

Argent St George, London and
Continental Railways and Exel
King's Cross Central
Transport Assessment

April 2004

Appendix 4

Annex 1

**Technical Note –
Shopper Interview
Survey**

Subject King Cross Central – Retail Questionnaire Survey

1. SUMMARY OF RETAIL QUESTIONNAIRE SURVEY ANALYSIS

A study of the retail centre travel patterns has been carried out at two sites close to the Kings Cross Area to establish an indication of the existing situation. It is proposed to use the results to support information used in the determination of the predicted trip distribution and modal split for the retail development at Kings Cross Central (KXC).

The survey was carried out at Camden Lock and Covent Garden and consisted of survey staff asking retail visitors a number of questions identifying the following:

- Origin of journey
- Mode of transport for access to shopping centre
- Method of car parking (if appropriate)
- Journey Purpose.

A copy of the survey questionnaire is attached for information. The survey at Camden Lock was carried out on Tuesday 5th August 2003 and the Covent Garden survey was on the Thursday 7th August 2003.

The total number of people surveyed over the day at Camden Lock was 205, and Covent Garden was 267.

The results of the survey have been analysed and the findings relating to the modal split and the trip distribution are as follows:

1.1 Modal Split

The retail questionnaire surveys were analysed to determine the modal split proportion for all visitors to the shopping destinations. The observed proportions are provided in Table 1:

Table 1 – Percentage breakdown of Access mode – all journeys

Access Mode	LOCATION		
	Camden Lock (205 responses)	Covent Garden (267 responses)	Total
Car	7%	3%	5%
Car Passenger	0%	1%	1%
Taxi	1%	3%	2%
Network Rail	4%	0%	2%
Underground	66%	64%	65%
Bus	7%	16%	12%
Cycle	7%	2%	4%
M/C	2%	2%	2%
Foot	6%	9%	8%
Grand Total	100%	100%	100%

The results give a reasonable indication of the likely modal split for a typical retail development close to Central London with limited car parking provision. The analysis has been extended to give the details of the journey purpose and a breakdown of the access mode relating to journey purpose as shown in the following tables;

Table 2 – Percentage breakdown of journey purpose

Access Mode	LOCATION		
	Camden Lock (205 responses)	Covent Garden (267 responses)	Total
Work/Business	15%	19%	17%
Shopping	39%	21%	29%
Leisure	41%	40%	41%
Tourism/Day Out	5%	19%	13%
Grand Total	100%	100%	100%

The data has been broken down further to reflect work trips and other trips separately – the following information set out in Table 3 has been extracted relating to the observed access mode/work trips and is not significantly different from the initial assumptions provided for Kings Cross Central. It is expected that minor changes can be made prior to the final analysis.

Table 3 – Percentage breakdown of Access mode – work/business trips

Access Mode	LOCATION			Initial KXC Split
	Camden Lock (30 responses)	Covent Garden (51 responses)	Total	
Car	17%	10%	13%	0%
Car Passenger	0%	2%	1%	0%
Taxi	0%	4%	2%	1%
Network Rail	0%	0%	0%	17%
Underground	57%	43%	50%	40%
Bus	10%	10%	10%	30%
Cycle	3%	8%	6%	4%
M/C	3%	10%	6%	1%
Foot	10%	13%	12%	7%
Grand Total	100%	100%	100%	100%

The 5 recorded worked-based car drivers at Camden Lock parked either in a public car park (2) or in metered bays on-street (3). This was observed to have been the same at Covent Garden. The low number of responses for work-based trips potentially distorts the modal splits. The proportion of car-borne trips (13%) will be lower at KXC due to restrictions for site-based workers. Trade visitors will be expected to visit outside the typical peak periods and therefore reduce the car-borne proportions during the peak periods.

The same exercise was carried out for retail visitors to establish an indication of the likely modal split for shoppers as shown below in Table 4 overleaf.

Table 4 – Percentage breakdown of Access mode – Retail Visitors

Access Mode	LOCATION			Initial KXC Split
	Camden Lock (175 responses)	Covent Garden (216 responses)	Total	
Car	6%	1%	3%	2%
Car Passenger	0%	1%	1%	0%
Taxi	1%	2%	2%	1%
Network Rail	5%	0%	3%	20%
Underground	67%	70%	69%	29%
Bus	7%	18%	13%	20%
Cycle	7%	0%	3%	1%
M/C	2%	0%	1%	2%
Foot	5%	8%	5%	25%
Grand Total	100%	100%	100%	100%

There are some significant differences, particularly the number of pedestrian based shoppers and the network rail/Underground users. It is recommended that these figures be reviewed prior to the final assessment. The observed proportion of retail-based car-borne trips is considered to be suitably close to the predicted modal split for the purpose of this study.

1.2 Trip Distribution – retail surveys

The trip distribution for both work related visitors and shoppers the Camden Lock & Covent Garden centres have been determined from the questionnaire surveys. The proportions are summarised in Table 5 below;

Table 5 – Percentage breakdown of journey origin – All modes/all journeys

Origin	LOCATION		
	Camden Lock (205 responses)	Covent Garden (267 responses)	Total
North	16%	12%	14%
External S-E	3%	2%	3%
South East	7%	10%	9%
Central Inner East	6%	7%	7%
Outer West	10%	6%	7%
Central Inner West	26%	33%	30%
North West	20%	8%	13%
External NW/SW	10%	19%	15%
External NE	2%	3%	2%
Grand Total	100%	100%	100%

This exercise was broken down into work trips and 'other' trips for both sites to determine an indication of the locations where workers/shoppers are drawn from. A breakdown into specific modes was not considered appropriate since the car trip proportions are small and will give an inaccurate result of a typical situation. The findings are provided below in Table 6.

Table 6 – Origin of work trips, all modes – Camden Lock & Covent Garden

Origin	LOCATION					
	Camden Lock (205 responses)		Covent Garden (267 responses)		Total	
	Work Trips	Shopping & Leisure	Work Trips	Shopping & Leisure	Work Trips	Shopping & Leisure
North	17%	16%	17%	11%	17%	13%
External S-E	0%	6%	2%	2%	1%	4%
South East	17%	5%	14%	10%	15%	7%
Central Inner East	6%	6%	8%	7%	7%	7%
Outer West	7%	10%	4%	6%	6%	8%
Central Inner West	23%	25%	35%	33%	29%	29%
North West	30%	18%	14%	6%	22%	12%
External NW/SW	0%	12%	6%	22%	3%	17%
External NE	0%	2%	0%	3%	0%	3%
Grand Total	100%	100%	100%	100%	100%	100%

The retail questionnaire survey information has been interrogated further to provide an indication of the existing trip distribution of car-borne visitors to the centres. The proportions are based on only 22 surveys and can only give a broad indication of the existing trends. The results are outlined in Table 7 below:

Table 7 – Percentage of Car Trips - all journeys – Camden Lock and Covent Garden

Origin	LOCATION		
	Camden Lock (205 responses)	Covent Garden (267 responses)	Total
North	21%	12%	18%
External S-E	0%	0%	0%
South East	15%	12%	14%
Central Inner East	0%	0%	0%
Outer West	21%	13%	18%
Central Inner West	0%	25%	9%
North West	21%	13%	18%
External NW/SW	15%	25%	18%
External NE	7%	0%	5%
Grand Total	100%	100%	100%

The initial trip distribution figures used for the KXC assessment were based on a simple gravity model of the populations in the neighbouring Boroughs. This was assumed since it is expected the vast majority of the trips will originate from the local areas. The assumed distributions for the retail for Kings Cross Central are summarised overleaf and compared to the figures derived from the shopper survey.

Table 8 – Summary of KXC Retail Trip distribution

	Survey Total	Adjustment to survey provide similar assignment to local road network		Initial Distribution in KXC Assessment
North	14%	North + 33% Ex NW/SW+Ext NE	21%	26%
External NE	2%			0%
External S-E	3%	Central Inner East+ South East+SE	19%	0%
South East	9%			0%
Central Inner East	7%			22%
Outer West	7%	Outer West + 33% Ex NW/SW	12%	23%
Central Inner West	30%	Central Inner West	30%	13%
North West	13%	North West + 33% Ex NW/SW	18%	16%
External NW/SW	15%			0%
Grand Total	100%		100%	100%

The comparison of the observed retail distribution and the initial distribution determined for Kings Cross Central shows that generally the results are similar. There are areas, such as Central Inner West where the proportions of car trips are lower for the KXC assessment than the surveyed trips due to the proximity of the area to the sites and the improved accessibility by public transport.

It is the assumed distribution for the retail development traffic is broadly in line with the observations at the local retail centres at Camden Lock and Covent Garden. It is not considered necessary to significantly change the assumptions at this stage and it is expected a further review will be required once the Retail Impact Study has been finalised.

Annex 2
**Modal Split
Spreadsheet and Trips
for Main Site**

Modal Split Arup Estimates FULL DEVELOPMENT upto 718275 sqm ASSUMED (Scenario 1) - February 2004

INTERNAL TRIPS

Table with 8 columns: Land Use, Journey Purpose, AM Peak Hour, PM Peak Hour, Sat Peak Hour, Total. Includes categories like Commercial, Residential, Hotel, Retail, Leisure.

PM Peak Hour

Table with 8 columns: Priv Veh, Rail/LUL, Bus, Taxi, Cycle, Walk, Total. Shows percentages for different transport modes.

Sat Peak Hour

Table with 8 columns: Priv Veh, Rail/LUL, Bus, Taxi, Cycle, Walk, Total. Shows percentages for different transport modes.

Total Internal Trips

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Commercial category.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Residential category.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Hotel category.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Retail category.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Leisure category.

Private Vehicle Trips

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Commercial category.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Residential category.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Hotel category.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Retail category.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Leisure category.

Rail Trips

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Commercial category.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Residential category.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Hotel category.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Retail category.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Leisure category.

Bus Trips

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Commercial category.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Residential category.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Hotel category.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Retail category.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Leisure category.

Taxi Trips

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Commercial category.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Residential category.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Hotel category.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Retail category.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Leisure category.

Cycling Trips

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Commercial category.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Residential category.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Hotel category.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Retail category.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Leisure category.

Walking Trips

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Commercial category.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Residential category.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Hotel category.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Retail category.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Leisure category.

Total External Trips [check]

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Commercial category.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Residential category.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Hotel category.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Retail category.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Leisure category.

Modal Split, Internal Trips

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Trip Demands by land use.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Rail Trips by land use.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, Avg/Veh. Private Vehicle Person Trips.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Private Vehicle Trips.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Bus Trips.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Walking Trips.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Taxi Trips.

Table with 4 columns: AM Peak Trips, PM Peak Trips, Sat Peak Trips, In, Out. Cycling Trips.

