

**Car park usage at
London
Underground**

09053

April 2010



Confidentiality

Please note that the copyright in the attached report is owned by TfL and the provision of information under Freedom of Information Act does not give the recipient a right to re-use the information in a way that would infringe copyright (for example, by publishing and issuing copies to the public).

Brief extracts of the material may be reproduced under the fair dealing provisions of the Copyright, Designs and Patents Act 1988 for the purposes of research for non-commercial purposes, private study, criticism, review and news reporting.

Details of the arrangements for reusing the material owned by TfL for any other purpose can be obtained by contacting us at enquire@tfl.gov.uk.

Research conducted by Synovate

Contents

1	Executive Summary	4
1.1	Background	4
1.2	Importance of LU car parks to current users	4
1.3	Impact of removing LU car parks	5
1.4	Willingness to cycle	6
1.5	Car park users with disability / impairment, and Blue Badge holders	6
1.6	Car park observation	6
1.7	Conclusion	7
2	Introduction	8
2.1	Research objectives	10
2.2	Notes on reporting	11
2.2.1	Report scope	11
2.2.2	Percentages	11
2.2.3	Statistically significant differences	11
3	Customer Findings	12
3.1	Car park use	12
3.2	Extent of car sharing	17
3.3	Benefits to London Underground	18
3.4	Journey origin and destination	21
3.5	Impact of removing LU car parks	24
3.6	Willingness to cycle	31
3.7	Car park users with a disability / impairment and Blue Badge holders	33
4	Observations of car park usage	34
4.1	Overview	34
4.2	Weekday occupancy	35
4.2.1	Overall	35

4.2.2	Mornings	36
4.2.3	Afternoons / evenings	37
4.3	Weekend occupancy	37
4.3.1	Overall.....	37
4.3.2	Mornings	39
4.3.3	Afternoons.....	39
4	Appendices	40
	Appendix 1 - Analysis of car park users with a disability / impairment and Blue Badge holders	41
A1.1	Car park use and travel profiles.....	41
A1.2	Alternative travel / parking arrangements if car park full.....	43
A1.3	Alternative travel / parking arrangements if car park temporarily closed	44
	Appendix 2 - Research details	46
A2.1	Methodology	46
A2.2	Observations of car park usage.....	47
A2.3	Questionnaire design.....	47
A2.4	Sample.....	48
A2.5	Timing	50
A2.6	Future fieldwork considerations	51
	Appendix 3 - Car park profiling	52
A3.1	Profile of car parks and usage pattern.....	52
A3.2	Car park usage patterns	54
A3.3	Car park user profiles	56
A3.4	Borough demographics.....	58
	Appendix 4 – Survey documents	59
A4.1	Interviewer instructions.....	59
A4.2	Questionnaire	61

1 Executive Summary

1.1 Background

London Underground has 62 car parks with approximately 10,000 spaces. The Underground Users' Survey shows that 2% of LU's customers drive to the station and thus may use LU's car parks as a part of their travel arrangements.¹ Nearly three quarters of customers walk to the station, reflecting the nature of LU's system as a 'local' as opposed to centre to centre transport system.

TfL wants to better understand the views and use of LU's car parks so that it can consider their long term future in the context of London's continuing growth as anticipated within the Mayor's London Plan. Clearly, current users will champion current use patterns as this is what they pay for and enjoy so any re evaluation of use will tend to be seen as withdrawal of a facility. New facilities will attract new users who currently, by their nature as prospective users, are disenfranchised.

1.2 Importance of LU car parks to current users

Current users feel that LU car parks are very important for their access to the London Underground. The findings show a strong preference for the status quo, and reluctance to use alternative modes to travel to the station, such as walking, cycling or local buses. While there may be other options to travel to the Underground, most users choose to drive.

The vast majority (91%) of those interviewed indicate that after parking in the LU car parks they continue the rest of their journey by Tube, with half of them doing so at least three days per week. As expected, there is a clear usage pattern which differs between weekday and weekend users. The weekday users are mostly commuters

¹ This figure varies from station to station. Stations with large car parks sometimes have much higher proportions of car park users among their customers.

who arrive at the car parks at morning peak times (before 10am). The weekend users tend to park between 7am and 4pm for leisure and shopping activities. Overall, however, commuting is the main purpose for using the LU car parks. Therefore, parking spaces are likely to be used once, rather than several times a day.

1.3 Impact of removing LU car parks

Car park users are reluctant to use alternatives such as public transport when travelling to LU stations. People's claimed likely actions if car parks were closed suggest that car use would be pushed to other parts of the road network, e.g. by parking their cars on nearby streets, or making longer car journeys to alternative parking locations. Further separate analysis by TfL will assess how these preferences could be mitigated by policy and other initiatives.

Most people say they find alternative parking when their LU car park is full. Car park users claim to use LU and national rail car parks, and there is also claimed use of parking in nearby roads. Compared with weekdays, if the car park is found to be full at weekends, customers reported that they would seek parking on nearby roads, rather than looking for parking at other locations. It is hard to establish what is the extent of potential demand for car parking and its elasticity and so potential charging rates (for example: If all car parks could be quadrupled in size and reduced their costs to £1/day would they attract new users OR conversely if they reduced in size and double charges would they still be full – this report does not seek to answer or address these options).

This study indicates that closing LU car parks for a prolonged period would be unlikely to trigger much greater use of public transport if no improvements to bus services are made. Most people surveyed, as current 'car' customers are determined to find alternative car parking in such circumstances. Overall, only 6% of car park users say they would use a bus to make their journey to the station, just 7% say they would walk,

and 4% claim they would not make the journey at all. This said, 17% of users would be willing to consider alternatives to using the car.² Women are more likely than men to say they would consider alternatives.

1.4 Willingness to cycle

Recent TfL research shows that 17% of Londoners cycle³. Among car park users, 11% would be willing to cycle to the station if the bicycle parking facilities were improved. Typically, people tend to over-report their willingness to cycle so it is likely that fewer than 11% would actually take up cycling. The main reported barrier to taking up cycling is the distance. While the research did not explore the extent to which people are aware of cycle routes, the origin data collated from this survey could be used to map the cycling distances.

1.5 Car park users with disability / impairment, and Blue Badge holders

4% of car park users had a disability / impairment⁴. 2% were Blue Badge holders. In most cases, the profile of car park use, and the likely travel / parking arrangements that would be made if the car park were full or closed, are broadly comparable with that seen for all car park users. Car park users with a disability and / or Blue Badge holders are not significantly more likely than all car park users to say they would continue to use a car.

1.6 Car park observation

Generally, larger car parks (300+ spaces) have the highest average occupancy rate across all measured times of day. This is higher than that of medium sized car parks (100-299 spaces) for all times of day, and higher than smaller car parks (less than 100 spaces) for all times of day except 8am.

² Would walk, take a bus, get a lift or cycle to the station if the car park was closed temporarily for a period of time

³ November 2009 TfL Regular Research Slot (n=1000 London residents)

⁴ Any long term physical or mental disability which limits the daily activities or the work they can do.

1.7 Conclusion

There seems to be a general reluctance to use alternative modes of transport to Underground stations among current car park users. In terms of communication or marketing, removing car parking facilities is therefore not likely to be well received by the current users. However, this survey did not seek to evaluate the benefits if parks were converted to provide a different blend of facilities which might appeal to a wider audience than currently.

2 Introduction

TfL's car parking assets cover 62 sites, comprising approximately 10,000 parking spaces and covering approximately 25 hectares. The Underground Users' Survey shows that only 2% of LU's customers drive to the station and thus may use LU's car parks as a part of their travel arrangements. However, this figure varies from station to station. Stations with large car parks sometimes have much higher proportions of car park users among their customers.

The Mayor of London has made a commitment to providing new transport infrastructure in London, including upgrades to the existing Underground infrastructure, the introduction of Crossrail and infrastructure required for the delivery of the 2012 Olympics. As well as commitments to infrastructure, London's population is expected to continue growing, requiring more housing. Each borough in London has housing targets that they must meet present economic conditions notwithstanding.

TfL is a public body with a public service remit. As such, it is important that the transport role played by LU car parks is considered in determining their future use (as either a car park or another land use). Car parking facilities at Underground stations, particularly in areas poorly served by public transport, provide access to the Underground network and central London.

Options, beyond the status quo, might include reviewing the nature of LU's stations as urban nodes and so opportunities to create land uses close to excellent public transport which support a lower carbon economy. Other ideas might entail a review of the nature of transport within a station hinterland and so giving greater importance to cycling, local bus, taxi services and electric car parking provision.

As part of the overall assessment process, feedback from customers of these car parks is required, most critically on:

- the importance of the car park for people's access to London Underground (and for movement around London more generally); and
- the potential impact that closing the car park would have on the London road network (e.g. higher traffic volumes, parking on local residential streets etc).

