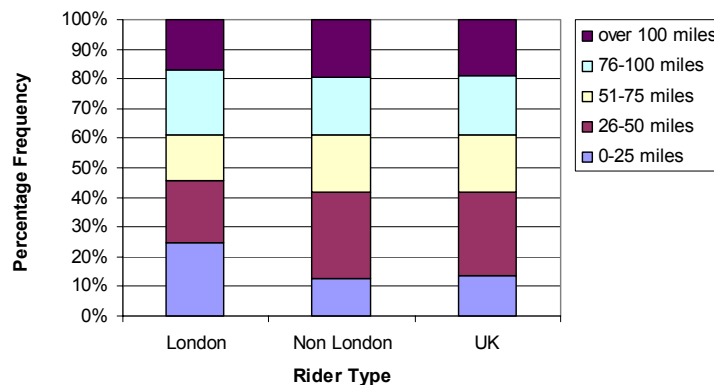
Figure 20   Distance travelled from home during leisure ride

For all riders, leisure rides were more likely to be undertaken at weekends (Figure 21).

When it takes place   *Duration*
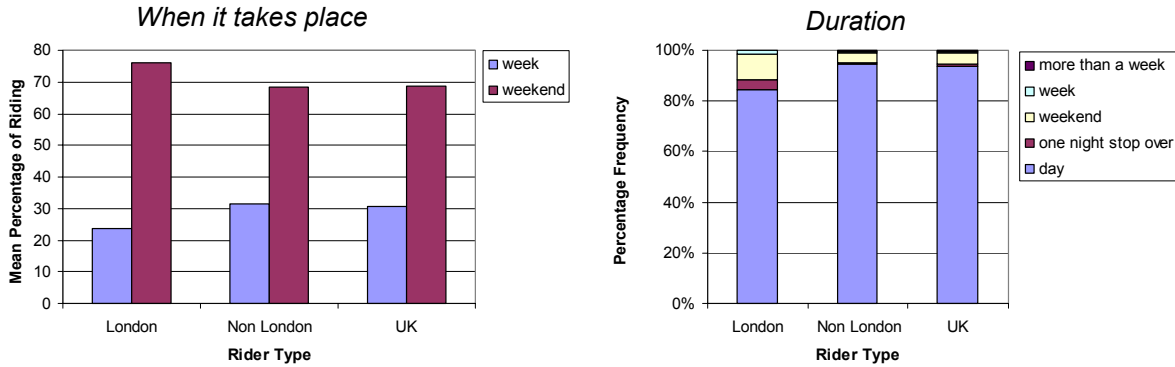
Figure 21   Timing of leisure riding

Few riders engaged in leisure rides exceeding a day, with London riders exhibiting the greatest tendency to participate in a weekend of leisure riding.

3.16 Group riding

Just under half (49%) of all riders engaged in group leisure rides. Figure 22 suggests that riders ultimately valued group riding as a source of social interaction, particularly London riders. However, those who live in London are generally less likely to engage in group rides, Figure 23.
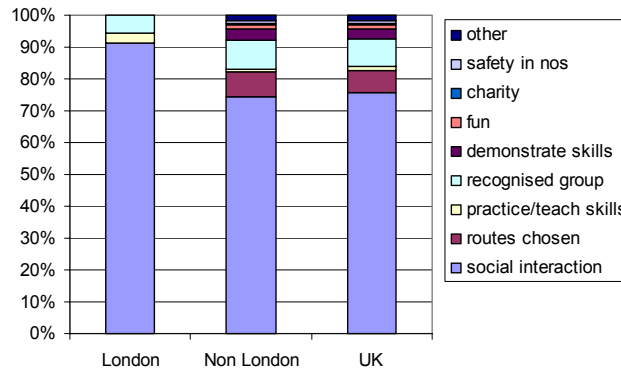
Figure 22   Reasons for taking part in group rides
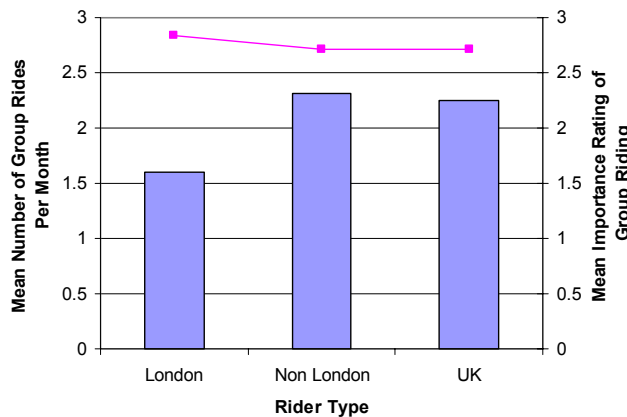
Figure 23   No. of group rides and their importance

3.17 Giving up motorcycling

A final section of the survey examined riders' assessments of potential factors that would lead them to retire from riding, Table 12. Data allowed comparisons with those riders who had already given up riding. There are few geographical differences, although London riders rank "insurance rises" as higher. This is possibly due to the relative cost of motorcycling for this group. With London riders preferring motorcycling as a cheap way of commuting or at work, any substantial rise in this cost would impact on the decision to keep doing so.