EXTERNAL TRIPS

Land Use	Journey Purpose	Weekday AM Peak Hour							Cycle	Walk	Total
		Priv Veh	Rail	LUL	Bus	Taxi	M/C	Other			
Commercial	All Purpose	2%	49%	36%	7%	0%	3%	2%	1%	100%	
	Journey to work	9%	20%	30%	20%	1%	4%	4%	12%	100%	
	Business	9%	20%	30%	20%	1%	4%	4%	12%	100%	
	Education	25%	25%	5%	20%	1%	0%	4%	20%	100%	
	Escort Education	25%	25%	5%	20%	1%	0%	4%	20%	100%	
	Shopping	10%	20%	25%	15%	1%	2%	5%	22%	100%	
Hotel	Other Personal Business	12%	30%	20%	15%	2%	4%	2%	15%	100%	
	Visitors	20%	20%	30%	15%	2%	1%	4%	5%	100%	
	Work (non-customer)	5%	25%	25%	35%	1%	0%	4%	5%	100%	
	Residents	15%	30%	20%	15%	20%	0%	0%	0%	100%	
	Conference Visitors	15%	25%	20%	10%	20%	0%	0%	0%	100%	
	Work (non-customer)	0%	17%	40%	30%	1%	1%	4%	7%	100%	
Retail	Visitor customer	5%	20%	27%	19%	1%	2%	1%	25%	100%	
	Work (non-customer)	0%	17%	40%	30%	1%	1%	4%	7%	100%	
Leisure	Visitor customer	10%	15%	20%	15%	1%	2%	2%	35%	100%	
	Work (non-customer)	0%	17%	40%	30%	1%	1%	4%	7%	100%	

Land Use	Journey Purpose	Weekday PM Peak Hour							Cycle	Walk	Total
		Priv Veh	Rail	LUL	Bus	Taxi	M/C	Other			
Commercial	All Purpose	2%	49%	36%	7%	0%	3%	2%	1%	100%	
	Journey to work	9%	20%	30%	20%	1%	4%	4%	12%	100%	
	Business	9%	20%	30%	20%	1%	4%	4%	12%	100%	
	Education	25%	25%	5%	20%	1%	0%	4%	20%	100%	
	Escort Education	25%	25%	5%	20%	1%	0%	4%	20%	100%	
	Shopping	10%	20%	25%	15%	1%	2%	5%	22%	100%	
Hotel	Other Personal Business	12%	30%	20%	15%	2%	4%	2%	15%	100%	
	Visitors	20%	20%	30%	15%	2%	1%	4%	5%	100%	
	Work (non-customer)	5%	25%	25%	35%	1%	0%	4%	5%	100%	
	Residents	15%	30%	20%	15%	20%	0%	0%	0%	100%	
	Conference Visitors	15%	25%	20%	10%	20%	0%	0%	0%	100%	
	Work (non-customer)	0%	17%	40%	30%	1%	1%	4%	7%	100%	
Retail	Visitor customer	5%	20%	27%	19%	1%	2%	1%	25%	100%	
	Work (non-customer)	0%	17%	40%	30%	1%	1%	4%	7%	100%	
Leisure	Visitor customer	10%	15%	20%	15%	1%	2%	2%	35%	100%	
	Work (non-customer)	0%	17%	40%	30%	1%	1%	4%	7%	100%	

Land Use	Journey Purpose	Saturday Peak Hour							Cycle	Walk	Total
		Priv Veh	Rail	LUL	Bus	Taxi	M/C	Other			
Commercial	All Purpose	2%	49%	36%	7%	0%	3%	2%	1%	100%	
	Journey to work	9%	20%	30%	20%	1%	4%	4%	12%	100%	
	Business	9%	20%	30%	20%	1%	4%	4%	12%	100%	
	Education	25%	25%	5%	20%	1%	0%	4%	20%	100%	
	Escort Education	25%	25%	5%	20%	1%	0%	4%	20%	100%	
	Shopping	10%	20%	25%	15%	1%	2%	5%	22%	100%	
Hotel	Other Personal Business	12%	30%	20%	15%	2%	4%	2%	15%	100%	
	Visitors	20%	20%	30%	15%	2%	1%	4%	5%	100%	
	Work (non-customer)	5%	25%	25%	35%	1%	0%	4%	5%	100%	
	Residents	15%	30%	20%	15%	20%	0%	0%	0%	100%	
	Conference Visitors	15%	25%	20%	10%	20%	0%	0%	0%	100%	
	Work (non-customer)	0%	17%	40%	30%	1%	1%	4%	7%	100%	
Retail	Visitor customer	5%	20%	27%	19%	1%	2%	1%	25%	100%	
	Work (non-customer)	0%	17%	40%	30%	1%	1%	4%	7%	100%	
Leisure	Visitor customer	10%	15%	20%	15%	1%	2%	2%	35%	100%	
	Work (non-customer)	0%	17%	40%	30%	1%	1%	4%	7%	100%	

Total External Trips

	AM Peak	PM Peak	Sat Peak
Commercial	7,424	7,424	7,424
Residential	15	15	15
Hotel	110	110	110
Retail	436	436	436
Leisure	72	72	72
Total	7,645	7,645	7,645

Private Vehicle Trips

	AM Peak	PM Peak	Sat Peak
Commercial	149	149	149
Residential	1	1	1
Hotel	6	6	6
Retail	22	22	22
Leisure	1	1	1
Total	189	189	189

Rail Trips

	AM Peak	PM Peak	Sat Peak
Commercial	3,524	3,524	3,524
Residential	0	0	0
Hotel	0	0	0
Retail	0	0	0
Leisure	0	0	0
Total	3,524	3,524	3,524

Underground Trips

	AM Peak	PM Peak	Sat Peak
Commercial	2,879	2,879	2,879
Residential	0	0	0
Hotel	0	0	0
Retail	0	0	0
Leisure	0	0	0
Total	2,879	2,879	2,879

Bus Trips

	AM Peak	PM Peak	Sat Peak
Commercial	53	53	53
Residential	0	0	0
Hotel	0	0	0
Retail	0	0	0
Leisure	0	0	0
Total	53	53	53

Commercial

	AM Peak	PM Peak	Sat Peak
Journey to work	7,424	7,424	7,424
Business	170	170	170
Emp. Personal Business	10	10	10
Visitors (business)	41	41	41
Total	7,645	7,645	7,645

Residential

	AM Peak	PM Peak	Sat Peak
Journey to work	15	15	15
Business	1	1	1
Education	2	2	2
Escort Education	2	2	2
Shopping	7	7	7
Other Personal Business	12	12	12
Visitors	41	41	41
Total	53	53	53

Hotel

	AM Peak	PM Peak	Sat Peak
Journey to work	110	110	110
Business	0	0	0
Emp. Personal Business	0	0	0
Resident Travel	48	48	48
Conference Travel	59	59	59
Total	207	207	207

Retail

	AM Peak	PM Peak	Sat Peak
Journey to work	426	426	426
Business	0	0	0
Emp. Personal Business	0	0	0
Visitors (business)	0	0	0
Visitors (customers)	436	436	436
Total	862	862	862

Leisure

	AM Peak	PM Peak	Sat Peak
Journey to work	15	15	15
Business	0	0	0
Emp. Personal Business	0	0	0
Visitors (business)	0	0	0
Visitors (customers)	72	72	72
Total	87	87	87

Commercial

	AM Peak	PM Peak	Sat Peak
Journey to work	7,424	7,424	7,424
Business	170	170	170
Emp. Personal Business	10	10	10
Visitors (business)	41	41	41
Total	7,645	7,645	7,645

Residential

	AM Peak	PM Peak	Sat Peak
Journey to work	15	15	15
Business	1	1	1
Education	2	2	2
Escort Education	2	2	2
Shopping	7	7	7
Other Personal Business	12	12	12
Visitors	41	41	41
Total	53	53	53

Hotel

	AM Peak	PM Peak	Sat Peak
Journey to work	110	110	110
Business	0	0	0
Emp. Personal Business	0	0	0
Resident Travel	48	48	48
Conference Travel	59	59	59
Total	207	207	207

Retail

	AM Peak	PM Peak	Sat Peak
Journey to work	426	426	426
Business	0	0	0
Emp. Personal Business	0	0	0
Visitors (business)	0	0	0
Visitors (customers)	436	436	436
Total	862	862	862

Leisure

	AM Peak	PM Peak	Sat Peak
Journey to work	15	15	15
Business	0	0	0
Emp. Personal Business	0	0	0
Visitors (business)	0	0	0
Visitors (customers)	72	72	72
Total	87	87	87

Commercial

	AM Peak	PM Peak	Sat Peak
Journey to work	7,424	7,424	7,424
Business	170	170	170
Emp. Personal Business	10	10	10
Visitors (business)	41	41	41
Total	7,645	7,645	7,645

Residential

	AM Peak	PM Peak	Sat Peak
Journey to work	15	15	15
Business	1	1	1
Education	2	2	2
Escort Education	2	2	2
Shopping	7	7	7
Other Personal Business	12	12	12
Visitors	41	41	41
Total	53	53	53

Hotel

	AM Peak	PM Peak	Sat Peak
Journey to work	110	110	110
Business	0	0	0
Emp. Personal Business	0	0	0
Resident Travel	48	48	48
Conference Travel	59	59	59
Total	207	207	207

Retail

	AM Peak	PM Peak	Sat Peak
Journey to work	426	426	426
Business	0	0	0
Emp. Personal Business	0	0	0
Visitors (business)	0	0	0
Visitors (customers)	436	436	436
Total	862	862	862

Leisure

	AM Peak	PM Peak	Sat Peak
Journey to work	15	15	15
Business	0	0	0
Emp. Personal Business	0	0	0
Visitors (business)	0	0	0
Visitors (customers)	72	72	72
Total	87	87	87

Commercial

	AM Peak	PM Peak	Sat Peak
Journey to work	7,424	7,424	7,424
Business	170	170	170
Emp. Personal Business	10	10	10
Visitors (business)	41	41	41
Total	7,645	7,645	7,645

Land Use	Journey Purpose	AM Peak Hour						Total
		Priv Veh	Rail/LUL	Bus	Taxi	Cycle	Walk	
Commercial	All purpose			20%		20%	60%	100%
	Journey to work			20%		20%	60%	100%
	Work Business			20%		20%	60%	100%
	Education	10%		10%		20%	60%	100%
	Escort Education	10%		10%		20%	60%	100%
	Shopping	15%		30%	1%	4%	50%	100%
Residential	Other Personal Business	5%		35%	1%	4%	55%	100%
	Leisure	5%		35%		10%	50%	100%
Hotel	Work (non-customer)			20%		20%	60%	100%
	Residents	5%		15%	5%	5%	75%	100%
Retail	Conference Visitors	5%		15%	5%	5%	75%	100%
	Work (non-customer)	15%		20%	1%	20%	60%	100%
Leisure	Visitor customer	15%		20%	1%	20%	60%	100%
	Visitor customer	5%		35%		10%	50%	100%