2.1 Research objectives

Specific research objectives and information requirements within this piece of work are as follows:

- Where are users of the LU car parks coming from, and where are they travelling to (i.e. origin and destination)?
- Why are they using the LU car parks?
 - Specifically, are they using LU services from the station?
- When are people arriving at the car parks, and how long are they staying?
- Generally, how often and when do people use the car parks?
- What are people's alternatives to using the car parks?
 - What do people do if the car park is full?
 - What would people do if the car park was temporarily closed?

2.2 Notes on reporting

2.2.1 Report scope

This report covers collated findings across 39 car parks. It seeks to identify general trends in car park use across the sample. It is not intended to provide detailed findings at an individual car park level, but significant differences across different car parks are noted where relevant. Car parks with a base size below 50 are only reported in the overall total commentary and not in isolation. These car parks are:

- Colindale;
- Eastcote;
- Harrow and Wealdstone;
- Hounslow East; and
- South Harrow.

Detailed analysis of the individual car park data – including analysis of origin and destination information – is being conducted separately by TfL.

2.2.2 Percentages

Due to rounding to whole numbers, some percentages do not sum to 100%.

2.2.3 Statistically significant differences

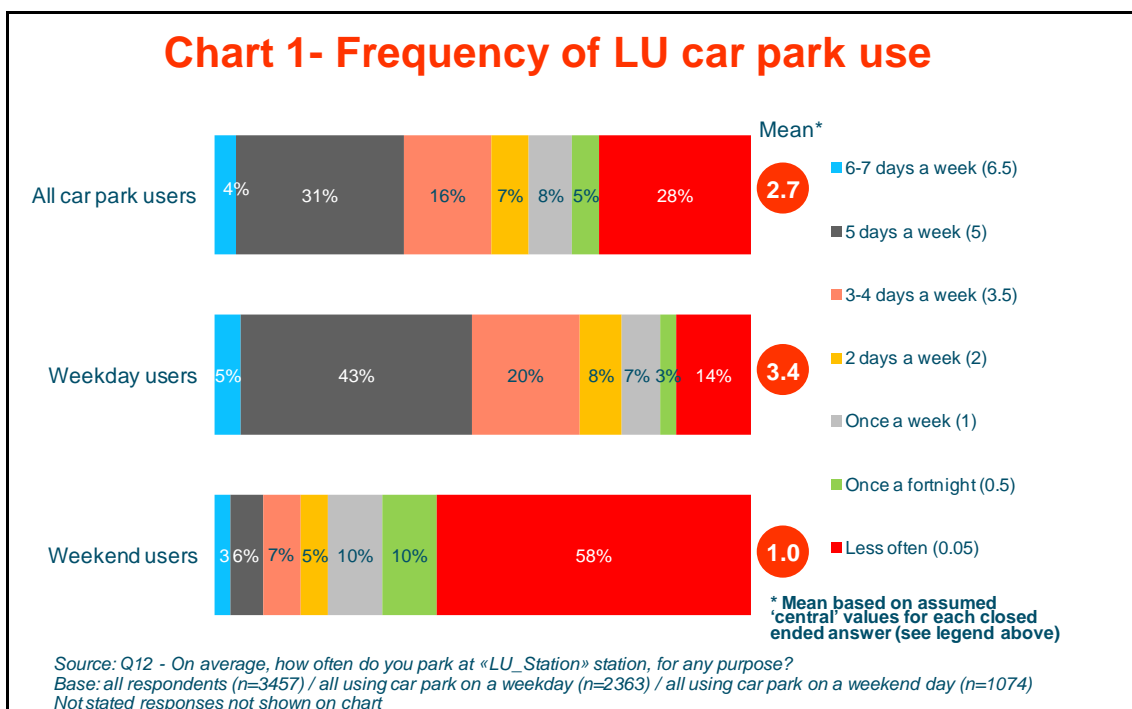
Statistically robust differences (at the 95% confidence level) are reported using the term “significant” or “significantly different”. All other differences may be due to random variation in the data.

3 Customer Findings

3.1 Car park use

On average, LU car parks are used 2.7 times per week, with a half of people using them at least once a week. As shown in Chart 1, there is a clear difference in usage pattern between weekday and weekend users. Those who use the car parks during the week are likely to be more frequent users. Nearly half use the car parks five days or more per week and fewer people use less often than once a month. Frequent weekday users of the car parks are mainly commuting to or from work.

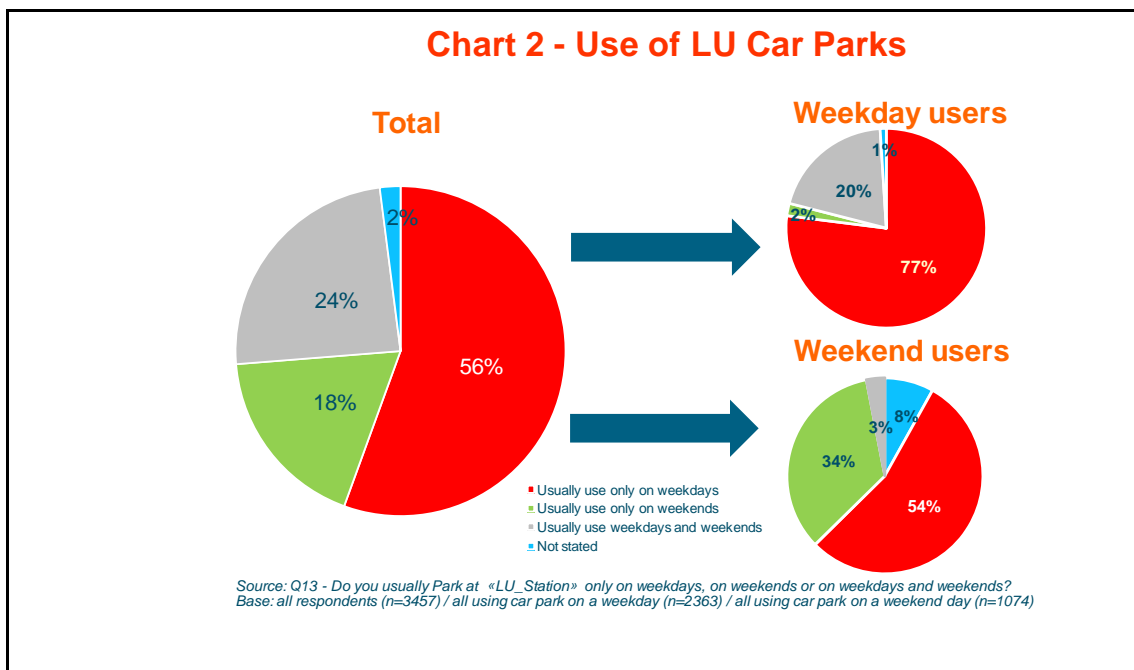
Weekend users are likely to be less frequent users of the car parks. Chart 1 shows that just 9% use the car parks five days or more per week. Unlike weekday users, there is a heavy bias towards those who use the car parks less often than once a month.



Car parks in Zone 6 (43%) have more people who park five days a week or more than those in Zone 3 (36%), Zone 4 (33%) and Zone 5 (32%). Although there are variations by car park, the Zone 6 car parks tend to be also widely used by people who are commuting from destinations outside London.

Overall, over half of people (56%) usually only use the car parks during the week and around one in five (18%) use them exclusively at weekends. A quarter (24%) use the car park both during the weekdays and at weekends. Chart 2 shows that most people interviewed on a weekday only use the car parks during the week (77%). The usage pattern among those interviewed on a weekend is more varied, with a half (54%) only using the car park at weekends and a third (34%) using both weekdays and weekends.

The use of the London Underground is marginally higher among those who used the car park during the week than at weekends (93% vs. 87%).