Table 12   Reasons for giving up motorcycling

Reasons for giving up	London	Non-London	UK	Retired rider
1st reason	Serious accident	Serious accident	Serious accident	Serious accident
2nd reason	Age/health related factors	Age/health related factors	Age/health related factors/rise in insurance	Age/health related factors
3rd reason	Rise in insurance	Loss of thrill gained from riding	Loss of thrill gained from riding	Rise in insurance
4th reason	Loss of thrill gained from riding	Rise in insurance	Family/peer pressure	Loss of thrill gained from riding
5th reason	Need for suitable family transport	Need for suitable family transport	Need for suitable family transport	Need for suitable family transport
6th reason	Family/peer pressure	Family/peer pressure	--	Family/peer pressure

Figure 24 highlights that some riders were adamant they would not give up riding 'until death', although London riders were less likely to think this way. They were more concerned about the practicalities of parking and speed cameras.
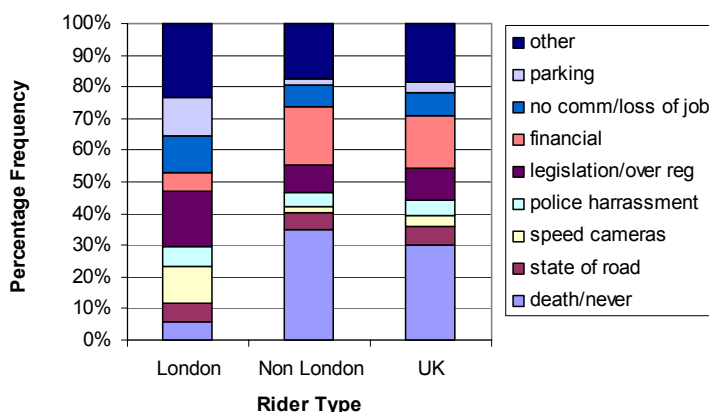
Figure 24   Additional reasons for giving up riding a motorcycle

4   Do London motorcyclists ride different bikes?

In the analysis carried out for DfT, a regression analysis was undertaken. Regression analysis is a statistical technique applied to data to determine, for predictive purposes, the degree of correlation of one variable with one or more other variables. In other words, it examines whether there is a strong or weak cause-effect relationship between two variables. In this survey, we wished to establish which riders (in terms of demographics etc) ride which type of bike (in terms of engine size). The UK STATS 19 data suggest that fatal motorcycle accidents are more likely to involve large machines. This analysis thus provided the ability to target certain motorcycle owners, in order to reduce the numbers of fatal accidents.

The resulting model (for the whole UK sample) suggested that those riding the higher capacity motorcycles tended to be:

- male
- long-term or returning riders
- riding mostly for leisure purposes
- who tend to attend voluntary motorcycling training courses
- and also drive a car
- fall into a higher NS-SEC analytic class and thus
- earn a higher income

The data were re-analysed in a number of ways. First, an additional dichotomous variable was included in the regression model (London/non-London) in order to discover if this accounted for more of the variance in the data than, say, income or riding habits. Based on the data presented in the previous sections, it could be expected that the "London" factor predicts engine size such that London riders are more likely to ride machines of lower capacity.

Then the two data-sets were separated into London and non-London motorcyclists. The London motorcyclist data were entered into a regression model that established the characteristics of riders of different sized machines.

The first analysis showed that the inclusion of "London" as a variable did not add any extra prediction to the model. In other words, the fact that a rider lived in London did not predict the engine capacity of their motorcycle. Table 13 shows the significant predictors: gender was the strongest predictor with males being more likely to own a larger machine. Whether or not the rider was a commuter/work rider or not was also a strong predictor: those who commute or ride as part of work owned the smaller capacity machines.

The lack of evidence for a "London" factor seems at odds with the data presented in the previous sections, but this could be for a variety of reasons. First, the dataset is rather small, with only 86 Londoners entered into the regression model. Second, by looking at the spread of data within the two datasets (Figure 25), it can be seen that the non-London riders display a skewed distribution of engine size. There are fewer who ride the low powered machines and the majority ride bikes over 500cc. For the London dataset on the other hand, there appears to be a bi-modal distribution, with a peak at 51-100cc machines and another at the higher end. This suggests that there are two polarised groups of riders in the London dataset.

Table 13   Stepwise regression to predict engine capacity (UK sample)