Land Use	Journey Purpose	PM Peak Hour						Total
		Priv Veh	Rail/LUL	Bus	Taxi	Cycle	Walk	
Commercial	All purpose			20%		20%	60%	100%
	Journey to work			20%		20%	60%	100%
	Work Business			20%		20%	60%	100%
	Education	10%		10%		20%	60%	100%
	Escort Education	10%		10%		20%	60%	100%
	Shopping	15%		30%	1%	4%	50%	100%
Residential	Other Personal Business	5%		35%	1%	4%	55%	100%
	Leisure	5%		35%		10%	50%	100%
Hotel	Work (non-customer)			20%		20%	60%	100%
	Residents	5%		15%	5%	5%	75%	100%
Retail	Conference Visitors	5%		15%	5%	5%	75%	100%
	Work (non-customer)	15%		20%	1%	20%	60%	100%
Leisure	Visitor customer	15%		20%	1%	20%	60%	100%
	Visitor customer	5%		35%		10%	50%	100%

Land Use	Journey Purpose	Sat Peak Hour						Total
		Priv Veh	Rail/LUL	Bus	Taxi	Cycle	Walk	
Commercial	All purpose			20%		20%	60%	100%
	Journey to work			20%		20%	60%	100%
	Work Business			20%		20%	60%	100%
	Education	10%		10%		20%	60%	100%
	Escort Education	10%		10%		20%	60%	100%
	Shopping	15%		30%	1%	4%	50%	100%
Residential	Other Personal Business	5%		35%	1%	4%	55%	100%
	Leisure	5%		35%		10%	50%	100%
Hotel	Work (non-customer)			20%		20%	60%	100%
	Residents	5%		15%	5%	5%	75%	100%
Retail	Conference Visitors	5%		15%	5%	5%	75%	100%
	Work (non-customer)	15%		20%	1%	20%	60%	100%
Leisure	Visitor customer	15%		20%	1%	20%	60%	100%
	Visitor customer	5%		35%		10%	50%	100%

Total Internal Trips

Commercial	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	131	3	0	80	1	1
Business Travel	3	3	0	3	0	0
Emp. Personal Business	24	24	24	24	21	21
Visitors (business)	2	2	2	0	0	0
Total	160	32	29	118	22	22

Residential	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	4	154	106	0	1	1
Work Business	0	5	4	0	0	0
Education	7	356	154	7	0	0
Escort Education	2	119	52	2	0	0
Shopping	7	7	37	37	83	83
Other Personal Business	4	3	3	3	27	27
Leisure	4	23	29	40	27	27
Total	28	885	378	90	138	138

Hotel	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	0	3	2	0	0	0
Business Travel	0	0	0	0	0	0
Emp. Personal Business	1	1	1	1	5	5
Resident Travel	0	0	0	0	0	0
Conference Travel	1	3	2	1	5	5

Retail	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	15	0	0	11	0	0
Business Travel	0	0	0	0	0	0
Emp. Personal Business	9	9	9	9	23	23
Visitors (business)	1	1	1	1	0	0
Visitors (customers)	104	104	414	414	202	194
Total	129	114	424	435	225	217

Leisure	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	18	0	0	3	0	0
Business Travel	0	0	0	0	0	0
Emp. Personal Business	1	1	1	1	0	0
Visitors (business)	3	1	1	0	0	0
Visitors (customers)	353	36	52	169	566	581
Total	375	37	52	172	566	581

Taxi Trips

Commercial	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	0	0	0	0	0	0
Business Travel	0	0	0	0	0	0
Emp. Personal Business	0	0	0	0	0	0
Visitors (business)	0	0	0	0	0	0

Residential	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	0	0	0	0	0	0
Work Business	0	0	0	0	0	0
Education	0	0	0	0	0	0
Escort Education	0	0	0	0	0	0
Shopping	0	0	0	1	1	1
Other Personal Business	0	0	0	0	0	0
Leisure	0	0	0	0	1	1

Hotel	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	0	0	0	0	0	0
Business Travel	0	0	0	0	0	0
Emp. Personal Business	0	0	0	0	0	0
Resident Travel	0	0	0	0	0	0
Conference Travel	0	0	0	0	0	0

Retail	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	0	0	0	0	0	0
Business Travel	0	0	0	0	0	0
Emp. Personal Business	0	0	0	0	0	0
Visitors (business)	0	0	0	0	0	0
Visitors (customers)	1	1	21	21	10	10
Total	1	1	21	21	10	10

Leisure	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	0	0	0	0	0	0
Business Travel	0	0	0	0	0	0
Emp. Personal Business	0	0	0	0	0	0
Visitors (business)	0	0	0	0	0	0
Visitors (customers)	0	0	0	0	0	0

Private Vehicle Trips

Commercial	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	0	0	0	0	0	0
Business Travel	0	0	0	0	0	0
Emp. Personal Business	0	0	0	0	0	0
Visitors (business)	0	0	0	0	0	0

Residential	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	0	0	0	0	0	0
Work Business	0	0	0	0	0	0
Education	1	36	16	1	0	0
Escort Education	0	12	5	0	0	0
Shopping	1	1	6	6	12	12
Other Personal Business	0	0	0	0	1	1
Leisure	0	1	1	2	1	1
Total	2	50	27	9	15	15

Hotel	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	0	0	0	0	0	0
Business Travel	0	0	0	0	0	0
Emp. Personal Business	0	0	0	0	0	0
Resident Travel	0	0	0	0	0	0
Conference Travel	0	0	0	0	0	0

Retail	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	0	0	0	0	0	0
Business Travel	0	0	0	0	0	0
Emp. Personal Business	0	0	0	0	0	0
Visitors (business)	0	0	0	0	0	0
Visitors (customers)	16	16	62	62	30	29
Total	16	16	62	62	30	29

Leisure	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	0	0	0	0	0	0
Business Travel	0	0	0	0	0	0
Emp. Personal Business	0	0	0	0	0	0
Visitors (business)	0	0	0	0	0	0
Visitors (customers)	18	2	3	8	28	29
Total	18	2	3	8	28	29

Cycling Trips

Commercial	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	25	1	0	18	0	0
Business Travel	1	1	1	1	0	0
Emp. Personal Business	5	5	5	5	4	4
Visitors (business)	0	0	0	0	0	0
Total	32	6	6	24	4	4

Residential	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	1	31	21	0	0	0
Work Business	0	1	1	0	0	0
Education	1	71	31	1	0	0
Escort Education	0	24	10	0	0	0
Shopping	0	0	1	1	3	3
Other Personal Business	0	0	0	0	1	1
Leisure	0	2	2</			

Land Use	Journey Purpose	Weekday AM Peak Hour						Cycle	Walk	Total
		Priv.Veh	Rail	LUL	Bus	Taxi	M/C			
Commercial	All purpose	2%	49%	36%	7%	0%	3%	2%	15%	100%
Residential	Journey to work	9%	20%	30%	20%	1%	4%	4%	12%	100%
	Work Business	9%	20%	30%	20%	1%	4%	4%	12%	100%
	Education	25%	25%	5%	20%	1%	0%	4%	20%	100%
	Escort Education	25%	25%	5%	20%	1%	0%	4%	20%	100%
	Shopping	10%	20%	25%	15%	1%	2%	5%	22%	100%
Hotel	Work (non-customer)	15%	35%	20%	15%	2%	0%	0%	0%	100%
	Residents	15%	35%	20%	15%	2%	0%	0%	0%	100%
	Conference Visitors	15%	35%	20%	15%	2%	0%	0%	0%	100%
Retail	Work (non-customer)	0%	17%	40%	30%	1%	1%	4%	7%	100%
	Visitor customer	0%	17%	40%	30%	1%	1%	4%	7%	100%
Leisure	Work (non-customer)	0%	17%	40%	30%	1%	1%	4%	7%	100%
	Visitor customer	0%	17%	40%	30%	1%	1%	4%	7%	100%

Priv.Veh	Rail	LUL	Bus	Taxi	M/C	Cycle	Walk	Total	
									%
9%	20%	30%	20%	1%	4%	4%	4%	12%	100%
25%	25%	5%	20%	1%	0%	4%	4%	20%	100%
10%	20%	25%	15%	1%	2%	5%	22%	100%	
15%	35%	20%	15%	2%	0%	0%	0%	100%	
15%	35%	20%	15%	2%	0%	0%	0%	100%	
0%	17%	40%	30%	1%	1%	4%	7%	100%	
0%	17%	40%	30%	1%	1%	4%	7%	100%	

Priv.Veh	Rail	LUL	Bus	Taxi	M/C	Cycle	Walk	Total	
									%
9%	20%	30%	20%	1%	4%	4%	4%	12%	100%
25%	25%	5%	20%	1%	0%	4%	4%	20%	100%
10%	20%	25%	15%	1%	2%	5%	22%	100%	
15%	35%	20%	15%	2%	0%	0%	0%	100%	
15%	35%	20%	15%	2%	0%	0%	0%	100%	
0%	17%	40%	30%	1%	1%	4%	7%	100%	
0%	17%	40%	30%	1%	1%	4%	7%	100%	

Total External Trips

Commercial	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	7,311	186	850	6,004	89	89
Business Travel	166	166	166	166	5	5
Emp. Personal Business	10	10	10	10	9	9
Visitors (Business)	41	41	41	41	2	2
Total	7,531	383	1,067	6,225	115	115

Residential	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	19	793	548	0	4	4
Work Business	1	27	44	1	1	1
Education	0	0	0	0	0	0
Escort Education	0	0	0	0	0	0
Shopping	0	9	47	47	107	107
Other Personal Business	10	10	10	10	80	80
Leisure	15	17	17	164	197	197
Total	41	837	746	176	395	395

Hotel	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	0	0	0	0	0	0
Business Travel	0	0	0	0	0	0
Emp. Personal Business	0	0	0	0	0	0
Resident Travel	0	0	0	0	0	0
Conference Travel	0	0	0	0	0	0
Total	0	0	0	0	0	0

Retail	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	539	39	40	545	42	42
Business Travel	0	0	0	0	0	0
Emp. Personal Business	0	0	0	0	0	0
Visitors (Business)	0	0	0	0	0	0
Visitors (customers)	526	526	2,243	2,743	4,743	4,285
Total	1,074	572	2,790	3,338	4,810	4,365

Leisure	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	73	12	73	178	19	19
Business Travel	0	0	0	0	0	0
Emp. Personal Business	0	0	0	0	0	0
Visitors (Business)	0	0	0	0	0	0
Visitors (customers)	704	113	688	669	1,156	1,208
Total	777	124	761	847	1,174	1,227

Taxi Trips

Commercial	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	0	0	0	0	0	0
Business Travel	0	0	0	0	0	0
Emp. Personal Business	0	0	0	0	0	0
Visitors (Business)	0	0	0	0	0	0
Total	0	0	0	0	0	0

Residential	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	0	0	0	0	0	0
Work Business	0	0	0	0	0	0
Education	0	0	0	0	0	0
Escort Education	0	0	0	0	0	0
Shopping	0	0	0	0	0	0
Other Personal Business	0	0	0	0	0	0
Leisure	0	0	0	0	0	0
Total	0	0	0	0	0	0