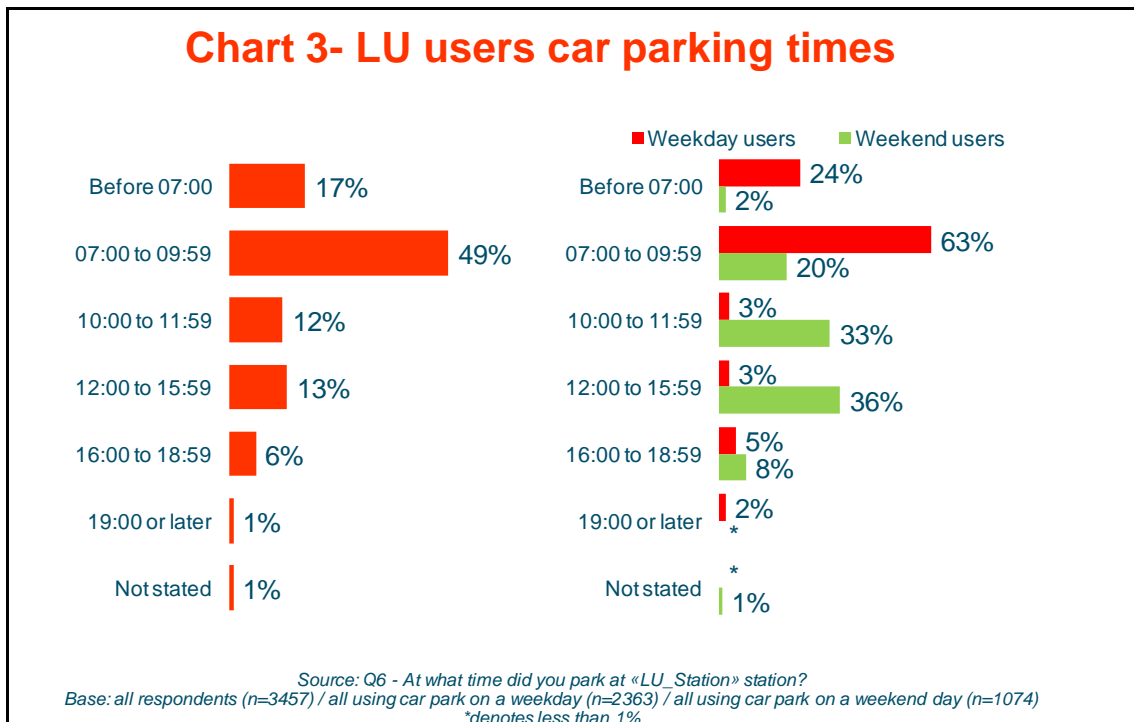


Car parks with significantly higher weekday usage are:

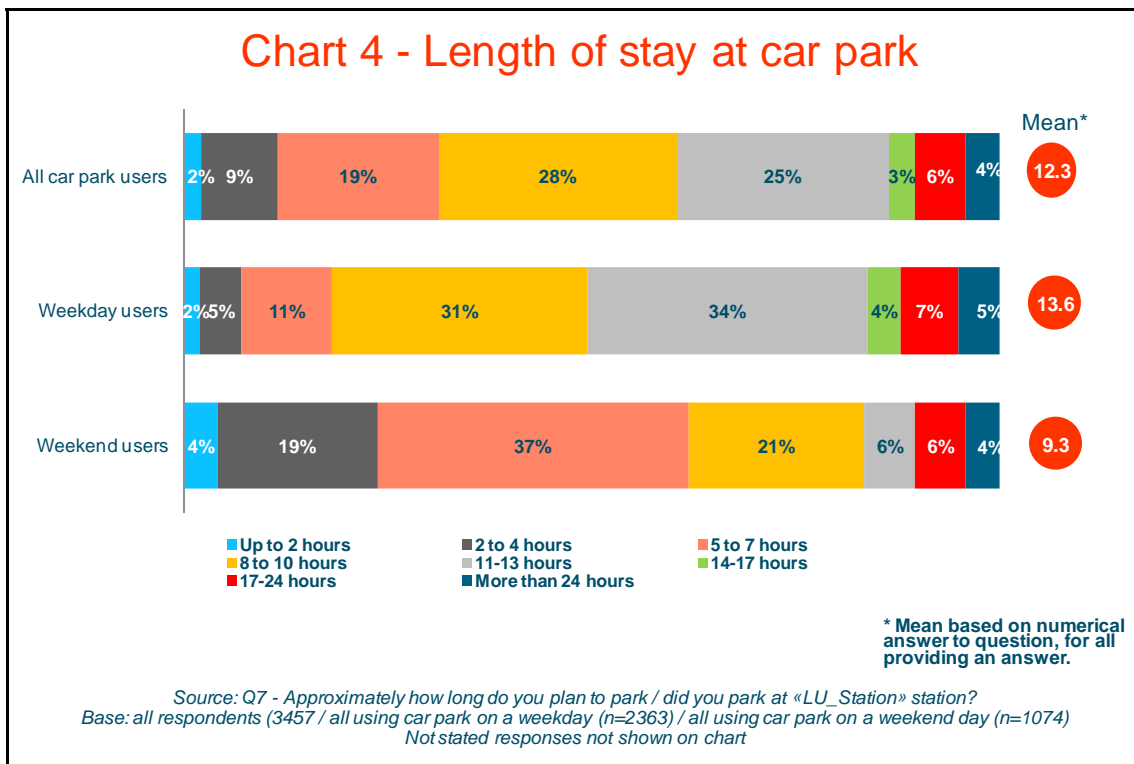
- Ickenham (78% use this car park only on a weekday)
- Barkingside (78%)
- Debden (77%)
- Cannons Park (75%)
- Hounslow West (74%)
- Northwood (72%)
- Chorleywood (71%)
- Croxley (70%)
- Woodside Park (69%)
- Stanmore (68%)

The greatest use of the car parks is at morning peak times, with the busiest period being between 07:00am and 09:59am. Over half of all cars arrive between these times. This is in line with general peak travelling times in London. Chart 3 shows that while the car parks are used throughout the day, use is far greater in the mornings. As the day progresses, fewer people park at the LU car parks. This may be in part due to the fact that most spaces would be taken by those arriving earlier or less demand after the morning peak times. As shown earlier, a high proportion of users park to commute to or from work, so it is in line with the car park usage.

When we look at the usage pattern between weekday and weekend users, there are clear differences. Nearly nine in ten (87%) weekday users arrive at the car park before 10am, while three quarters (77%) of weekend users arrive after 10am.



In line with the main use of the car parks (parking to commute), Chart 4 shows that most people park for between 8hrs to 13 hrs. There are some people who are using the car parks for short periods (less than 4 hours) and at the other extreme, for longer times (20 hours or more). In fact 4% of people indicated that they parked for more than 24 hours. This said, it is worth noting that overall, the length of stay is in line with the reported intended purpose of the journey (to commute to and from work).



3.2 Extent of car sharing

Nearly all (99%) people using the car park on the day of interview were driving a car, van or minibus and 1% were riding a motorbike. Overall, four in ten had travelled to the car park with another person while six in ten were alone. The car parks with a significantly lower incidence of car sharing are:

- Barkingside (80% travelled alone);
- Chorleywood (71%);
- Debden (72%);
- Hounslow West (71%);
- Northwood (67%);
- Theydon Bois (69%).

Car sharing is less common among weekday users, 71% of whom had travelled alone, while 32% of weekend users travelled alone. This difference in pattern may be a result of the fact that weekday users are primarily commuters travelling mainly at morning peak times, while weekend car park users are mainly travelling for leisure or shopping activities.

Table 1 Extent of car sharing	Total	Weekday	Weekend
None	59%	71%	32%
One	26%	22%	35%
Two	9%	4%	19%
Three or more	5%	1%	12%
Not stated	1%	1%	1%

Source: Q3 How many passengers were travelling with you?

Base: all respondents (n=3457) / all using car park on a weekday (n=2363) / all using car park on a weekend day (n=1074)

3.3 Benefits to London Underground

At one level, LU's car parks are benefiting London Underground as on the whole they are being used for their intended purpose. However, it must be remembered that only 2% of LU's customers use this ancillary facility. If TfL is to promote modal shift in getting to its stations, there will need to be a trade off between convenience for current users and opportunities to deliver wider gains and carbon reduction. The majority of people (91%) indicated an intention to continue their journey on the Underground. Those who parked on a weekday are even more likely to continue their journey on the Underground than those who used the car park on a weekend (93% vs. 87%). Responses indicate that demand from users is very inelastic. Therefore, we can infer that charging regimes are perceived as acceptable for the convenience.

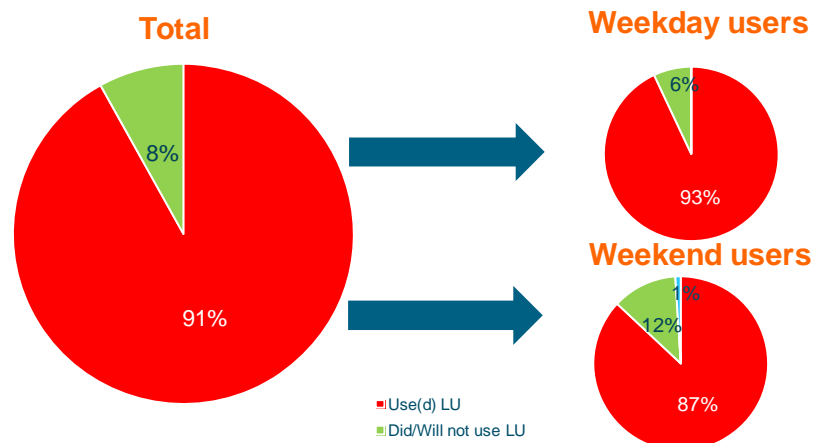
Car parks with an almost universal use (98% or above) of people intending to continue their journey on the London Underground are:

- Buckhurst Hill (99%);
- Ickenham (98%);
- Loughton (98%);
- Cannons Park (98%);
- Epping (98%);
- Hornchurch (98%).