Predictors	Unstandardised coefficients		Standardised β	t statistic	sig
	β	St. error			
(Constant)	359.16	80.39		4.47	.000
Sex	-214.87	41.96	-.18	-5.12	.000
Commuter or not	-227.31	36.08	-.21	-6.30	.000
NS-SEC	25.01	6.08	.16	4.12	.000
Long-term rider or not	196.56	30.64	.27	6.41	.000
Returning rider not	138.81	36.54	.16	3.80	.000
Attended voluntary course or not	87.86	29.46	.10	2.98	.003
Car licence or not	107.98	45.59	.08	2.37	.018
Income	10.53	4.58	.09	2.30	.022
Leisure rider or not	61.23	26.81	.08	2.84	.023
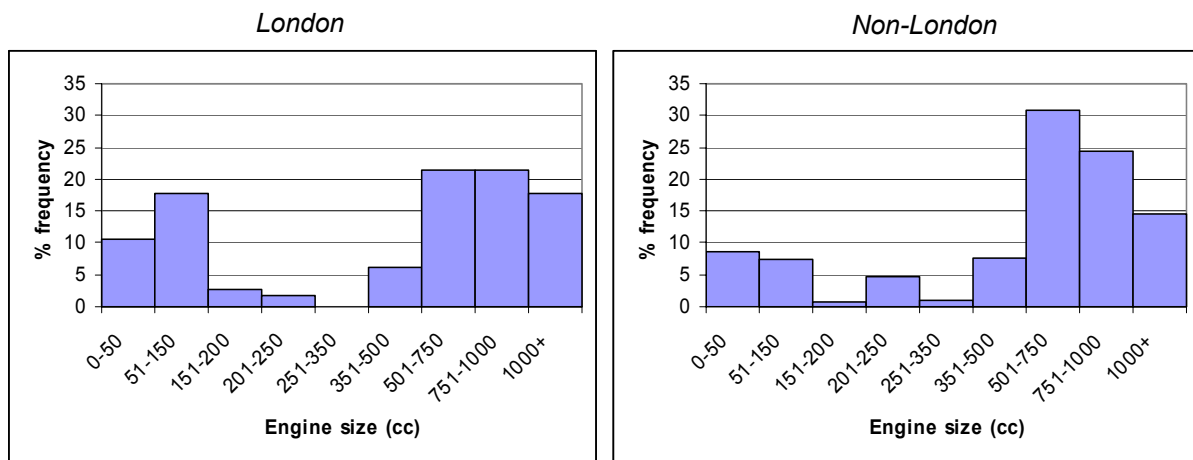
Figure 25   Distribution of engine sizes

A cluster analysis performed on the London riders confirmed these two distinct groups, with reliable clusters forming at 175cc and 1000cc (median engine size), after just one iteration. A similar analysis on the non-London riders formed reliable clusters at 125, 600 and 1000cc. Box-plots for these clusters can be seen in Figure 26.
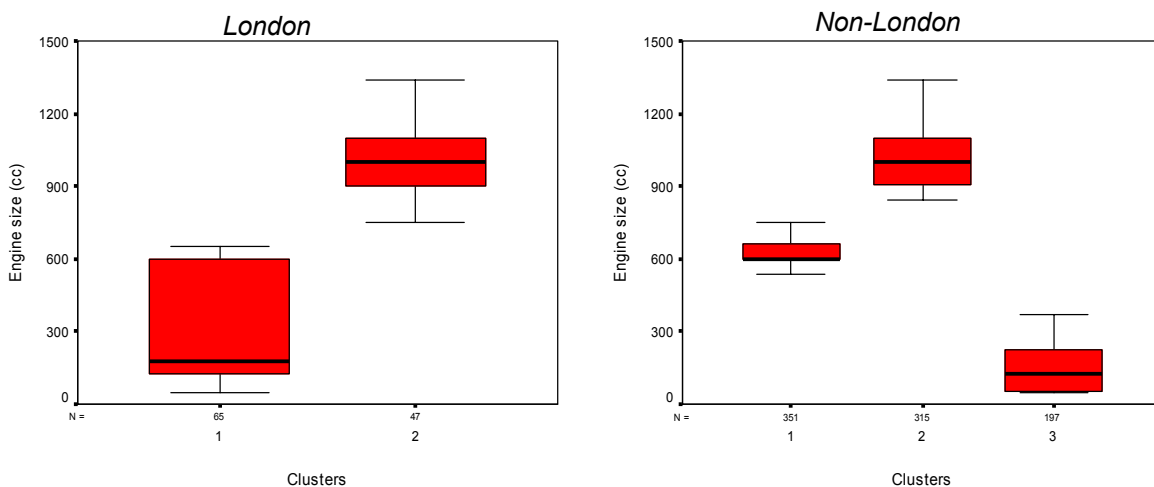
Figure 26   Cluster analyses for engine size

By dichotomising the variable of engine size, based on the bimodal distributions in Figure 25 and rerunning the regression model, it was found that the predictor variable of London/Non-London approached significance (p=0.06). That is to say, Londoners are more likely to own machines below 250cc compared to those who live outside London. With a larger dataset, this effect may be more reliable.

The London dataset was then separated from the main dataset and subjected to a regression analysis. This aimed to establish, statistically, what predicts the engine size of motorcycles owned by London motorcyclists. Four main predictors of engine size were found, see Table 14. In summary, male, non-commuting or at work, high income, long-term riders were more likely to own a higher-capacity machine.

Table 14   Stepwise regression to predict engine capacity (London sample)

Predictors	Unstandardised coefficients		Standardised β	t statistic	sig
	β	Standard error			
(Constant)	762.75	198.58		3.84	.000
Sex	-344.63	134.02	-.25	-2.57	.012
Commuter or not	-261.93	88.02	-.27	-3.00	.004
Long-term rider or not	212.59	77.54	.27	2.74	.008
Income	23.82	10.25	.22	2.33	.023

In summary, the analyses showed there is some support for the argument that London motorcyclists are a separate sub-sample from the rest of the UK, in terms of the size of bikes they choose to ride. London riders appear to be more polarised, with a group of riders choosing low powered machines and the remaining owning machines over 600cc. These riders of the small machines are commuters or ride as part of their work, mostly new to the activity and have a lower income.