Hotel	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	0	0	0	0	0	0
Business Travel	0	0	0	0	0	0
Emp. Personal Business	0	0	0	0	0	0
Resident Travel	0	0	0	0	0	0
Conference Travel	0	0	0	0	0	0
Total	0	0	0	0	0	0

Retail	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	0	0	0	0	0	0
Business Travel	0	0	0	0	0	0
Emp. Personal Business	0	0	0	0	0	0
Visitors (Business)	0	0	0	0	0	0
Visitors (customers)	11	5	20	17	42	43
Total	11	5	20	17	42	43

Leisure	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	0	0	0	0	0	0
Business Travel	0	0	0	0	0	0
Emp. Personal Business	0	0	0	0	0	0
Visitors (Business)	0	0	0	0	0	0
Visitors (customers)	3	1	7	7	12	12
Total	3	1	7	7	12	12

Modal Split, External Trips

Trip Demands	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Commercial	7,531	383	1,067	6,225	115	115
Residential	41	837	746	176	395	395
Hotel	0	0	0	0	0	0
Retail	1,074	572	2,790	3,338	4,810	4,365
Leisure	777	124	761	847	1,174	1,227
Total	10,123	1,916	5,364	10,485	6,494	6,092

Trip Demands	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Commercial	7,531	383	1,067	6,225	115	115
Residential	41	837	746	176	395	395
Hotel	0	0	0	0	0	0
Retail	1,074	572	2,790	3,338	4,810	4,365
Leisure	777	124	761	847	1,174	1,227
Total	10,123	1,916	5,364	10,485	6,494	6,092

Trip Demands	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Commercial	7,531	383	1,067	6,225	115	115
Residential	41	837	746	176	395	395
Hotel	0	0	0	0	0	0
Retail	1,074	572	2,790	3,338	4,810	4,365
Leisure	777	124	761	847	1,174	1,227
Total	10,123	1,916	5,364	10,485	6,494	6,092

Trip Demands	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Commercial	7,531	383	1,067	6,225	115	115
Residential	41	837	746	176	395	395
Hotel	0	0	0	0	0	0
Retail	1,074	572	2,790	3,338	4,810	4,365
Leisure	777	124	761	847	1,174	1,227
Total	10,123	1,916	5,364	10,485	6,494	6,092

Trip Demands	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Commercial	7,531	383	1,067	6,225	115	115
Residential	41	837	746	176	395	395
Hotel	0	0	0	0	0	0
Retail	1,074	572	2,790	3,338	4,810	4,365
Leisure	777	124	761	847	1,174	1,227
Total	10,123	1,916	5,364	10,485	6,494	6,092

Private Vehicle Trips

Commercial	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	146	3	17	122	2	2
Business Travel	3	3	3	3	0	0
Emp. Personal Business	0	0	0	0	0	0
Visitors (Business)	1	1	1	1	0	0
Total	150	7	24	130	2	2

Residential	AM Peak	
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Land Use	Journey Purpose	AM Peak Hour						Total
		Priv Veh	Rail/LUL	Bus	Taxi	Cycle	Walk	
Commercial	All purpose	20%	20%	20%	20%	20%	60%	100%
Residential	Journey to work	10%	20%	20%	20%	20%	60%	100%
	Work Business	10%	20%	20%	20%	20%	60%	100%
	Education	10%	20%	20%	20%	20%	60%	100%
	Escort Education	10%	20%	20%	20%	20%	60%	100%
	Shopping	15%	30%	35%	1%	4%	50%	100%
Hotel	Other Personal Business	5%	35%	35%	1%	4%	55%	100%
	Leisure	5%	20%	20%	10%	50%	100%	100%
	Residents	5%	15%	5%	5%	75%	100%	100%
Retail	Conference Visitors	5%	15%	5%	5%	75%	100%	100%
	Work (non-customer)	15%	20%	20%	1%	4%	50%	100%
Leisure	Visitor customer	5%	20%	20%	10%	60%	100%	100%
	Work (non-customer)	5%	35%	35%	1%	4%	50%	100%

Land Use	Journey Purpose	PM Peak Hour						Total
		Priv Veh	Rail/LUL	Bus	Taxi	Cycle	Walk	
Commercial	All purpose	20%	20%	20%	20%	20%	60%	100%
Residential	Journey to work	10%	20%	20%	20%	20%	60%	100%
	Work Business	10%	20%	20%	20%	20%	60%	100%
	Education	10%	20%	20%	20%	20%	60%	100%
	Escort Education	10%	20%	20%	20%	20%	60%	100%
	Shopping	15%	30%	35%	1%	4%	50%	100%
Hotel	Other Personal Business	5%	35%	35%	1%	4%	55%	100%
	Leisure	5%	20%	20%	10%	50%	100%	100%
	Residents	5%	15%	5%	5%	75%	100%	100%
Retail	Conference Visitors	5%	15%	5%	5%	75%	100%	100%
	Work (non-customer)	15%	20%	20%	1%	4%	50%	100%
Leisure	Visitor customer	5%	20%	20%	10%	60%	100%	100%
	Work (non-customer)	5%	35%	35%	1%	4%	50%	100%

Land Use	Journey Purpose	Sat Peak Hour						Total
		Priv Veh	Rail/LUL	Bus	Taxi	Cycle	Walk	
Commercial	All purpose	20%	20%	20%	20%	20%	60%	100%
Residential	Journey to work	10%	20%	20%	20%	20%	60%	100%
	Work Business	10%	20%	20%	20%	20%	60%	100%
	Education	10%	20%	20%	20%	20%	60%	100%
	Escort Education	10%	20%	20%	20%	20%	60%	100%
	Shopping	15%	30%	35%	1%	4%	50%	100%
Hotel	Other Personal Business	5%	35%	35%	1%	4%	55%	100%
	Leisure	5%	20%	20%	10%	50%	100%	100%
	Residents	5%	15%	5%	5%	75%	100%	100%
Retail	Conference Visitors	5%	15%	5%	5%	75%	100%	100%
	Work (non-customer)	15%	20%	20%	1%	4%	50%	100%
Leisure	Visitor customer	5%	20%	20%	10%	60%	100%	100%
	Work (non-customer)	5%	35%	35%	1%	4%	50%	100%

Total Internal Trips

Commercial	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	169	4	0	118	1	1
Business Travel	3	3	3	3	0	0
Emp. Personal Business	24	24	24	24	21	21
Visitors (business)	2	2	2	2	0	0
Total	197	33	29	144	22	22

Residential	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	5	198	137	0	1	1
Work Business	0	6	5	0	0	0
Education	10	457	200	10	1	1
Escort Education	3	154	67	3	0	0
Shopping	4	9	47	47	107	107
Other Personal Business	4	4	4	4	34	34
Leisure	5	26	26	51	35	35
Total	36	855	487	116	178	178

Hotel	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	0	3	2	0	0	0
Business Travel	0	0	0	0	0	0
Emp. Personal Business	0	0	0	0	0	0
Resident Travel	0	0	0	0	0	0
Conference Travel	0	0	0	0	0	0
Total	0	3	2	0	0	0

Retail	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	20	0	0	14	0	0
Business Travel	0	0	0	0	0	0
Emp. Personal Business	11	11	11	11	29	29
Visitors (business)	1	1	1	1	0	0
Visitors (customers)	122	122	497	497	247	238
Total	154	134	509	523	276	267

Leisure	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	24	0	0	4	0	0
Business Travel	0	0	0	0	0	0
Emp. Personal Business	1	0	0	0	0	0
Visitors (business)	3	1	1	0	0	0
Visitors (customers)	174	11	22	41	541	563
Total	201	12	23	45	542	563

Taxi Trips

Commercial	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	0	0	0	0	0	0
Business Travel	0	0	0	0	0	0
Emp. Personal Business	0	0	0	0	0	0
Visitors (business)	0	0	0	0	0	0
Total	0	0	0	0	0	0

Residential	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	0	0	0	0	0	0
Work Business	0	0	0	0	0	0
Education	0	0	0	0	0	0
Escort Education	0	0	0	0	0	0
Shopping	0	0	0	0	1	1
Other Personal Business	0	0	0	0	0	0
Leisure	0	0	0	0	0	0
Total	0	0	0	0	1	1

Hotel	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	0	0	0	0	0	0
Business Travel	0	0	0	0	0	0
Emp. Personal Business	0	0	0	0	0	0
Resident Travel	0	0	0	0	0	0
Conference Travel	0	0	0	0	0	0
Total	0	0	0	0	0	0

Retail	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	0	0	0	0	0	0
Business Travel	0	0	0	0	0	0
Emp. Personal Business	0	0	0	0	0	0
Visitors (business)	0	0	0	0	0	0
Visitors (customers)	1	1	25	25	12	12
Total	1	1	25	25	12	12

Leisure	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	0	0	0	0	0	0
Business Travel	0	0	0	0	0	0
Emp. Personal Business	0	0	0	0	0	0
Visitors (business)	0	0	0	0	0	0
Visitors (customers)	0	0	0	0	0	0
Total	0	0	0	0	0	0

Modal Split, Internal Trips

Trip Demands	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Commercial	197	33	29	144	22	22
Residential	36	855	487	116	178	178
Hotel	0	3	2	0	0	0
Retail	154	134	509	523	276	267
Leisure	201	12	23	45	542	563
Total	588	1038	1043	827	1018	1030

Rail Trips	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Commercial	0	0	0	0	0	0
Residential	0	0	0	0	0	0
Hotel	0	0	0	0	0	0
Retail	0	0	0	0	0	0
Leisure	0	0	0	0	0	0
Total	0	0	0	0	0	0

Trip Demands	AM Peak Trips		PM Peak Trips		Sat Peak Trips		Avg Veh
	In	Out	In	Out	In	Out	
Commercial	0	0	0	0	0	0	1.1
Residential	3	84	35	11	20	20	1.5
Hotel	0	0	0	0	0	0	1.6
Retail	18	18	74	74	37	36	2.0
Leisure	3	1	1	2	27	28	1.5
Total	24	106	111	88	84	83	1.5

Private Vehicle Trips	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Commercial	0	0	0	0	0	0
Residential	0	0	0	0	0	0
Hotel	0	0	0	0	0	0
Retail	0	0	0	0	0	0
Leisure	0	0	0	0	0	0
Total	0	0	0	0	0	0

Trip Demands	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Commercial	38	7	6	29	4	4
Residential	8	115	80	35	57	57
Hotel	0	0	0	0	0	0
Retail	43	39	141	144	75	72
Leisure	66	1	8	15	180	187
Total	155	162	229	223	216	218

Walking Trips	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Commercial	118	20	17	86	13	13
Residential	20	855	284	53	91	91
Hotel	0	3	2	0	0	0
Retail	80	68	246	254	136	132
Leisure	103	11	23	271	281	