Car parks with a higher than average proportion of people saying they would *not* be continuing their journey on the London Underground are:

- Rayners Lane (26%);
- Barkingside (22%);
- North Greenwich (18%);
- Oakwood (16%).

Chart 5- Use of London Underground



Source: Q9 - Do you plan to travel / did you travel on the Underground from «LU_Station» today?
Base: all respondents (n=3457) / all using car park on a weekday (n=2363) / all using car park on a weekend day (n=1074)

As shown in Table 2, those using smaller car parks (100 spaces or fewer) are less likely to continue their journey on the Underground than those using larger car parks. People using car parks at stations which interchange with rail were less likely to use the Underground than those car parks just serving the Underground. This said, overall use of London Underground is still very high for all groups.

Table 2 Use of London Underground	Yes	No
Total	91%	8%
400+ car parking spaces	92%	7%
100-399 car parking spaces	93%	7%
Under 100 car parking spaces	85%	14%
Interchange stations	86%	13%
Non-Interchange stations	92%	8%
<p><i>Source: Q9 - Do you plan to travel / did you travel on the Underground from «LU Station» today? Base: all respondents (n=3457) / Car park size 400+ (n=828)/ Car park size 100-400 (n=2011) Car park size 100 or less (n=618)/ Railheads (n=418)/ Ann non-railheads (n=3039)</i></p>		

3.4 Journey origin and destination

Most car park users indicated that on the day they were interviewed, their journey had begun at home (72%) and one in six (16%) had travelled from work to get to the car park. As shown in Chart 6, there are some significant differences between weekday and weekend users. Those travelling on a weekday are significantly more likely to say their journey had originated from home or work than weekend users.

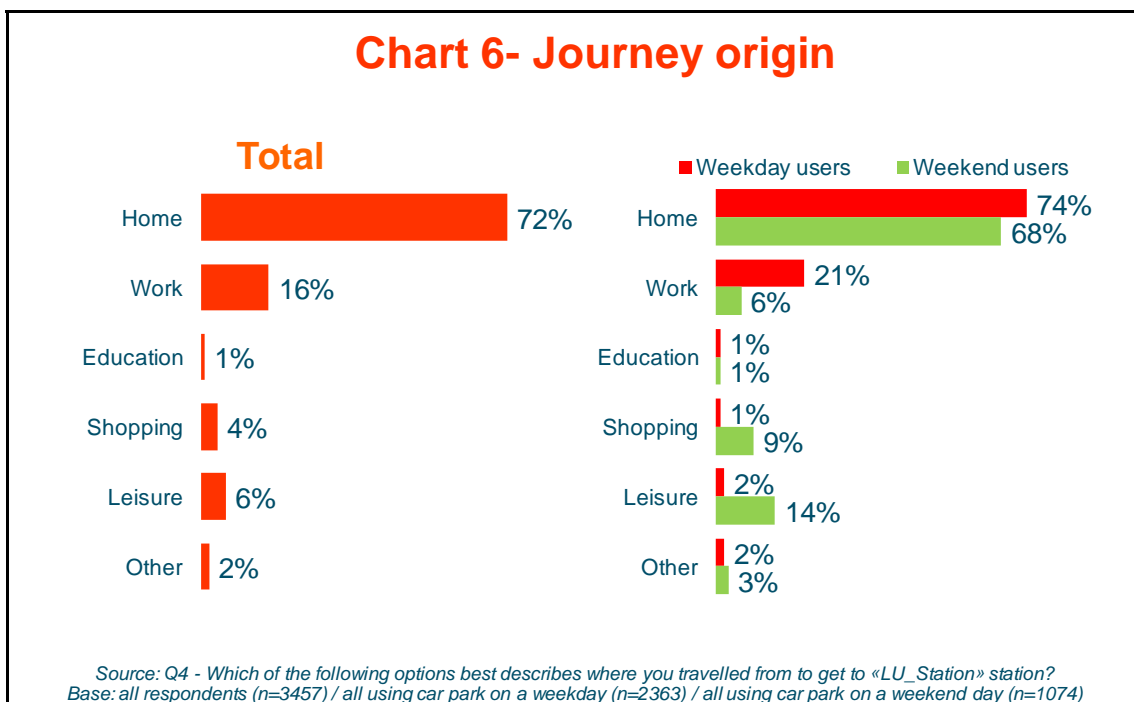
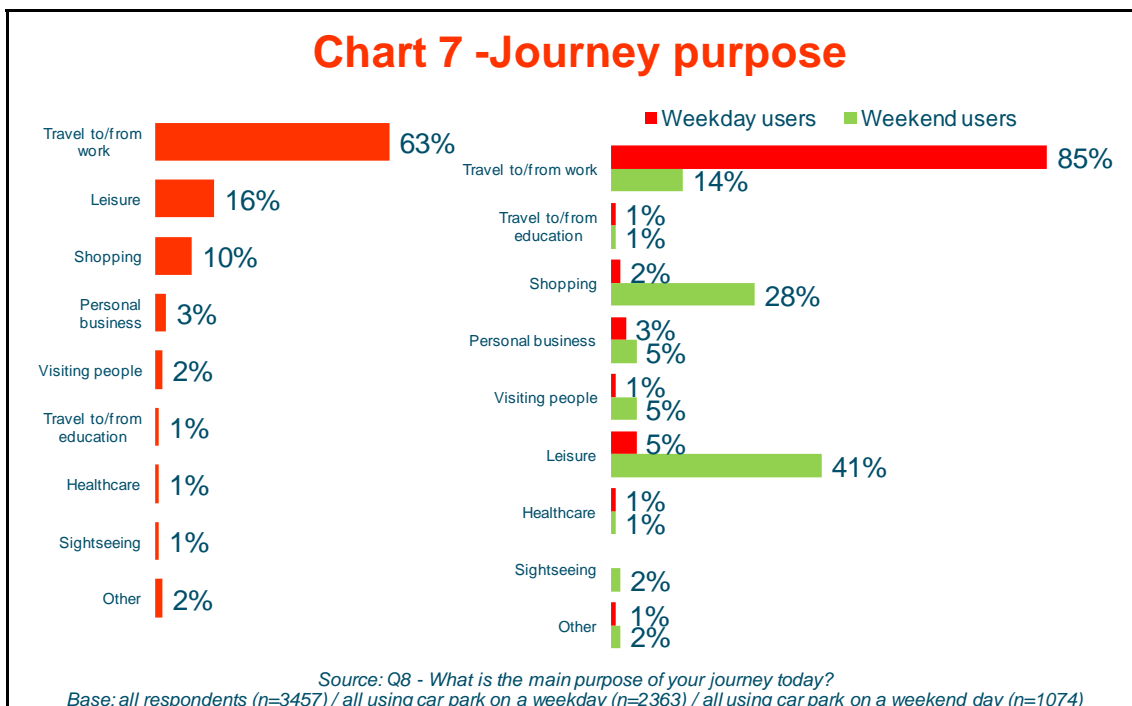


Table 3 Journey origin and destination		
Journey Origin	Destination	%
Home (72% of all car park users)	To/from work	65%
	Leisure	15%
	Shopping	9%
	Other	11%
Work (16% of all car park users)	Work	92%
	Leisure	3%
	Shopping	1%
	Other	3%

Source: Q4 - Which of the following options best describes where you travelled from to get to «LU Station» station? Base: all respondents (n=3457) / all travelling from home(n=2485) / all travelling from work (560)

As has been demonstrated thus far, people commuting to or from work are the largest users of LU car parks. Chart 7 shows that around two thirds (63%) were on their way to work.



Overall, one in six (16%) use the car park to access leisure pursuits and one in ten (10%) for shopping. All other activities (shown in Chart 7) are mentioned by 3% or fewer people.

People using LU car parks on a weekday are significantly more likely to be on their way to work (85%, compared to just 14% of weekend users). Weekend users mainly use the car parks to access leisure pursuits (41%) or for shopping purposes (28%).

3.5 Impact of removing LU car parks

To assess the impact of removing car parks, customers were asked both how a closure would affect them and what they would do currently if the car park were full.

Looking at responses about full car parks first, a third (31%) of car park users say they can always get a space to park at that LU car park.