5 Conclusions

This survey was carried out to establish whether London motorcyclists could be characterised in any particular way and whether they are different to motorcyclists living elsewhere. The 1009 survey respondents were separated into two groups - those who lived in Greater London (112 motorcyclists) and those who didn't (867 motorcyclists).

Demographically, whilst there was no statistical difference between the mean ages of the two groups, the modal age of London motorcyclists was slightly younger. As a result, they were more likely to be single or living with a partner compared to those who live outside London. With London motorcyclists more likely to be in full-time work, they also commanded higher employment status and an associated higher income.

With regards to types of motorcycles owned, London motorcyclists were more likely to own machines under 250cc, compared to the rest of the sample, and more likely to own scooters. By categorising the sample according to the types of trip they made on their motorcycles, it was found that London riders were three times as likely to ride as a commuter or part of work and half as likely to be leisure-only riders. It is hardly surprising that leisure riding is less popular in our capital city and it is probably for this reason that the proportion of returning riders (i.e. those returning to motorcycling after a substantial break) is low. Of those riding the lower-powered machines, 47% were new riders and 38% long-term riders.

London riders report choosing to ride a motorcycle mainly to avoid congestion compared to the UK sample's general "love of motorcycles". They also commonly cite financial reasons for running a motorcycle, and say that rises in insurance costs would be one of their main reasons for giving up motorcycling. London-based motorcyclists use their machines for commuting or at work trips approximately twice as much as the remaining UK population. The frequency of these commuting or at work trips rises steadily from February onwards, peaking in the summer months. From September onwards there is a steady fall towards the end of the year. As discussed above, London motorcyclists are less likely to be leisure riders, and indeed their average number of trips during the summer months is approximately half that of those motorcyclists living elsewhere. They do, however, still increase their leisure trips during the summer months, making four times as many compared to in the winter months. For London motorcyclists, these leisure rides are less likely to involve group rides.

No differences were found between the groups' propensity to undertake voluntary courses, or in their self-perception of riding skill. However, accident involvement (using a very small dataset) did differ slightly. London motorcyclists, once they have been involved in an accident, seem slightly more likely to be involved in subsequent accidents. These accidents were found to occur closer to home, whilst commuting or at work and in winter months. This is in contrast to the "average" type of accident non-Londoners are involved in. Serious accidents in particular tend to occur in the summer months during leisure trips, for those living outside London.

When regression modelling was carried out, no "London" effect was found, leading to the

conclusion that, on average, Londoners do not choose to ride different sized machines, compared to the rest of the UK. However, when the data were interrogated further, the reason for this became clear. The distribution of engines sizes for London motorcyclists was bi-modal such that they choose to ride either small or large machines. Non-Londoners, on the other hand, tended to use larger machines in general. Thus, there are two "clusters" of London motorcyclists - those who use their low-powered machines for commuting or at work trips (and who are mostly "new" riders), and the remainder who use their machines for a variety of purposes (and who are usually "long-term" riders).

5.1 Summary

In general London motorcyclists show the following characteristics that **differentiate** them from other motorcyclists:

- They are slightly younger, and thus more likely to be single.
- Despite their age, they have a higher employment status and an associated higher income…
- …but are more likely to own machines with an engine capacity less than 250cc.
- They are three times as likely to be commuter/work riders and half as likely to be leisure-only riders.
- They are less likely to be riders who are returning to motorcycling after a break.
- They report choosing to ride a motorcycle mainly to avoid congestion and cite financial reasons for running a motorcycle.
- They use their machines for twice as many commuting or at work trips, and for half as many leisure trips.
- These leisure rides are less likely to involve group rides.
- Once involved in an accident, London motorcyclists seem slightly more likely to be involved in subsequent accidents.
- Their accidents occur closer to home, whilst commuting or at work and in winter months.
- London motorcyclists choose to ride either small or large machines, with few riding mid-sized bikes.
- There are possibly two "clusters" of London motorcyclists - those who use their low-powered machines for commuting or at work trips and the remainder who use their machines for a variety of purposes.

5.2 Implications

The main aim of this analysis was to understand the nature of the London motorcycle population and to discover whether they differed to motorcyclists living elsewhere. It was hoped that this would shed light on how further rises in motorcycling casualties, in the London area, could be prevented.

The small dataset of London motorcyclists obtained in this survey is not sufficient for a reliable analysis of accident involvement. It therefore cannot be concluded that, for example, London motorcyclists riding small machines are more likely to be involved in an accident than a motorcyclist, riding a similar machine, living elsewhere. This would require much more detailed accident data than the STATS19 can currently offer - it only defines motorcycles as being of one of three categories and only about 50% of entries have the relevant postcode data.