EXTERNAL TRIPS

Land Use	Journey Purpose	Weekday AM Peak Hour						Cycle	Walk	Total
		Priv Veh	Rail	LUL	Bus	Taxi	M/C			
Commercial	All purpose	2%	49%	36%	7%	0%	2%	2%	12%	100%
	Journey to work	9%	20%	30%	20%	1%	4%	4%	12%	100%
	Work Business	9%	20%	30%	20%	1%	4%	4%	12%	100%
	Education	25%	25%	5%	20%	1%	0%	4%	20%	100%
	Esport Education	25%	25%	5%	20%	1%	0%	4%	20%	100%
Hotel	Work (non-customer)	5%	25%	35%	35%	1%	0%	4%	5%	100%
	Residents	15%	30%	20%	15%	20%	0%	0%	7%	100%
	Conference Visitors	15%	30%	20%	15%	20%	0%	0%	7%	100%
	Work (non-customer)	0%	17%	40%	30%	1%	1%	4%	7%	100%
	Visitor customer	0%	20%	27%	18%	1%	2%	1%	25%	100%
Retail	Work (non-customer)	0%	17%	40%	30%	1%	1%	4%	7%	100%
	Visitor customer	0%	20%	27%	18%	1%	2%	1%	25%	100%
Leisure	Work (non-customer)	0%	17%	40%	30%	1%	1%	4%	7%	100%
	Visitor customer	0%	20%	27%	18%	1%	2%	1%	25%	100%

Priv Veh	Rail	LUL	Bus	Taxi	M/C	Weekday PM Peak Hour		
						Cycle	Walk	Total
2%	49%	36%	7%	0%	2%	2%	12%	100%
9%	20%	30%	20%	1%	4%	4%	12%	100%
9%	20%	30%	20%	1%	4%	4%	12%	100%
25%	25%	5%	20%	1%	0%	4%	20%	100%
25%	25%	5%	20%	1%	0%	4%	20%	100%
5%	25%	35%	35%	1%	0%	4%	5%	100%
15%	30%	20%	15%	20%	0%	0%	7%	100%
15%	30%	20%	15%	20%	0%	0%	7%	100%
0%	17%	40%	30%	1%	1%	4%	7%	100%
0%	20%	27%	18%	1%	2%	1%	25%	100%
0%	17%	40%	30%	1%	1%	4%	7%	100%
0%	20%	27%	18%	1%	2%	1%	25%	100%

Priv Veh	Rail	LUL	Bus	Taxi	M/C	Saturday Peak Hour		
						Cycle	Walk	Total
2%	49%	36%	7%	0%	2%	2%	12%	100%
9%	20%	30%	20%	1%	4%	4%	12%	100%
9%	20%	30%	20%	1%	4%	4%	12%	100%
25%	25%	5%	20%	1%	0%	4%	20%	100%
25%	25%	5%	20%	1%	0%	4%	20%	100%
5%	25%	35%	35%	1%	0%	4%	5%	100%
15%	30%	20%	15%	20%	0%	0%	7%	100%
15%	30%	20%	15%	20%	0%	0%	7%	100%
0%	17%	40%	30%	1%	1%	4%	7%	100%
0%	20%	27%	18%	1%	2%	1%	25%	100%
0%	17%	40%	30%	1%	1%	4%	7%	100%
0%	20%	27%	18%	1%	2%	1%	25%	100%

Total External Trips

Commercial	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	7,421	189	850	8,089	100	100
Business Travel	170	170	170	170	0	0
Emp. Personal Business	10	10	10	10	0	0
Visitors (business)	41	41	41	41	0	0
Total	7,642	380	1,060	8,312	110	110
Residential						
Journey to work	15	632	436	0	3	3
Work Business	8	364	159	0	0	0
Education	3	122	54	3	0	0
Esport Education	3	122	54	3	0	0
Shopping	8	8	8	8	85	85
Other Personal Business	8	8	8	8	85	85
Leisure	12	61	81	123	157	157
Total	54	1,240	791	1,028	310	310
Hotel						
Journey to work	110	5	6	118	38	38
Business Travel	0	0	0	0	0	0
Emp. Personal Business	0	0	0	0	0	0
Resident Travel	48	143	95	80	170	170
Visitors (business)	2	3	3	3	85	85
Conference Travel	464	156	109	406	295	295
Total	624	164	114	703	398	398
Retail						
Journey to work	492	36	36	533	36	36
Business Travel	0	1	2	2	2	2
Emp. Personal Business	4	4	4	4	4	4
Visitors (business)	0	0	0	0	0	0
Visitors (customers)	435	355	2,284	2,784	3,853	3,542
Total	931	476	2,322	4,010	3,640	3,640
Leisure						
Journey to work	0	0	0	0	0	0
Business Travel	0	0	0	0	0	0
Emp. Personal Business	0	0	0	0	0	0
Visitors (business)	2	3	3	3	85	85
Visitors (customers)	726	197	694	841	1,228	1,228
Total	728	201	700	1,028	1,241	1,274

Taxi Trips

Commercial	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	0	0	0	0	0	0
Business Travel	0	0	0	0	0	0
Emp. Personal Business	0	0	0	0	0	0
Visitors (business)	0	0	0	0	0	0
Total	0	0	0	0	0	0
Residential						
Journey to work	0	0	0	0	0	0
Work Business	0	0	0	0	0	0
Education	0	4	7	0	0	0
Esport Education	0	4	7	0	0	0
Shopping	0	0	0	0	0	0
Other Personal Business	0	0	0	0	0	0
Leisure	1	13	1	2	3	3
Total	1	18	8	0	3	3
Hotel						
Journey to work	0	0	0	0	0	0
Business Travel	0	0	0	0	0	0
Emp. Personal Business	0	0	0	0	0	0
Resident Travel	10	39	19	0	0	0
Conference Travel	81	2	2	46	17	17
Total	91	41	21	46	17	17
Retail						
Journey to work	0	0	0	0	0	0
Business Travel	0	0	0	0	0	0
Emp. Personal Business	0	0	0	0	0	0
Visitors (business)	0	0	0	0	0	0
Visitors (customers)	9	5	23	28	40	36
Total	9	5	23	28	40	36
Leisure						
Journey to work	0	0	0	0	0	0
Business Travel	0	0	0	0	0	0
Emp. Personal Business	0	0	0	0	0	0
Visitors (business)	0	0	0	0	0	0
Visitors (customers)	7	2	7	10	12	13
Total	7	2	7	10	12	13

Modal Split, External Trips

Trip Demands	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Commercial	7,642	189	1,060	8,312	110	110
Residential	54	1,240	791	1,028	310	310
Hotel	624	164	114	703	398	398
Retail	931	476	2,322	4,010	3,640	3,640
Leisure	728	201	700	1,028	1,241	1,274
Total	10,681	2,469	3,667	15,081	6,399	6,399

Private Vehicle Person Trips

Trip Demands	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Commercial	153	8	22	129	2	2
Residential	36	43	16	40	0	0
Hotel	22	20	11	114	193	179
Retail	10	2	39	54	123	129
Leisure	41	20	39	64	123	129
Total	242	103	131	399	448	448

Bus Trips

Trip Demands	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Commercial	535	27	79	442	8	8
Residential	10	246	155	31	51	51
Hotel	171	24	17	73	66	66
Retail	225	66	225	388	78	94
Leisure	122	11	151	187	18	63
Total	1,163	431	521	984	161	282

Taxi Trips

Trip Demands	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Commercial	0	0	0	0	0	0
Residential	7	20	21	30	31	31
Hotel	4	3	2	10	12	13
Leisure	0	0	0	0	0	0
Total	11	23	23	40	43	44

Private Vehicle Trips

Commercial	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	148	2	17	122	2	2
Business Travel	3	3	3	3	0	0
Emp. Personal Business	0	0	0	0	0	0
Visitors (business)	1	1	1	1	0	0
Total	152	6	21	126	2	2
Residential						
Journey to work	1	57	39	0	0	0
Work Business	0	2	3	0	0	0
Education	0	40	1	0	0	0
Esport Education	0	31	13	1	0	0
Shopping	1	1	4	4	8	8
Other Personal Business	1	1	4	4	8	8
Leisure	3	12	12	25	31	31
Total	6	187	113	32	45	45
Hotel						
Journey to work	6	0	0	6	2	2
Business Travel	0	0	0	0	0	0
Emp. Personal Business	0	0	0	0	0	0
Resident Travel	7	21	14	6	26	26
Visitors (business)	46	23	18	40	40	40
Total	59	23	18	40	40	40
Retail						
Journey to work	0	0	0	0	0	0
Business Travel	0	0				

Land Use	Journey Purpose	AM Peak Hour						Total
		Priv Veh	Rail/LUL	Bus	Taxi	Cycle	Walk	
Commercial	All purpose	20%	20%	20%	20%	60%	100%	
	Journey to work	20%	20%	20%	20%	60%	100%	
	Work Business	20%	20%	20%	20%	60%	100%	
	Education	10%	10%	10%	10%	60%	100%	
	Escort Education	10%	10%	10%	10%	60%	100%	
	Shopping	15%	15%	15%	15%	50%	100%	
Hotel	Work (non-customer)	5%	5%	5%	5%	50%	100%	
	Residents	5%	5%	5%	5%	75%	100%	
	Conference Visitors	5%	5%	5%	5%	75%	100%	
Retail	Work (non-customer)	2%	2%	2%	2%	60%	100%	
	Visitor customer	15%	15%	15%	15%	50%	100%	
Leisure	Work (non-customer)	2%	2%	2%	2%	60%	100%	
	Visitor customer	5%	5%	5%	5%	50%	100%	

Land Use	Journey Purpose	PM Peak Hour						Total
		Priv Veh	Rail/LUL	Bus	Taxi	Cycle	Walk	
Commercial	All purpose	20%	20%	20%	20%	60%	100%	
	Journey to work	20%	20%	20%	20%	60%	100%	
	Work Business	20%	20%	20%	20%	60%	100%	
	Education	10%	10%	10%	10%	60%	100%	
	Escort Education	10%	10%	10%	10%	60%	100%	
	Shopping	15%	15%	15%	15%	50%	100%	
Hotel	Work (non-customer)	5%	5%	5%	5%	50%	100%	
	Residents	5%	5%	5%	5%	75%	100%	
	Conference Visitors	5%	5%	5%	5%	75%	100%	
Retail	Work (non-customer)	2%	2%	2%	2%	60%	100%	
	Visitor customer	15%	15%	15%	15%	50%	100%	
Leisure	Work (non-customer)	2%	2%	2%	2%	60%	100%	
	Visitor customer	5%	5%	5%	5%	50%	100%	