Generally, there is a heavy reliance on cars. Just 6% of people would return home and find an alternative way of making their journey if they find the LU car park full. Overall, over half of LU car park users would find alternative parking if the car park is full (Chart 8 shows alternative parking that would be used). Just 3% would drive for their whole journey. So although there is a reluctance to drive back home and find alternative ways to travel to the station, few people would drive for their whole journey. We can infer that deterrents like the congestion charge, the higher volume of traffic at peak times and parking availability and fees could be stopping people from driving for their entire journey.

As shown in Chart 8, those who would find alternative parking spaces say they are likely to park in a nearby street (24%). While it was not within the remit of this research to explore the impact on the wider area, we can assume that there would be fewer spaces for residents due to the increased use. Car parks which have the greatest impact on nearby roads when they are full (which are generally smaller car park) are:

- Oakwood (113 spaces and 46% would park in a nearby street);
- Hornchurch (55 spaces and 42%);
- East Finchley (96 spaces and 41%);
- Woodside Park (77 spaces and 35%);
- Osterley (89 spaces and 34%);
- Snaresbrook (99 spaces and 33%).

One in six (16%) users say they would park at another LU station when they find their LU car park full. Again, although not within the scope of this research, we can assume that the use of another LU car park can result in people who are local to that car park being forced to find alternative parking, including on nearby roads. Therefore, the problem of increased use of parking in nearby roads is likely to be moved to other areas as a result of people using other LU stations. Car parks with a significantly higher than average proportion of users saying they would park at another LU car park are:

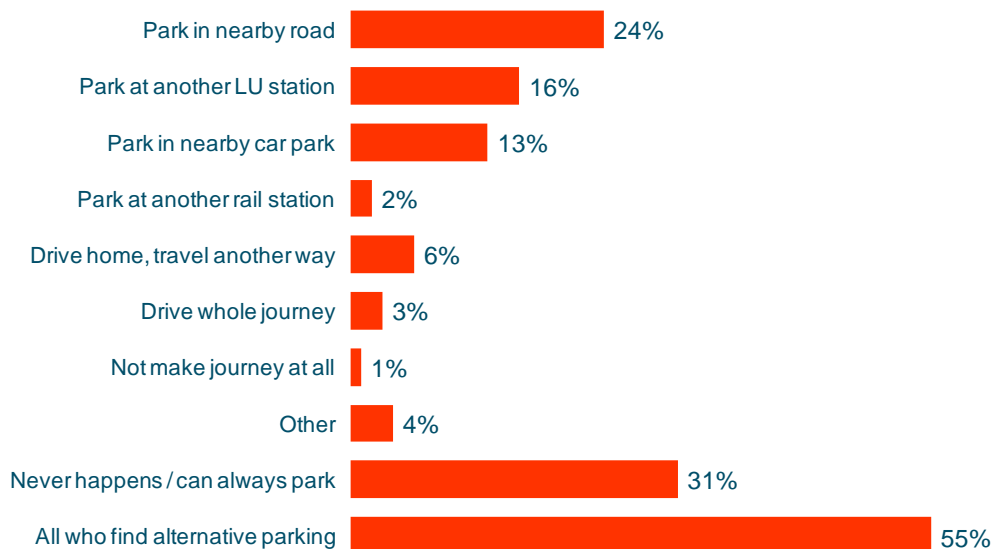
- Oakwood (46% would park at another LU car park) – the LU car park most likely to be used as a substitute is Cockfosters
- Woodside Park (35%) – the most likely substitute is High Barnet*
- High Barnet (34%)– the most likely substitute is Woodside Park*
- Osterley (34%) – the most likely substitute is Hounslow East
- Snaresbrook (33%) – the most likely substitute is South Woodford
- Cannons Park (30%) – the most likely substitute is Stanmore
- Barkingside (27%) – the most likely substitute is Newbury Park

*=these are the reverse of each other.

Overall, around one in eight (13%) say they would park at nearby car parks (non LU). The research did not map the car parking facilities available in the areas local to the LU station used by car park users. Therefore the car parks with a higher than average proportion of people saying they would park at a nearby car park may be ones with other parking facilities that are local and allow people easy access to the Underground. Those with a high proportion of people who say they would park at a nearby car park when the LU car park is full are:

- Buckhurst Hill (44% would park at a nearby car park);⁵
- North Greenwich (38%);
- Woodford (29%);
- Newbury Park (29%);
- South Woodford (24);
- Northwood (22%).

Chart 8- Other parking options (if car park is full)

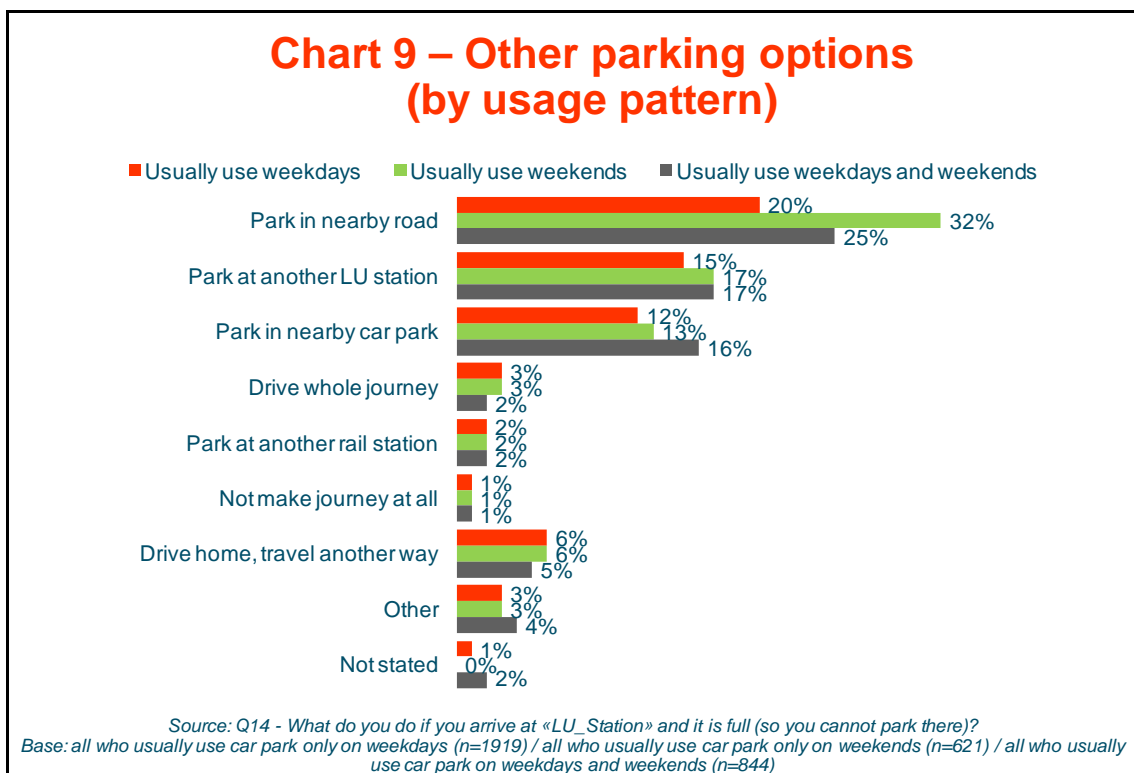


Source: Q14 - What do you do if you arrive at «LU_Station» and it is full (so you cannot park there)?
 Base: all respondents (n=3457)

Those who say they mainly use the car park on weekdays are more likely than those who use it mainly on weekends to say they always get a parking space. As shown in Chart 9, the greatest strain on nearby roads is from weekend users; a third (32%) say they would park in a nearby road (compared to 20% of weekday users). One of the

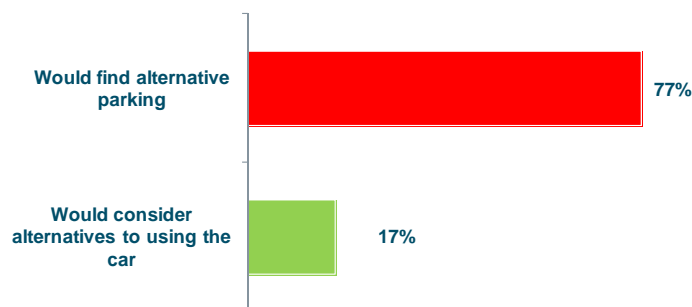
⁵ Buckhurst Hill has two car parks serving the LU station. It is possible that at least some of the respondents who said they would park at a nearby car park referred to the other Buckhurst Hill car park.

reasons for this could be the cessation of on-street parking restrictions on Saturdays and Sundays in some areas. Most weekend users are making their journey for leisure or shopping purposes and, as has been shown earlier, most (87%) go on to use the Underground.