Resources for training, however, can be targeted more efficiently on the basis of the results of this analysis. The sample indicates that the number of "returning" riders is low in the

Greater London area, and thus is less of a worry than in other parts of the UK. As a consequence of there being fewer returning riders, leisure trips are also less likely to be undertaken by London riders. This allows the focus to be on providing improved training and facilities for commuting or at work trips. It will be interesting to see the results of the pilot studies allowing motorcyclists to use the bus-lanes in three key commuting or at work corridors in London.

Knowing that there are likely to be two clusters of motorcyclists allows the distribution of training material to be more cost-effective. Motorcycle dealers in the London area could be encouraged to provide information regarding additional voluntary training for riders of smaller machines; riding a small motorcycle in a busy traffic environment requires skills that are different from those required for, say, leisure riding. This could be particularly relevant for commuters who do not build up a great deal of motorcycling experience due to the short nature of their commuting or at work trips. The recent DfT Think! campaign depicting a vulnerable motorcyclist is a good starting point as it encourages both car drivers and motorcyclists to be aware of each other's presence. This campaign should be extended and targeted to commuting or at work riders with smaller machines. The survey also seems to suggest that London motorcyclists are more likely to be involved in numerous accidents. There is thus a valuable opportunity for re-educating these motorcyclists if the accident is reported (either to the police or their insurance company).

Finally, London motorcyclists choose to ride mostly to avoid the congestion of London traffic and for financial reasons (presumably associated with parking costs etc). With the introduction of the London Congestion Charging scheme, it is possible that motorcycling will become even more popular in London due to their exemption from payment. It should therefore not be surprising if the number of motorcycling casualties rises, not because motorcycling is becoming more dangerous, but simply due to their increased prevalence on the road. This strengthens the case for acting quickly to ensure that preventative measures such as improved training provision and publicity materials are available and accessible to the London motorcyclist.

Acknowledgements

Appendix 1 – Ownership survey

Sample source	DVLA Driver database
Sample details	Scan was limited to motorcycles licensed in the last 10 years and stratified by engine capacity as follows: < 50 cc 900 50 cc - 150 cc 1000 150cc - 200cc 100 200cc - 250cc 300 250cc - 350cc 100 350cc - 500cc 400 500cc + 2500
Number of surveys posted	5300
Date posted	10th May 2002
Deadline for response	End June 2002
Number returned	1009
Response rate	20%

Section 1

<table>
<tr><td colspan="2" align="center">**Your motorcycle**</td></tr>
</table>

1. What motorcycle do you currently use the most?
i)   Make………………………………………………..…....
ii) Model…………………………………………………….
iii) Year of
     registration.………………………………….…………..
iv) Engine size
     (cc)……….……………………………….
v)   Power (b.h.p)..………………….……………(if known)
vi) Please describe any **performance** modifications
     made to this motorcycle
(this survey is anonymous and data will not be shared with insurers):

……...……………….…………………………………..…
……………..………………..…………………..

2. How did you purchase this motorcycle? *(tick one box only)*
    privately
    trade magazine
    dealer
    internet
    other (please state)   …………………

3. When you purchased your motorcycle was it:
    new
    used

<table>
<tr><td align="center">**Training**</td></tr>
</table>

4. Have you completed Compulsory Basic Training (CBT)?
    Yes   …..*in what year?*
    No

5. Have you ever completed any voluntary motorcycle training courses (e.g. Bikesafe, Police ride outs)?
    No   *please go to question 8*
    Yes   *please give details below*

    Course title (including provider)
    Year   Duration
    ………………………………   ………
    ………………………………   ………
    ………………………………   ………

6. Think about the **most recent** course you attended, would you consider the training course was: *(please place a tick in the appropriate box along **each** scale).*
    Useful   :__:__:__:__:__: Useless
    Easy   :__:__:__:__:__: Difficult
    Informative   :__:__:__:__:__: Non-informative
                  1 2 3 4 5

7. What motivated you to attend this training course ? *(tick one or more boxes)*
    Purchase of an unfamiliar bike
    To refresh skills after a break
    Involvement in an accident
    Other…………………………………

<table>
<tr><td align="center">**Purchasing decisions**</td></tr>
</table>

8. In the following table please place in order of importance your five main reasons for buying your first motorcycle rather than any other vehicle (e.g. a car).

    Write a "1" in the box beside the reason that was most important to you, a "2" in the box beside the second most important reason and so on until you have given 5 boxes in the "first motorcycle" column a number. Do the same for your "current motorcycle".

<table>
<tr><td align="center">**Leisure riding**</td></tr>
</table>

I bought a motorcycle rather than any other vehicle (eg. a car) because…	First motorcycle	Current motorcycle
cheaper to buy		
cheaper to run		
cheaper to insure		
image associated		
spare income		
enjoy motorcycle maintenance		
to avoid congestion		
insufficient car parking		
independence and freedom		
to engage in a leisure activity		
too young to drive a car		
love of motorcycles		

The following section concentrates on leisure riding. A leisure trip is defined as a trip with no real purpose except for the pleasure of riding your motorcycle. Note these are *not* trips where you ride as part of a group of motorcyclists.
If you never leisure ride, please go to Question 28.