Land Use	Journey Purpose	Sat Peak Hour						Total
		Priv Veh	Rail/LUL	Bus	Taxi	Cycle	Walk	
Commercial	All purpose	20%	20%	20%	20%	60%	100%	
	Journey to work	20%	20%	20%	20%	60%	100%	
	Work Business	20%	20%	20%	20%	60%	100%	
	Education	10%	10%	10%	10%	60%	100%	
	Escort Education	10%	10%	10%	10%	60%	100%	
	Shopping	15%	15%	15%	15%	50%	100%	
Hotel	Work (non-customer)	5%	5%	5%	5%	50%	100%	
	Residents	5%	5%	5%	5%	75%	100%	
	Conference Visitors	5%	5%	5%	5%	75%	100%	
Retail	Work (non-customer)	2%	2%	2%	2%	60%	100%	
	Visitor customer	15%	15%	15%	15%	50%	100%	
Leisure	Work (non-customer)	2%	2%	2%	2%	60%	100%	
	Visitor customer	5%	5%	5%	5%	50%	100%	

Total Internal Trips

Commercial	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	134	3	0	93	1	1
Business Travel	3	3	3	3	0	0
Emp. Personal Business	24	24	24	24	21	21
Visitors (business)	2	2	2	2	0	0
Total	163	32	29	120	22	22

Residential	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	4	158	109	0	1	1
Work Business	0	5	4	0	0	0
Education	3	364	159	8	0	0
Escort Education	3	122	54	3	0	0
Shopping	8	8	38	38	55	55
Other Personal Business	3	3	3	3	27	27
Leisure	4	20	20	41	28	28
Total	29	681	387	92	142	142

Hotel	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	0	0	0	0	0	0
Business Travel	0	0	0	0	0	0
Emp. Personal Business	1	1	1	1	5	5
Resident Travel	0	0	0	0	0	0
Conference Travel	0	0	0	0	0	0
Total	1	3	2	1	5	5

Retail	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	16	0	0	11	0	0
Business Travel	0	0	0	0	0	0
Emp. Personal Business	10	10	10	10	25	25
Visitors (business)	1	1	1	1	0	0
Visitors (customers)	105	105	416	416	205	198
Total	132	117	427	438	231	223

Leisure	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	19	0	0	3	0	0
Business Travel	0	0	0	0	0	0
Emp. Personal Business	1	0	0	0	0	0
Visitors (business)	3	1	1	0	0	0
Visitors (customers)	354	37	52	170	568	582
Total	376	37	53	173	568	583

Taxi Trips

Commercial	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	0	0	0	0	0	0
Business Travel	0	0	0	0	0	0
Emp. Personal Business	0	0	0	0	0	0
Visitors (business)	0	0	0	0	0	0
Total	0	0	0	0	0	0

Residential	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	0	0	0	0	0	0
Work Business	0	0	0	0	0	0
Education	0	0	0	0	0	0
Escort Education	0	0	0	0	0	0
Shopping	0	0	0	0	1	1
Other Personal Business	0	0	0	0	0	0
Leisure	0	0	0	0	1	1
Total	0	0	0	0	1	1

Hotel	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	0	0	0	0	0	0
Business Travel	0	0	0	0	0	0
Emp. Personal Business	0	0	0	0	0	0
Resident Travel	0	0	0	0	0	0
Conference Travel	0	0	0	0	0	0
Total	0	0	0	0	0	0

Retail	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	0	0	0	0	0	0
Business Travel	0	0	0	0	0	0
Emp. Personal Business	0	0	0	0	0	0
Visitors (business)	0	0	0	0	0	0
Visitors (customers)	1	1	21	21	10	10
Total	1	1	21	21	10	10

Leisure	AM Peak Trips		PM Peak Trips		Sat Peak Trips	
	In	Out	In	Out	In	Out
Journey to work	0	0	0	0	0	0
Business Travel	0	0	0	0	0	0
Emp. Personal Business	0	0	0	0	0	0
Visitors (business)	0	0	0	0	0	0
Visitors (customers)	0	0	0	0	0	0
Total	0	0	0	0	0	0

Modal Split, Internal Trips

Trip Demands	Total Internal Trips					
	In	Out	In	Out	In	Out
Commercial	163	32	29	120	22	22
Residential	29	681	387	92	142	142
Hotel	1	3	2	1	5	5
Retail	132	117	427	438	231	223
Leisure	376	37	53	173	568	583
Total	603	859	899	824	866	975

Trip Demands	Rail Trips					
	In	Out	In	Out	In	Out
Commercial	0	0	0	0	0	0
Residential	0	0	0	0	0	0
Hotel	0	0	0	0	0	0
Retail	0	0	0	0	0	0
Leisure	0	0	0	0	0	0
Total	0	0	0	0	0	0

Trip Demands	Private Vehicle Person Trips					
	In	Out	In	Out	In	Out
Commercial	0	0	0	0	0	0
Residential	3	57	28	8	16	16
Hotel	0	0	0	0	0	0
Retail	16	16	62	62	31	30
Leisure	19	2	3	8	28	28
Total	38	85	93	88	75	74

Trip Demands	Private Vehicle Trips					
	In	Out	In	Out	In	Out
Commercial	0	0	0	0	0	0
Residential	0	0	0	0	0	0
Hotel	0	0	0	0	0	0
Retail	0	0	0	0	0	0
Leisure	0	0	0	0	0	0
Total	0	0	0	0	0	0

Trip Demands	Bus Trips					
	In	Out	In	Out	In	Out
Commercial	32	6	5	24	4	4
Residential	7	92	84	28	45	45
Hotel	0	0	0	0	0	0
Retail	37	34	119	121	63	61
Leisure	225	19	181	80	196	204
Total	299	156	297	133	312	314

Trip Demands	Walking Trips					
	In	Out	In	Out	In	Out
Commercial	0	0	0	0	0	0
Residential	16	806	226	47	72	72
Hotel	0	0	0	0	0	0
Retail	88	69	200	213	114	110
Leisure	190	19	26	87	284	291
Total	274	894	432	131	470	463

Trip Demands	Taxi Trips					
	In	Out	In	Out	In	Out
Commercial	0	0	0	0	0	0
Residential	0	0	0	0	0	0
Hotel	0	0	0	0	0	0
Retail	0	0	0	0	0	0
Leisure	0	0	0	0	0	0
Total	0	0	0	0		

Annex 3
Modal Split
Spreadsheet for The
Triangle

Kings Cross Central - The Triangle (Appendix 4 - Annex 3)

TRAVL Modal Split Proportions - residential development

Site	Residents In (%)						
	Tube/Rail	Walk	Car Driver	Car Passenger	Bus	Pedal Cycle	Taxi
Coopers Close	38	26	22	6	3	2	3
Coverley Close	9	50	20	2	19	0	0
Porter Square	5	31	20	15	24	3	2

Site	Residents Out (%)						
	Tube/Rail	Walk	Car Driver	Car Passenger	Bus	Pedal Cycle	Taxi
Coopers Close	52	19	18	6	4	1	0
Coverley Close	9	52	19	5	15	0	0
Porter Square	0	41	21	17	19	2	0

Site	Visitors In (%)						
	Tube/Rail	Walk	Car Driver	Car Passenger	Bus	Pedal Cycle	Taxi
Coopers Close	18	16	12	4	49	1	0
Coverley Close	0	25	24	13	38	0	0
Porter Square	0	22	20	0	53	5	0

Site	Visitors Out (%)						
	Tube/Rail	Walk	Car Driver	Car Passenger	Bus	Pedal Cycle	Taxi
Coopers Close	42	22	9	2	23	2	0
Coverley Close	33	0	33	17	17	0	0
Porter Square	0	42	21	0	32	5	0

Site	Total Average (%)						
	Tube/Rail	Walk	Car Driver	Car Passenger	Bus	Pedal Cycle	Taxi
Coopers Close	38	21	15	5	20	2	1
Coverley Close	13	32	24	9	22	0	0
Porter Square	1	34	21	8	32	4	1

TOTAL AVERAGE	17%	29%	20%	7%	25%	2%	0%	100%
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Kings Cross Central - Summary of Trip Generation assessment - All trips (Feb 2004)

Scenario 1

Land Use	AM		PM		Sat	
	In	Out	In	Out	In	Out
Commercial	9393	506	1333	7740	167	167
Residential	74	1705	1046	241	401	401
Hotel	0	0	0	0	0	0
Retail	1219	706	3298	3852	5084	4631
Leisure	428	178	690	814	1167	1204
TOTAL	11114	3095	6367	12647	6819	6403

GFA/units

1600

250

37000

3500

The Triangle - Total People Trips

Land Use	AM		PM		Sat	
	In	Out	In	Out	In	Out
Commercial	0	0	0	0	0	0
Residential	12	266	163	38	63	63
Hotel	0	0	0	0	0	0
Retail	0	0	0	0	0	0
Leisure	40	17	65	77	110	114
TOTAL	52	283	229	115	173	177

(rate derived from KXC assessment)

Scenario 2

Land Use	AM		PM		Sat	
	In	Out	In	Out	In	Out
Commercial	7726	416	1096	6366	137	137
Residential	104	2412	1480	342	567	567
Hotel	261	91	64	230	300	300
Retail	1007	587	2747	3200	4235	3857
Leisure	510	198	1000	1102	1609	1665
TOTAL	9608	3704	6387	11240	6848	6526

Scenario 3

Land Use	AM		PM		Sat	
	In	Out	In	Out	In	Out
Commercial	7804	421	1107	6430	138	138
Residential	81	1875	1151	266	441	441
Hotel	465	159	112	408	300	300
Retail	997	586	2746	3190	4234	3856
Leisure	1228	329	1111	1650	1818	1864
TOTAL	10575	3370	6227	11944	6931	6599

Scenario 4

Land Use	AM		PM		Sat	
	In	Out	In	Out	In	Out
Commercial	7726	416	1096	6366	137	137
Residential	104	2412	1480	342	567	567
Hotel	0	0	0	0	0	0
Retail	1227	707	3299	3861	5086	4632
Leisure	564	209	1136	1199	1716	1768
TOTAL	9621	3744	7011	11768	7505	7124

Modal Split		AM		PM		Sat	
		In	Out	In	Out	In	Out
Car 25%	Residential	3	67	41	9	16	16
	Leisure	10	4	16	19	28	28
Bus 20%	Residential	2	53	33	8	13	13
	Leisure	8	3	13	15	22	23
Rail/LUL 20%	Residential	2	53	33	8	13	13
	Leisure	8	3	13	15	22	23
Walk 30%	Residential	3	80	49	11	19	19
	Leisure	12	5	20	23	33	34
Other 5%	Residential	1	13	8	2	3	3
	Leisure	2	1	3	4	6	6
TOTAL		52	283	229	115	173	177

Trips derived from TRICS (chack)

Car 25%	Residential	19	69	62	30	37	32
	Leisure	11	13	21	18	29	34

0. APPENDIX 4 – MODAL SPLIT ANALYSIS

0.1 Overview

0.1.1 The trip generation for the proposed development has been derived for each of the principal journey purposes as outlined in the previous chapter. The information has been used to provide an indication of the likely modal split for each trip purpose.