Prolonged closure of LU car parks (a few weeks) would not appear to encourage much greater use of buses or walking to the station. However, there are some people who would be willing to consider alternative ways to travel to the station. As shown in Chart 10, 17% of car park users would be willing to consider alternatives to using the car to travel to the station if the car park is temporarily closed. The only key differentiator between this group of people and those who are not willing to consider alternatives is that those willing to consider alternatives are significantly more likely to be female (than male).

Chart 10 – Parking alternatives (if LU car park is temporarily closed)

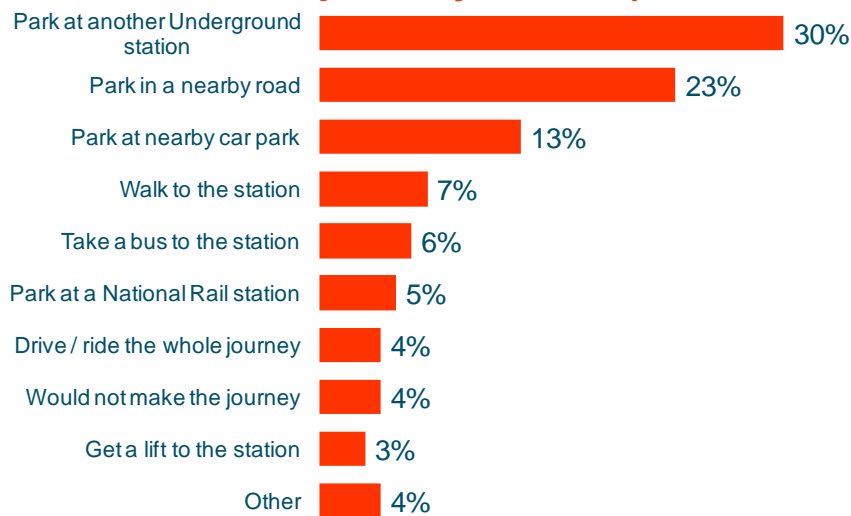


*Q15 - What would you do if the car park at «LU Station» was temporarily closed
Base: Would find alternative parking (n=2669) / Would consider alternatives to using the car (n=600)
Those who would consider alternatives to using the car say they would walk,
take a bus, get a lift, cycle or take a taxi, minicab to the station
Other and not stated not shown on chart*

Looking at those who are willing to consider alternatives if the LU car park is temporarily closed, Chart 11 shows that overall, 6% would use the bus to get to the station, 7% would walk, 3% would get a lift, 1% would take a taxi and fewer than 1% would cycle to the station.

The fact that 7% of car park users say they would walk suggests that although some people live within a walkable distance to the station, they are still choosing to drive. Those who are most open to walking are likely to be people who say they can always get parking. This finding suggests that this group has thus far not faced barriers to driving their vehicle to the station. However, it seems that they would be the most likely to change their behaviour if LU ceased to offer parking facilities.

Chart 11- Parking alternatives (if LU car park is temporarily closed)



Source: Q15 - What would you do if the car park at «LU_Station» was temporarily closed (e.g. if it was not possible to park there for a few weeks)?
Base: all respondents (n=3457)

Car parks with a significantly higher proportion of people who would walk if it was temporarily closed for a period of time are:

- Snaresbrook (20% would walk if this car park was closed);
- Chorleywood (15%);
- Finchley Central (15%);
- East Finchley (13%);
- Eastcote (13%).

Three in ten (30%) say they would park at another Underground station, a quarter (23%) would park in a nearby road, 13% would use a nearby car park while 4% would drive the whole journey. Car park users in Redbridge, Stanmore, Finchley Central and Hillingdon are twice as likely as users of all other car parks to say that they would drive

for the whole journey (8% vs. 4% overall total). This is likely to have an impact on the congestion of the roads, particularly at morning peak times when most car park users begin their journey.

Four in ten of those who say they would drive for their whole journey if they find the LU car park full, also say they would drive for the whole journey should the car park ever be temporarily closed for a period of time. These people are more likely (than other car park users) to be travelling for work purposes. They are also more likely to be users of the larger car parks included in the survey. It would seem that this group is heavily dependent on their cars and changing their behaviour may be difficult.

Although 30% of users say they would park at another LU car park if the car park is temporarily closed for a period of time, as has been shown earlier in this section, just 16% actually park at another LU car park when they find the car park full. Nearby roads are the most used parking alternative when people find the car park full (24%). A similar proportion of users (23%) say if the car park is closed for a period of time they would park on nearby roads. 13% currently park in nearby non-LU car parks when the car park is full and the same proportion say they would use this alternative if the car park was closed for a period of time. Currently, just 6% of car park users go home and find alternative ways to travel when they find the car park full. However, if the car park were to be temporarily closed for a period of time, 17% say they would find alternative ways to travel to the station. This finding suggests that a prolonged closure of the car parks would force a small, but significant proportion of people to give up driving to the station.

The greater than normal unsolicited emails and comments sent to Synovate (greater than normal compared to the amount usually received for any average survey on any topic) expressing concern about the possible closure of LU car parks by users show that there is potentially great strength of feeling on the subject (despite care taken in the survey to position closure as temporary).

3.6 Willingness to cycle

As has been shown thus far, there is a reluctance by current car drivers to use other modes of transport to the Underground. When asked if they would consider cycling to the station if there were improved facilities to park a bicycle, one in ten (11%) car park users said they would consider it. Other TfL data shows that 17% of Londoners cycle at least once a year and 24% of Londoners would be willing to consider cycling in the future.⁶ The seemingly low willingness to consider cycling demonstrated in this survey may be in part due to the fact that the research targeted active car users. Willingness to cycle among car park users - at least for this journey (travelling to the station) - is significantly lower than the London average.

It is also worth noting that people tend to over report their willingness to cycle. It is likely that the proportion of LU car park users who would actually take up cycling would be lower.

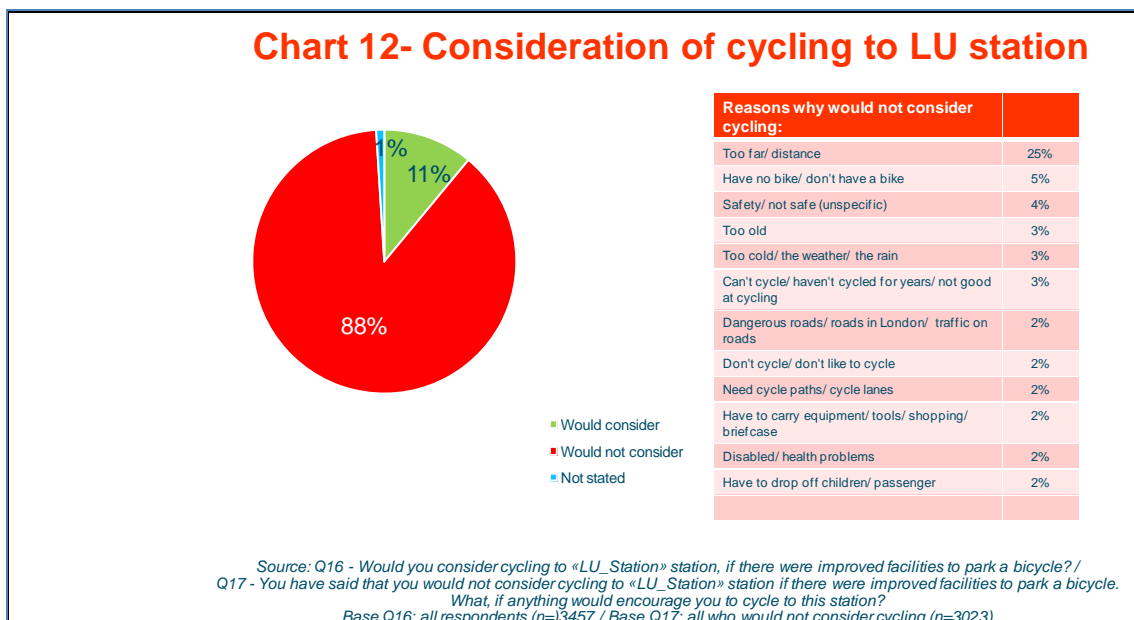
The most salient barrier to taking up cycling to the station is distance. A quarter (25%) felt the distance would be too far for them, this was the most mentioned reason why people would not consider cycling. Within the confines of the current survey, we have not been able to drill into more specific origin data to establish whether the availability of car parking facilities encourages more distant users to drive to a LU car park rather than get on the public transport system closer to their originating destination (there is some evidence that car parks can attract customers from considerable distances or in locations (Epping) where the alternative may be at a higher car parking and transport cost (Harlow)).