9. When you leisure ride, what proportion is on:
    urban roads ………..%   motorways ………..%
    rural roads……………%   race tracks…………%

    (the percentages should add up to 100%)

10. When you leisure ride, how far do you usually travel?
    0-25 miles
    26-50 miles
    51-75 miles
    76-100 miles
    over 100 miles

11. When leisure riding, do you tend to stay in the county or region (if Scotland) in which you live?
    Yes
    No

12. Generally, do these rides tend to be completed in a day, over one night, a weekend, a week or more?*(please tick one box only)*
    day
    one night stop over
    weekend
    week
    more than a week

13. Within one year of you first riding a particular route, how many times are you likely to revisit this same route (from start to finish)?
    …………………………….…… times within a year.

14. What proportion of your leisure riding takes place during the week and weekend?
    ……% weekday rides   ……% weekend rides

15. The following table asks about the reasons why you enjoy leisure riding. Each statement asks you to rate

your response on a scale of "agree strongly" to "disagree strongly".

Carefully read each statement before **ticking** the appropriate response	Agree strongly	Agree	Neither agree nor disagree	Disagree	Disagree strongly
A good motorcycling route will have…					
wide sweeping roads					
fast downhill roads					
tight bends					
long straights					
"knee down" bends					
impressive views and scenery					
A leisure ride can only be enjoyed…					
on a fine and dry day					
on a road with little traffic					
I get a lot of enjoyment from …					
reaching high speeds					
the independence of motorcycling					
the exhilaration of motorcycling					
the image associated with motorcycling					
testing riding skills					
being closer to the environment					

Riding as a group

The following section concentrates specifically on those occasions where you ride with others, as part of a group. We are interested in those occasions where you set off on a prearranged ride with one or more fellow motorcyclists. **If you never group ride, please go to Question 28.**

16. How often do you participate in "group" rides?
…….. times a month

17. How important is it for you to take part in "group" rides?
Not at all important:__:__:__:__:__: V important
 1   2   3   4   5

18. On average, how many riders form your group?
…….

19. What is the **one** main factor that identifies your group?
motorcycle make/model
friends
common meeting place
other

If other, please state…………………………………

20. Typically, within how many miles of your home do you tend to ride with the group?

0-25 miles
26-50 miles
51-75 miles
76-100 miles
over 100 miles

21. When you leisure ride, do you tend to stay within the county or region (if Scotland) in which you live?

Yes
No

22. Within one year of you first riding a particular route, how many times are you likely to revisit this same route (from start to finish)?
……………………………… times within a year

23. Do these rides tend to be completed in a day, over one night, a weekend, a week or more? *(please tick one box only)*
day
one night stop over
weekend
week
more than a week

24. What proportion of your group riding takes place during the week and weekend?
…% weekday   …% weekend
(the percentages should add up to 100%)

25. How often are you the 'lead' rider in these group rides?
frequently
occasionally
never

26. What is the purpose of the group rides you take part in? (*Please rank the following. Put a "1" in the box that is the most likely purpose, a "2" in the next most likely purpose and so on*).
no purpose, purely for pleasure
campaign rides
charity rides
organised visits to motorcycling events
organised visits to non-motorcycling events

27. What is your **one** main reason for taking part in group rides ?
social interaction
feeling part of a recognised group
having routes chosen by those with knowledge
demonstrating your riding skills
other (please specify)   ………………………………

Seasonal and weather variations

---

28. Do you generally tax your motorcycle:
for 6 months of the year   …please go to Q 29
all year round   …please go to Q30

29. During which months do you tax your motorcycle?
from……………….. to…………………………

30. The table below allows you to tell us how you use your motorcycle over the course of the year. First, choose the month during which you make most use of your motorcycle. Give this month 100 points.

Now evaluate all the other months of the year in relation to your '100 point' month. For example, if you use your motorcycle most in July (100 points) but only use it half as much in February, award February 50 points. The assigned values do not need to add up to 100. All values must simply be relative to the initial maximum usage '100 point' month.

In the example we have given you, this motorcyclist makes most use of their motorcycle in April and May (equally).

Please now complete the table.

Month	Jan	Feb	Mar	Apr	May	…
e.g.	0	0	50	100	100	
Your Points						

31. How confident are you that you can safely ride your motorcycle in the dark?
Not at all confident :__:__:__:__:__: Very confident
$\quad$ 1　2　3　4　5

32. How confident are you that you can safely ride your motorcycle in wet weather conditions?
Not at all confident :__:__:__:__:__: Very confident
$\quad$ 1　2　3　4　5

33. How confident are you that you can safely ride a motorcycle with which you have relatively little riding experience?
Not at all confident :__:__:__:__:__: Very confident
$\quad$ 1　2　3　4　5

34. For each month of the year please provide details (in the table opposite) of the number of single trips you make by motorcycle for:

- Commuting/as part of your work
- Leisure riding (no purpose trips)
- Other

Note: a single trip does not include a return journey, e.g. a trip to work and back counts as 2 trips. Please complete the following table:

Month	Commuting/as part of work	Leisure (no purpose trips)	Other
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			

Accident history

Please read the following definitions before answering questions 35 to 37.
serious injury accident: where someone was detained in hospital or suffered from serious cuts, burns, fractures, internal injuries, severe shock.
slight injury accident: such as sprain, bruise, cut and injuries not requiring medical attention.
damage only accident: where a vehicle was damaged, but nobody was hurt.
incident: where you came off motorcycle due to lost tyre/foot grip, lost balance, setting off with wheel lock on, etc.