0.1.2 A number of databases were used to obtain a typical modal split for a variety of land uses as proposed at Kings Cross Central in order to establish an estimate of the proportions of people travelling to/from the site by the various different modes.

0.2 Factors influencing modal choice

0.2.1 The different trip purposes are influenced by a number of key factors which determine modal split. These factors include:

- The purpose and time of trip;
- Location and origin or destination of the trip outside the site;
- Physical accessibility, including car ownership and parking availability;
- Relative accessibility by different modes.

The main factors associated with the modal split are discussed below:

Trip Purpose

0.2.2 The purpose of the trip may determine a propensity to use one mode in preference to others. Work related trips are more likely to be made by public transport given restricted workplace parking, congestion and the availability of strong radial public transport services as many employees select the location of their place of work (and in some cases of their home) based on the level of public transport access. Since journeys to work are regular, familiarity with the public transport networks tends to reduce the degree to which perceptions of convenience affect the modal choice.

0.2.3 Statistics reported in the 'London Travel Report 2002' (TfL) show that over 80% of journeys to work in central London are made by public transport. 'London Travel Report 2002' also reports journey to work modal splits of 46% and 19% by public transport in inner London respectively. The 2001 Census for Camden shows that of those people commuting to work, 50% travel by bus or rail, 18% travel by car, moped or taxi, and 21% walk or cycle. The remaining 11% work mainly from home.

0.2.4 Shopping journeys are more likely to be made by car because of the need to transport purchases between the retail location and the home and the average group size. The car is seen as a 'flexible' option although the location of the site to Central London and the limited car parking may well reduce the attractiveness of driving to the retail in this case.

- 0.2.5** Data reported in 'Focus on Personal Travel' (December 2001) suggests that for the UK as a whole, around 60% of shopping trips are made by car, 30% are made on foot and just 10% are made by public transport. Within London, the 'London Travel Report 2002' suggests that within the central zone, buses account for some 16% of shopping trips and London Underground accounts for only 7% of shopping trips, outside the Central zone this increases to 24% of shopping trips by bus and 9% by underground. This low share by rail is borne out by the 1996 LPAC study "London's Town Centre Health Check", which analysed the performance of all of London's major retail locations.

Physical Accessibility

- 0.2.6** Physical accessibility is used to refer to aspects such as the availability and quality of transport networks, access to a car to the trip-maker and the level of car parking available at the destination of the trip.
- 0.2.7** Within the Kings Cross Central site, car parking provision for employees will be limited. This will reinforce the modal preferences for journeys made for work purposes. It is anticipated that public car parking within the site will be managed such that commuter or long-stay parking will be discouraged.
- 0.2.8** It is proposed to provide 0.5 resident parking spaces per household, suggesting 0.31 cars per person living on site if all the space were to be occupied. This compares with a London average of 0.35 cars per person from the 2001 Census. Whilst not all residential units will have a dedicated parking space, it is anticipated that parking provision will reflect typical levels of car ownership. However, even with a car available to them, many residents will not travel to work by this mode. For example, the 35%-40% of people working in central London would be unlikely to attain more than a nominal mode share by car.

Relative Accessibility

- 0.2.9** Modal choice is also affected by the accessibility of an origin or destination by different modes of transport. Perceptions of the time taken to make a journey by different modes are set against cost and convenience issues. Measures of relative accessibility taken purely on journey time are therefore not directly transferable to modal split, but do indicate corridors where public transport may be more competitive with car travel.
- 0.2.10** It must be remembered that perceptions of convenience often outweigh those of cost, since items such as vehicle running costs tend to carry less weight when choices are made, particularly for non-regular journeys.
- 0.2.11** Surveys of employee travel patterns at Canary Wharf and the BBC in White City and central London show that car-use tends to predominate for local movements (employees who live relatively close to the site) or from areas where the journey involves orbital routes around London. These surveys also suggest that for journeys from further afield, or across central London, public transport use tends to dominate modal choice.

0.3 Commercial Journeys to Work – External Modal Split

0.3.1 The modal split for external trips is governed principally by the level of car parking provision at the commercial accommodation. There will be up to 475 parking spaces for a total of approximately 20,200 employees. Allowing for a daily attendance rate of 85% this is equivalent to around one space for every 36 employees if fully occupied.

0.3.2 The predicted modal split for the commercial development at Kings Cross Central has been based on information associated with surveys at a number of office developments in the Central London area, contained within the TRAVL database as well as information obtained from the Arup Travel Survey. The range of results are summarised in Table A4.1 below:

Table A4.1: Summary Of Modal Split For Typical Commercial Uses For Journey To Work

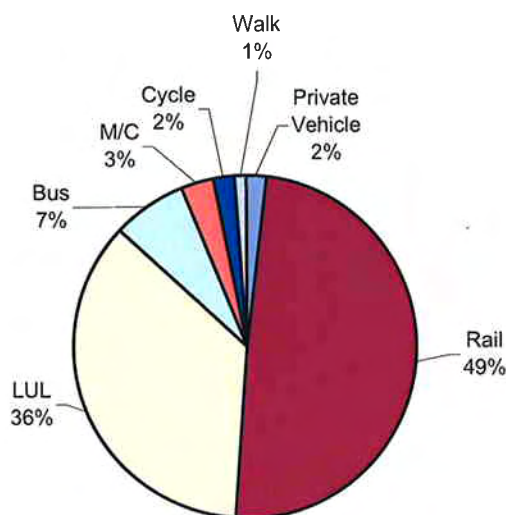
	Car	Rail	Tube	Bus	M/C	Bicycle	Walk	Other
CAA - Holborn	2%	59%	27%	5%	2%	1%	2%	2%
Usborne Publishing – Camden	1%	42%	41%	7%	-	7%	-	2%
Wellcome - Euston	10%	51%	26%	4%	1%	-	4%	4%
ARUP - Camden	2%	40%	36%	4%	4%	8%	3%	3%
AVERAGE	4 %	48%	32%	5%	2%	4%	3 %	2%

0.3.3 The average splits shown in the above table were used as a benchmark and the final assumed figures for the assessment are shown in Table A4.2 and Figure A4.1. This was applied to both the weekday and the Saturday peak conditions.

Table A4.2: Overall modal split for external commercial journeys to work

	Car	Rail	Tube	Bus	Taxi	M/C	Cycle	Walk
Proportion of external commercial journeys to work	2%	49%	36%	7%	0%	3%	2%	1%

Figure A4.1: Overall modal split for external commercial journeys to work



0.3.4 For comparison, information on Canary Wharf travel patterns suggests that at that location overall modal splits for journeys to work are 11% by car, 80% by rail and 3% by bus. Bus usage is low due to the comparatively poor strategic connections available in the Isle of Dogs, while car usage reflects a relatively high car parking provision and accessibility to the M25.

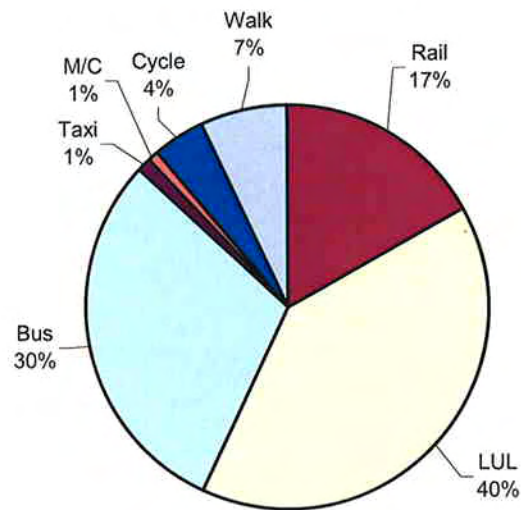
0.4 Retail and Leisure employees

0.4.1 Parking provision for employees of the retail and leisure uses is expected to be as constrained as that for commercial employees if not more so given the excellent accessibility of the site by a variety of public transport modes. The assumed modal splits for the retail and leisure uses are summarised below in Table A4.3 and shown graphically on Figure A4.2:

Table A4.3: Overall Modal Split For External Leisure Journeys

	Car	Rail	Tube	Bus	Taxi	M/C	Cycle	Walk
Proportion of retail employee journeys to work	0 %	17%	40%	30%	1%	1%	4%	7%

Figure A4.2: Overall Modal Split For Retail Employees Journeys To Work



0.5 Residential Work Trips

0.5.1 The modal split for journeys to work made by residents of the site is influenced by factors such as location of the destination, the availability of a car, household income and the quality of the alternative modes serving the work trip destination.

When considering the likely mode share by car for residents' journeys to work, it is important to remember that not all those in active employment who have access to a car will use the car for journeys to work, because:

- not all resident employees will be at work on a given day (because of illness, annual leave or other absence);
- some 18% of Londoners in households with a car cannot drive;
- resident employees may commute to work by means other than the car, because other modes are more convenient;
- multi-occupant households, particularly those with only one car, may use the car for non-work reasons during the day (such as escorting children, shopping, etc) and it may not therefore be available for the journey to work;
- vehicles may be off the road due to breakdown or servicing.

0.5.2 The fact that most residential streets in London remain heavily parked between the peaks is testimony to the above statements. The 'London Travel Report 2002' indicates that the modal share for journeys to work by residents of inner London is 25% by car, 56% by public transport and 12% on foot. The information contained within the DTLR document 'Focus on Personal Travel' has also been

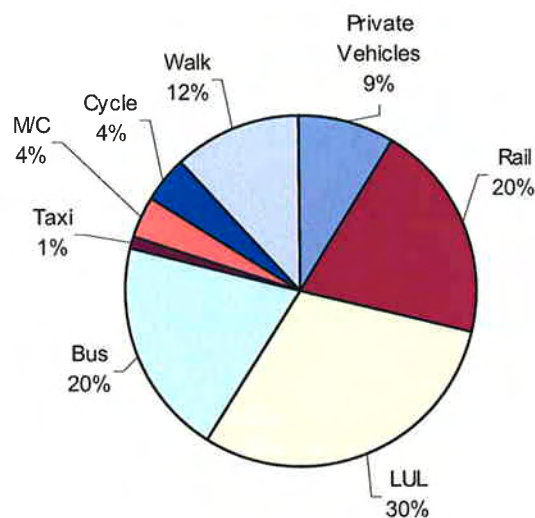
used to provide an indication of the typical modal split for different types of residential journeys both nationally and in the London area.