5% would not be encouraged to cycle as they do not have a bicycle and 4% would be encouraged if it was safer. While the question was phrased about what would

⁶ March TfL Regular Research Slot (n=1007 London residents) & November 2009 TfL Regular Research Slot (n=1000)

encourage you to cycle, most answers were framed in the negative – all these responses to taking up cycling are shown in Chart 12.

Four in ten could not say what, if anything would encourage them to cycle.



3.7 Car park users with a disability / impairment and Blue Badge holders

4% of car park users had a disability / impairment.⁷ 2% were Blue Badge holders.

In most cases, the profile of car park use, and the likely travel / parking arrangements that would be made if the car park were full or closed, are broadly comparable with that seen for all car park users. In particular, most use London Underground after parking, and most would continue to drive / find alternative parking if the car park was full or unavailable. Moreover, car park users with a disability and / or Blue Badge holders are not significantly more likely than all car park users to say they would continue to use a car.

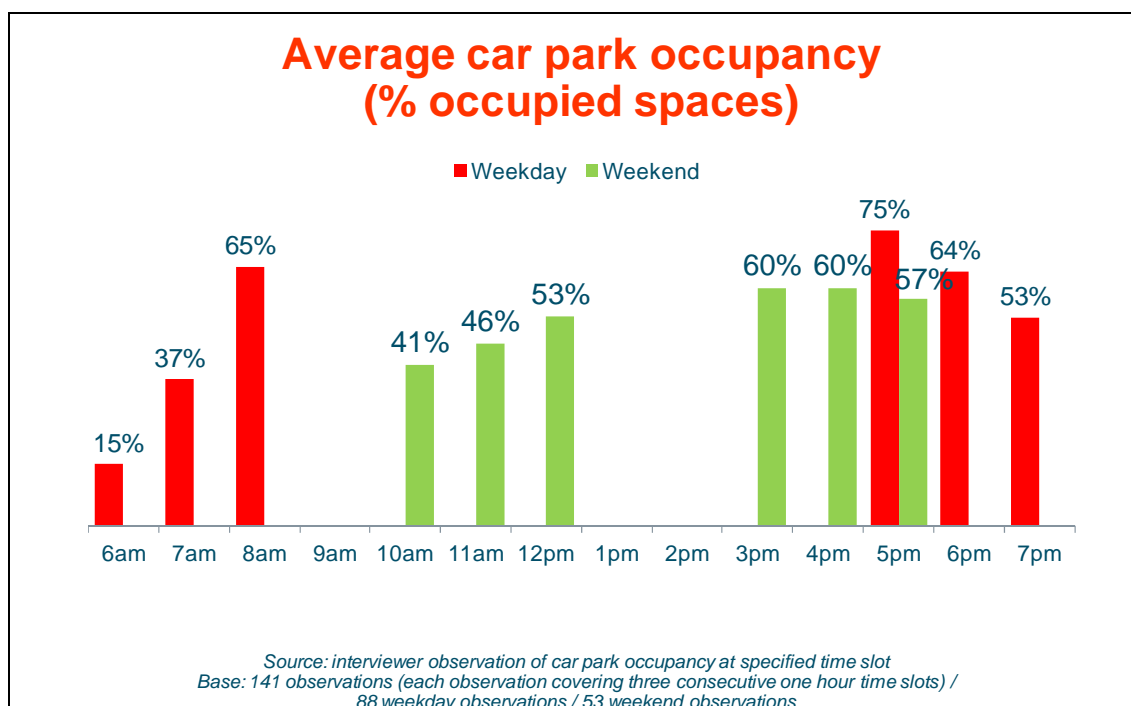
A detailed analysis of these variations is attached as Appendix 1.

⁷ Any long term physical or mental disability which limits the daily activities or the work they can do.

4. Observations of car park usage

4.1 Overview

Interviewers were required to conduct a count of available car parking spaces at designated times (6am, 7am, 8am on weekday morning shifts; 5pm, 6pm and 7pm on weekday afternoon/evening shifts; 10am, 11am 12pm on weekend morning shifts; 3pm, 4pm and 5pm on weekend afternoon shifts). Where more than one type of shift was conducted at a particular car park (e.g. two weekday morning shifts), results have been averaged for each specific time period.



4.2 Weekday occupancy

4.2.1 Overall

Occupancy increases during the morning, and significantly between 7am and 8am. Occupancy is largely maintained until 5pm, and reduces significantly after 6pm.

Overall, only 11 car parks were observed to be effectively full at some point on a weekday when interviewing was conducted:

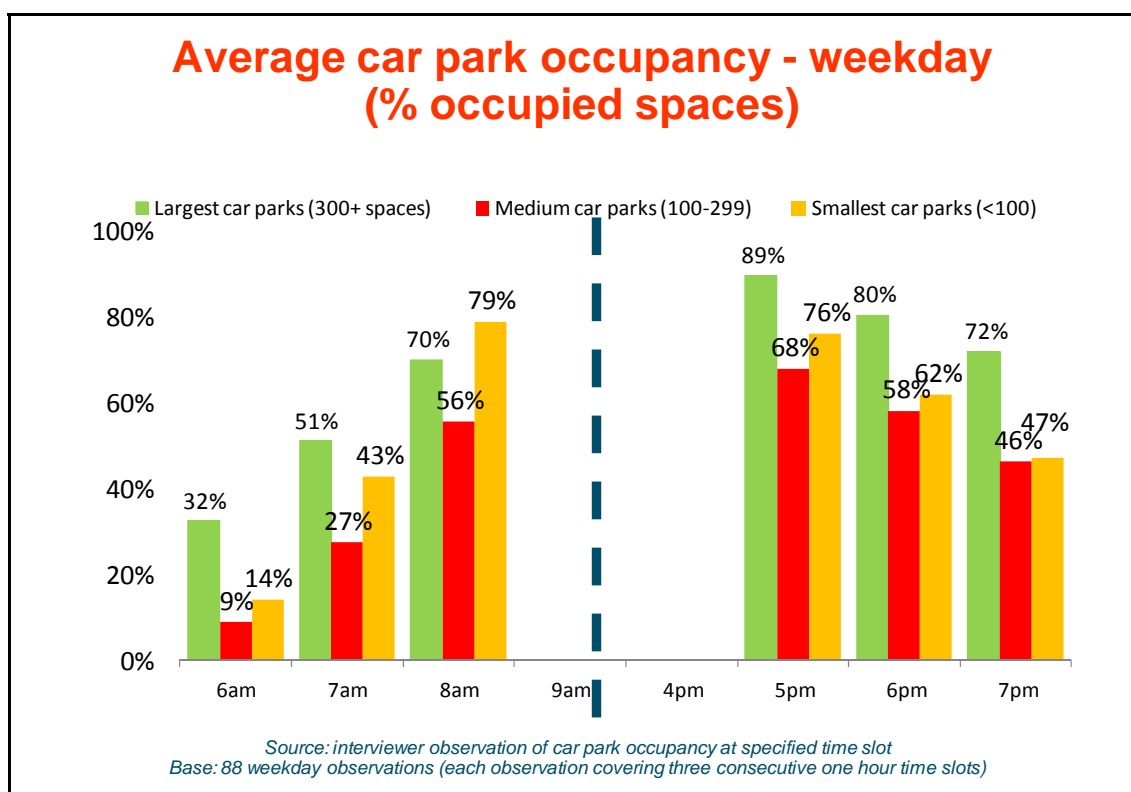
- Redbridge (peak 99% occupancy at 8am and has 147 car parking spaces);
- Newbury Park (98% at 8am – 459 spaces);
- Theydon Bois (98% at 8am – 65 spaces);
- Cockfosters (98% at 5pm – 430 spaces);
- Buckhurst Hill (97% at 8am – 120 spaces);
- Eastcote (96% at 8am – 50 spaces);
- Hounslow West (94% at 5pm - 425 spaces);
- Loughton (93% at 5pm – 288 spaces);
- Debden (92% at 8am – 190 spaces);
- Arnos Grove (91% at 5pm – 306 spaces);
- Colindale (90% at 5pm – 21 spaces).

It is notable that many of these car parks are serving Central Line stations to the east of Greater London. The average size of these eleven car parks is significantly higher than the overall average car park size of all those measured.

Generally, larger car parks (300+ spaces) have the highest average occupancy across all measured times of day. This is higher than that of medium sized car parks (100-299 spaces) for all times of day, and higher than smaller car parks (less than 100 spaces) for all day parts except 8am.

Only four car parks were never observed to be more than half full during weekdays:

- Chorleywood (maximum 49% occupied, peak at 5pm and has 238 car parking spaces);
- Hillingdon (43% at 8am – 283 spaces);
- South Harrow (42% at 8am – 73 spaces);
- East Finchley (37% at 8am – 267 spaces).