35. How many accidents have you been involved in over the last three years on your motorcycle?
…….. serious injury accidents
…….. slight injury accidents
… … damage only accidents

36. How many incidents have you been involved in over the last three years on your motorcycle?
…………………………incidents

If you have been involved in any **accidents** over the last three years, please complete the table on the following pages (pages 14-15) as accurately as possible for each. If you have been involved in any **incidents** where you came off your bike over the last three years, please

complete the table on pages 16-17 as accurately as possible for each. If you have been involved in more than five accidents or incidents, please tell us about the five **most recent** for each.

If you have not been involved in any accidents or incidents please go to Question 38.

	Accident1	Incident 1
How severe was the accident?	Serious injury Slight injury Damage only	Serious injury Slight injury Damage only
On which class of road did the accident happen?	Urban Rural a Rural b Motorway	Urban Rural a Rural b Motorway
How many times in a typical month did you travel along this stretch of road?		
How many miles was the accident from your home?		
When did the accident happen?	month ………year…... am / pm weekday/ w/end	month ………year…... am / pm weekday/ w/end
What was the purpose of the trip?		
If you were group riding, were you the lead rider?		
What was the make, model & engine capacity of the motorcycle?		
How long had you been riding this motorcycle?		
Apart from the motorcycle, what else, if anything, was involved?	Stationary vehicle Moving vehicle Pedestrian Animal Object in the road Nothing else	Stationary vehicle Moving vehicle Pedestrian Animal Object in the road Nothing else
Who, if anyone, was mostly to blame?	Yourself Another road user A pedestrian Nobody	Yourself Another road user A pedestrian Nobody
Was the accident reported to the police?	Yes No Don't know	Yes No Don't know

The following questions help to provide us with an idea of who makes up the motorcycling population. Responses will be treated in strictest confidence and all information is greatly appreciated. However if you do not wish to complete certain questions, please feel free to leave these blank.

37. Gender : Male   Female

38. Date of birth: __ __/__ __ /19__ __

39. Are you:
Married
Separated
Divorced
Living with partner
Single, never married
Other

40. What is your highest qualification?
Not applicable
O-Levels
G.C.S.E
A-Levels
Degree
Postgraduate study
Other……………………………………………….

41. Current employment:
Full time
Part time
Unemployed
Retired
Full time education
Not applicable

42. Occupation:
…………………………………………..………………

43. Please provide the **first** half of your postcode (e.g. LS2): ………..……

44. How many children (under 18 years) live at your address? ……………..

45. What is your **gross** (i.e. before tax) annual **personal** income:

not applicable	£30,000-£34,999
£0 -£4,999	£35,000-£39,999
£5,000-£9,999	£40,000-£44,999
£10,000-£14,999	£45,000-£49,999
£15,000-£19,999	£50,000-£54,999
£20,000-£24,999	£55,000-£59,999
£25,000-£29,999	£60,000 +

46. When you have paid for all necessary things that you don't have any choice about (e.g. rent/mortgage, food), how much money do you usually have left each **month** to spend on whatever you choose?

£0 - £49	£250-£299
£50-£99	£300-£349
£100-£149	£350-£399
£150-£199	£400 and over
£200-£249	

47. In a typical year, approximately how much do you spend on the following motorcycling items ? (Please ignore the cost of petrol, insurance, servicing, tax).
motorcycle modifications……………………………
motorcycle clothing
(e.g. leathers, including helmet) ………..…
motorcycle magazines……………………………
motorcycle accessories ……………………………
other (please state) …………………………………

48. In what year did you get your first full **motorcycling** licence?…………………………

49. Do you currently hold a **car driving** licence?
Yes, I hold a full car licence
Yes, I hold a provisional licence to drive a car
No, I do not hold a car licence

50. In what year did you get this car licence?……………

51. How many motorcycles are registered in your name?
0   .
1
2
3   .
4
5 or more   .

52. How many motorcycles are regularly available for you to use?
0   .
1
2
3   .
4   .
5 or more   .

53. How many cars are registered in your name?
0   .
1
2
3   .
4   .
5 or more   .

54. How many cars are regularly available for you to use?
0   .
1
2
3   .
4   .
5 or more   .

Section 2
Your motorcycling history

55. We are interested in the motorcycle(s) you have owned throughout your life. The tables on the following pages lead you from your first motorcycle to your current motorcycle. For each motorcycle you have owned, please provide details of make, model, year of registration, engine size and power. Please also note the year in which you bought this motorcycle and the year in which you got rid of it. Using the key opposite, state the 3 main reasons for buying and the 3 main reasons for eventually getting rid of that motorcycle (most important first).

For example…
In the example, we see that the motorcyclist first bought a Lambretta because they were *restricted to buying a motorcycle of that engine size*. The motorcycle provided more *parking* opportunities and was a better form of transport to manoeuvre through congestion. They got rid of this motorcycle however because they wanted a *larger engine* with a *higher top speed* and better *styling*. This motorcycle was replaced with a Kawasaki because they had *spare income* and the motorcycle offered a *larger engine capacity* and *higher top speed*. *Raising a family*, *family pressure* and the *need for larger transport* made the motorcyclist get rid of their motorcycle in 1986. In 2000 they bought a Yamaha after a 14-year break because it provided a *leisure activity*, *independence* and they liked the *image* associated with motorcycling.