- 0.5.3** Given the location of Kings Cross Central to the rail, London Underground and London Transport Buses in the area, these figures have been adjusted to reflect a more reasonable level of modal split. The public transport facilities serving the site are location of the site and these are provided below in Table A4.4 below and Figure A4.3

Table A4.4: Overall Modal Split, Residents External Journeys To Work

	Car	Rail	Tube	Bus	Taxi	M/C	Cycle	Walk
Proportion of residential journeys to work	9 %	20%	30%	20%	1%	4%	4%	12%

Figure A4.3: Overall modal split, residents external journeys to work



Residential education trips

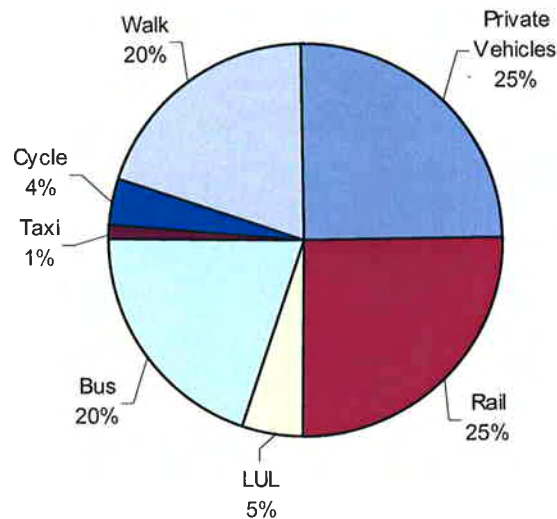
- 0.5.4** Residential education trips were examined as a distinct grouping as the distribution and modal split characteristics of these trips are likely to be different from those for other non-work journey purposes.
- 0.5.5** The demand calculations and distribution of education journeys already account for the substantial number of primary and secondary education trips that are expected to be made within the site to the new schools to be provided as part of the development.

- 0.5.6** The modal split for students and escorts varies both by the age of the student and length of the trip. Students are likely to be escorted where the journey is within Camden or an adjacent Borough; beyond these distances the majority of students will be tertiary students who are unlikely to require escorting.
- 0.5.7** Student journeys within the local area are most likely to be made on foot or by cycle, depending upon the age of the student. However, there will also be an element of car-borne journeys (often because the journey is part of a trip chain by the escort, as noted below). Buses are also likely to play an important role where distances are too great to walk, but reasonably direct connections can be made on the bus route network.
- 0.5.8** By definition, the modal split for the escort will show a higher proportion by car for a given destination, since fewer student journeys made by public transport are likely to be escorted. This is because:
- car journeys are required (or perceived to be required) where the destination is not well served by public transport and therefore for reasons of convenience the car is used and the student is escorted because they need to be driven; or
 - students are escorted by car because the escort is then continuing to another destination for a different trip purpose, and the car is considered to be the most convenient mode for this trip chain.
- 0.5.9** There is also a relationship between student and escort car journeys, since with the exception of some tertiary students, those students travelling by car will generally be driven by another person. The other principal mode for escorted trips is on foot, where students are accompanied over short distances because of their age or concerns about their personal safety and security.
- 0.5.10** The modal forecasts for each destination within the education category take account of these modal choice factors and the relationship between students and escorts travelling by car. The overall modal split for the educational journeys have been based on information contained within the DTLR's Focus on Personal Travel document which is based on the National Travel Survey statistics and the assumed modal split is summarised in Table A4.5 and Figure A4.4.

Table A4.5: Overall Modal Split, External Student & Escort Journeys

	Car	Rail	Tube	Bus	Taxi	M/C	Cycle	Walk
Proportion of external education journeys	25 %	25%	5%	20%	1%	0%	4%	20%

Figure A4.4: Overall Modal Split, External Education Student And Escort Education Journeys



- 0.5.11** 'Focus on Personal Travel 2001' gives average UK modal splits for student journeys and suggests that car borne journeys account for 36% of primary and 19% of secondary student trips. Corresponding figures for journeys on foot are 56% and 43%. Public transport as a whole accounts for 7% and 34% of journeys respectively. These values have been adjusted to give a modal split associated with all educational journeys to/from the site as presented above.

0.6 Residential non-work journeys

- 0.6.1** There are journeys made by site residents for other purposes (personal business, shopping and leisure) that will differ in pattern to work and education trips.

- 0.6.2** Consideration was given to typical modal splits for the other journey trip types including shopping trips, 'other personal business trips and leisure trips for the assessment.

This forecast reflects the principles that:

- journeys made within the local area will include a significant walking and cycling component;
- journeys across the London area are also more likely to be made by public transport; and
- journeys to areas outside London will have a higher car modal share, reflecting a diversity of destinations and routes in this much wider area.

0.6.3 The details, again based on the National Travel survey information are summarised in Table A4.6 below.

Table A4.6: Overall Modal Split, Residents External Non-Work Journeys (Excluding Education)

	Car	Rail	Tube	Bus	Taxi	M/C	Cycle	Walk
Proportion of shopping journeys	10%	20%	25%	15%	1%	2%	5%	22%
Proportion of 'other personal business journeys	12%	30%	20%	15%	2%	4%	2%	15%
Proportion of leisure journeys	20%	20%	30%	18%	2%	1%	4%	5%

0.7 Retail visitors

0.7.1 The modal split for retail visitors was based on the following principles:

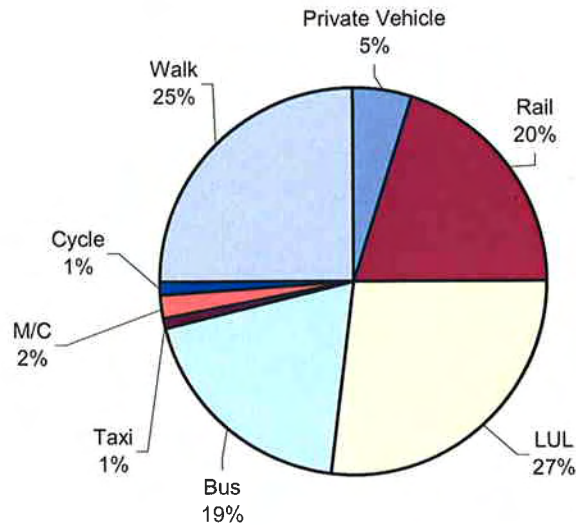
- the role of walking and cycling will be primarily focused on the Kings Cross Central site as the distance that people would be prepared to travel would be relatively short;
- bus access will tend to cater for public transport demands within 3-4 kilometres of the site, with rail access being the dominant public transport mode beyond this distance.
- rail usage is heavily dependent on the coverage of the zone by station catchments and the quality of the service linking the stations to Kings Cross; and,
- car usage is affected by car ownership, the quality of highway linkage, the availability of alternative means of access, and the impact of retail competition.

0.7.2 The information within the Focus on Personal Travel document has been used to determine an overall modal split for retail customers as well as a shopper interview survey carried out at local retail centres (Camden Lock & Covent Garden). A technical note summarising the findings of the shopper interview survey is contained in Annex 1. The assumed retail visitor modal splits used for the transport assessment are shown in Table A4.7 and Figure A4.5.

Table A4.7: Overall Modal Split For Retail Visitor Journeys

	Car	Rail	Tube	Bus	Taxi	M/C	Cycle	Walk
Proportion of retail visitor journeys	5%	20%	27%	19%	1%	2%	1%	25%

Figure A4.5: Overall Modal Split, External Retail Visitors



0.7.3 The figures in Table A4.7 relate to the external visitor projections and discount the activity associated with visitors drawn from the site, who will almost exclusively travel by non-car means to access the facilities from their workplace or home.

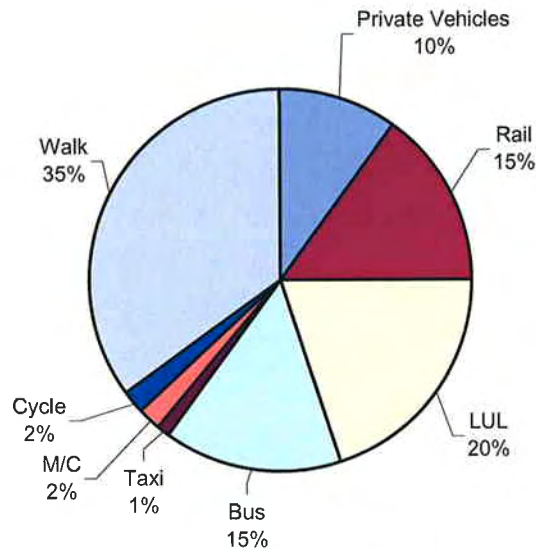
0.8 Leisure visitors

0.8.1 The approach to deriving modal split for leisure visitors followed similar principles to that for the retail visitors. The detail of the leisure development offered at Kings Cross Central is not yet defined. The splits have been based on the retail visitor modal split, but have been adjusted to reflect more walking trips and less bus use. It is expected that the modal split for the walking trips will be higher since the leisure trips will be linked to other nearby leisure/retail shopping centres.

0.8.2 The overall modal split characteristics for the leisure use is shown in Table A4.8 and Figure A4.6 as follows:

Table A4.8: Overall Modal Split, External Leisure Visitors

	Car	Rail	Tube	Bus	Taxi	M/C	Cycle	Walk
Proportion of leisure visitor journeys	10%	15%	20%	15%	1%	2%	2%	35%

Figure A4.6: Overall modal split, external leisure visitors

0.9 Summary

0.9.1 Table A4.9 summarises the modal splits for each of the journey purposes assumed at Kings Cross Central.

Table A4.9: Overall Modal Split By Journey Purpose For External Trips

	Car	Rail	Tube	Bus	Taxi	M/C	Cycle	Walk
Commercial journeys to work	2%	49%	36%	7%	0%	3%	2%	1%
Residential – journey to work	9%	20%	30%	20%	1%	4%	4%	12%
Residential – educational based	25%	25%	5%	20%	1%	0%	4%	20%
Residential – escort educational based	25%	25%	5%	20%	1%	0%	4%	20%
Residential – shopping based	10%	20%	25%	15%	1%	2%	5%	22%
Residential – other personal business	12%	30%	20%	15%	2%	4%	2%	15%
Retail – journey to work	0%	17%	40%	30%	1%	1%	4%	7%
Retail – visitors	5%	20%	27%	19%	1%	2%	1%	25%
Leisure – journey to work	0%	17%	40%	30%	1%	1%	4%	7%
Leisure – visitors	10%	15%	20%	15%	1%	2%	2%	35%

0.9.2 The modal splits for the Main Site development have been applied to the predicted trip generation figures derived in Appendix 3 to give a breakdown of the number of trips in the peak periods for each of the likely modes of transport. The information is provided in spreadsheets in Annex 2.

0.10 Modal Split – The Triangle Site

0.10.1 The assumed modal split for the Triangle site has been assumed to be different from the Main Site since the accessibility to the mainline railway and tube station is reduced. The TRAVL databases have been used to provide an indication of the modal split by private car, walking and the public transport modes. The spreadsheet used to calculate the average modal split for a residential development based on the TRAVL data is provided in Annex 3. Since the volumes of people visiting the site is significantly smaller than the Main Site, it has been assumed that the modal split for the leisure development will be broadly similar to that derived for the residential development. The assumed modal split for the Triangle is summarised below:

Table A4.8: Overall Modal Split, The Triangle

	Car	Rail	Tube	Bus	Walk	M/C/Cycle/Walk
Modal Split for residential & leisure journeys – The Triangle	25%	20%		20%	30%	5%