	Motorcycle details					Years of ownership		Reasons… (give 3 , most important first)	
	Make	Model	Year of registration	Engine size	Power	from	to	for buying this motorcycle	for getting rid of this motorcycle
First bike	Lambretta	125	1958	125	20	1983	1984	9, 11, 10	11,12,13
Bike 2	Kawasaki	ZZR	1984	600	110	1984	1986	4,5,1,	10,6,7
Bike 3	Yamaha	Fazer	2000	1000	143	2000	2002	15,13, 6	

Reasons for getting rid of the motorcycle
1. costly repairs
2. beyond repair
3. serious accident
4. loss of thrill/interest
5. financial reasons
6. family/peer pressure
7. need for larger transport
8. personal age related factors
9. rise in insurance prices
10. raising family
11. need for larger engine motorcycle
12. inadequate top speed
13. poor styling

Reasons for buying the motorcycle
1. top speed
2. preferred manufacturer
3. styling
4. spare income
5. engine capacity
6. image
7. extra transport
8. lower running costs
9. restricted cc for learner
10. to avoid congestion
11. insufficient parking
12. cheap to insure
13. independence
14. too young to drive car
15. leisure activity/fun
16. better handling
17. touring capability
18. carrying ability
19. increased comfort

56. Looking back over your log of motorcycles on the previous pages are there any points in your life when you gave up riding for a prolonged period (3 years or more)? If so please provide details below.

Between			I gave up riding because…	I started riding again because...
Bike….	and	Bike….		
Bike….	and	Bike….		
Bike….	and	Bike….		
Bike….	and	Bike….		

57. What would make you give up riding in the future? *(Please rank the following. Put a "1" in the box that is the most likely reason, a "2" in the next most likely reason and so on).*

serious accident ☐

rise in insurance prices ☐

loss of thrill gained from riding ☐

need for suitable family transport ☐

age/health related factors ☐

family/peer pressure ☐

other, please state…………………………………

Thank you very much for completing this questionnaire.
Please use the Freepost envelope provided to send this questionnaire back to us.

If you have any additional and relevant comments you would like to make, please use the space provided below:
…………………………………………………………………
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……………………………

Appendix 2

National Statistics Socio Economic Classification

Introduced in 2001, the NS-SEC is an occupationally based classification. Present analysis used the version of the classification which will be used for most analyses in the future; the 'analytic version'. This version has eight classes:

Analytic class		Description	Example
1		Higher managerial and professional occupations	
	1.1	Large employers and higher managerial occupations	Directors of major organisations
	1.2	Higher professional occupations	Dental practitioners
2		Lower managerial and professional occupations	Secondary education teaching professionals
3		Intermediate occupations	Counter clerks
4		Small employer and own account workers	Taxi, cab drivers and chauffeurs
5		Lower supervisory and technical occupations	Rail transport operatives
6		Semi routine occupations	Shelf fillers
7		Routine occupations	Refuse and salvage occupations
8		Never worked or long-term unemployed	

Appendix 3 - Classification of bikes

Definitions are mostly provided by the British Motorcycle Federation

Supersports
The lightest and most powerful machines. Some exist in the 125cc category (12 bhp limited, but otherwise with racer styling), thereafter the popular categories are 600 cc 'medium weight', or full blown 1000cc, although some in between categories, such as 750cc exist too.

Sports/Touring
Mostly big motorcycles up to 1300cc, these are usually fitted with more practical pillion seating and a slightly less race-like riding position. Although they have bigger engines than supersports, they often have less power.

Touring (tourers, some all rounders)
Usually very large capacity and sometimes very heavy. They often have more voluminous fairings, and some have built in panniers.

Custom (cruisers)
Cruiser style factory motorcycles usually V-twins, styled like Harley Davidsons. Engines can be up to 1600cc but power is very modest as they are expected to be very flexible, and usually are unfaired with upright riding positions. Quite a lot have a middle weight engine size, whilst some are as small as 125 cc for learners. The term 'custom' is also used to indicate heavily modified machines.

Traditional (some all rounders, muscle motorcycles, retro)
Fairly varied in capacity and style, but modest power engines, for their size often without fairings and modestly priced. Most of the over 125cc but under 600cc motorcycles probably fit here.

Track/enduro (trials/supermotos)
Track here refers to dirt and gravel, not race track. These are not usually large capacity (600cc), but moderately powerful and very light for competition use, desert racing. Some are road legal and are favoured by road riders for their light and lively performance.

Adventure sport (adventure tourers)
Larger machines built light, high and slim for mixed roads. Popular for desert racing. They have found great favour with riders who like the light and lively performance in town, also favoured by many tourists as they handle any kind of roads.

Scooter
Historically range from 50cc-250cc but can have any size engine. A new breed of "super scooter" which is larger in order to carry two in comfort are available. Some of these reach 500cc.

Moped
Small machines with an engine capacity under 50cc