4.2.2 Mornings

No car parks were full at 6am. Only one (Cockfosters, a large car park) was more than half full at 6am.

One car park (Buckhurst Hill) was effectively full (<10% free spaces) by 7am. In total, eight car parks were more than half full by 7am. These included three of the largest car parks: Epping, Cockfosters, Arnos Grove).

Occupancy increases significantly between 7am and 8am. Six car parks were effectively full by 8am. A further four had between 10% and 20% free spaces. In total, 21 car parks were more than half full by 8am.

4.2.3 Afternoons / evenings

Six car parks were effectively full at 5pm. Only one of these (Buckhurst Hill) was also effectively full in the morning, but all but one of these were at least half full in the morning. A further seven car parks had between 10% and 20% free spaces available at 5pm. In total, 21 car parks were more than half full at 5pm.

Occupancy reduces somewhat by 6pm, with only one car park effectively full (Cockfosters), four others with between 10% and 20% free spaces, and a total of 18 more than half full.

Occupancy reduces significantly between 6pm and 7pm. Only one car park (Arnos Grove) is effectively full between 6pm and 7pm, three more have between 10% and 20% free spaces, and a total of 13 car parks are more than half full.

4.3 Weekend occupancy

4.3.1 Overall

On average, the car parks are less occupied on weekends compared with weekdays.

Car park occupancy increases steadily from 10am through to 12pm. Occupancy is slightly higher during the afternoon hours (3pm to 5pm), and reduces slightly during this time period.

In total, 8 car parks were observed to be effectively full at some point on a weekend when interviewing was conducted:

- Osterley (peak 98% occupancy at 3pm and has 135 car parking spaces);
- Snaresbrook (98% at 3pm – 110 spaces);
- Arnos Grove (96% at 11am – 306 spaces);
- Redbridge (96% at 12pm – 147 spaces);
- High Barnet (95% at 3pm – 207 spaces);
- Epping (92% at 5pm – 518 spaces);
- Cockfosters (90% at 12pm – 430 spaces);
- Colindale (90% at all times measured – 21 spaces).

In total, 9 car parks were never observed to be more than half full:

- Rayners Lane (maximum 8% occupancy at 12pm and has 244 car parking spaces);
- Hornchurch (11% at 12pm – 68 spaces);
- Debden (15% at 12pm – 190 spaces);
- Chalfont & Latimer (36% at 12pm – 487 spaces);
- Ruislip (36% at 5pm – 154 spaces);
- Chorleywood (38% at 10am – 238 spaces);
- North Ealing (41% at 12pm – 95 spaces);
- Loughton (45% at 4pm – 288 spaces);
- Finchley Central (50% at 3pm – 262 spaces).

There is no clear reason why these car parks should have been observed to have relatively low occupancy: they include larger and smaller car parks, across a range of different London areas.

4.3.2 Mornings

Two car parks (Arnos Grove, Colindale) were effectively full (<10% free spaces) at 10am. In total, 10 car parks were at least 50% occupied by 10am.

Three car parks (Arnos Grove, Colindale, Osterley) were effectively full at 11am. In total, 13 car parks were at least 50% occupied by 11am.

Five car parks (those mentioned above, plus Redbridge and Cockfosters) were effectively full at 12pm. In total, 16 car parks were at least 50% occupied by 12pm.

4.3.3 Afternoons

Five car parks (Snaresbrook, Arnos Grove, High Barnet, Epping, Osterley) were effectively full at 3pm. In total, 10 car parks were at least 50% occupied by 3pm.

Four car parks (Snaresbrook, Arnos Grove, High Barnet, Colindale) were effectively full at 4pm. In total, 9 car parks were at least 50% occupied by 4pm.

Three car parks (Arnos Grove, Epping, Colindale) were effectively full at 5pm. In total, 9 car parks were at least 50% occupied by 5pm.

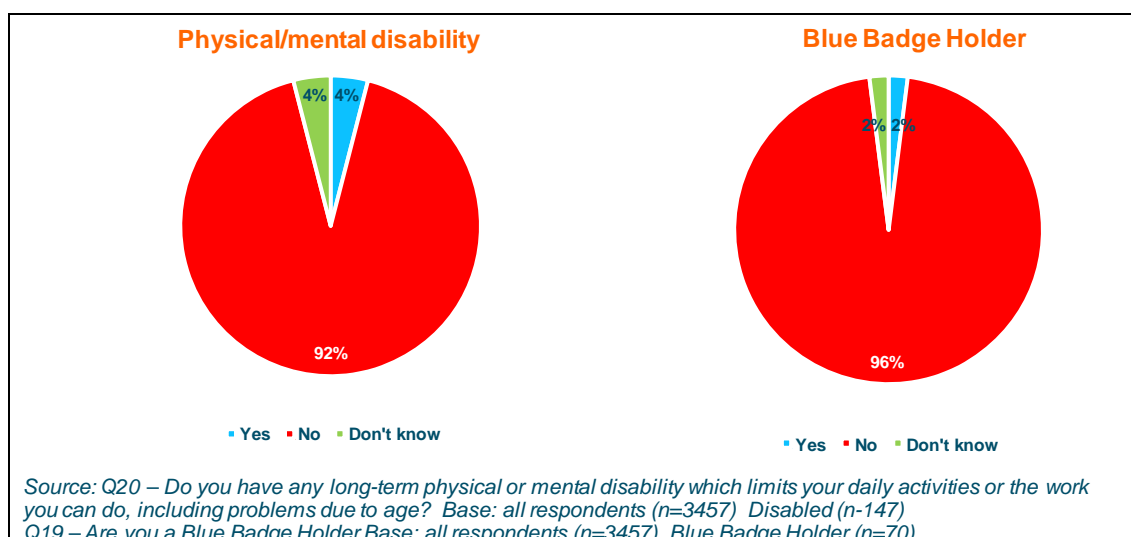
4 Appendices

Appendix 1 - Analysis of car park users with a disability / impairment and Blue Badge holders

A1.1 Car park use and travel profiles

4% of car park users had a disability⁸. Of these, 93% went on to use the London Underground, in line with all car park users. Just over half (55%) travelled on their own, also in line with all car park users (of which 59% travelled alone).

2% of car park users were Blue Badge holders. 94% of these went on to use the London Underground, in line with all car park users. Half were travelling alone, slightly but not significantly lower than the proportion of all car park users who travelled alone (59%).



The main journey purpose for those with a disability is for work (52%). This is lower than the overall proportion of car park users who were travelling for work purposes (63%).

⁸ Any long term physical or mental disability which limits the daily activities or the work they can do.

The main journey purpose for Blue Badge holders is work (36%). This is lower than the overall proportion of car park users who were travelling for work purposes (63%). A quarter (27%) of Blue Badge holders travelled for leisure purposes. This is higher than the proportion of all car park users travelling for leisure purposes (16%).

On average, car park users who have a disability use the car park 2.6 times per week, in line with the overall use of car parks (average 2.7 times per week). On average, Blue Badge holders use car parks less frequently, with an average of 2.1 times per week. Usage for both groups is fairly evenly spread across both weekends and weekdays.

A1.2 Alternative travel / parking arrangements if car park full

If the car park was full upon arrival, 24% of those with a disability and 31% of Blue Badge holders stated that they were most likely to park in a nearby road. The same proportion with a disability also stated that this never happens and they are always able to find a space, whilst 20% of Blue Badge Holders claimed this also.

If Car park full upon arrival	Physical/mental disability (n=147)	Blue Badge Holder (n=70)
Never happens – can always park	24%	20%
Park in a nearby road	24%	31%
Park at another Underground station (Please specify which station)	16%	14%
Park at nearby car park	11%	7%
Return home and travel another way	13%	11%
Drive / ride the while journey	6%	7%
Park at a National Rail station	1%	-
Would not make the journey	1%	1%
Other	3%	4%
Not stated	1%	3%

These proportions are broadly comparable to the alternative travel / parking arrangements mentioned across all car park users.

A1.3 Alternative travel / parking arrangements if car park temporarily closed

Most Blue Badge holders (79%) and those with a physical / mental disability (77%) continue to prefer to use the car to make their journey. This is in line with the potential actions of all car park users (of whom 77% would find alternative parking, and only 17% would consider alternatives to using a car).

Those with a disability are more likely to say they would park at another London Underground Station (28%), while those with a Blue Badge were more likely to say they would park in a nearby road (30%).

Overall, people with a disability and Blue Badge holders do not appear to be significantly *more* committed to car use than the overall car park user base.

If Car park temporarily close	Physical/mental disability (n=147)	Blue Badge Holder (n=70)
Park in a nearby road	24%	30%
Park at nearby car park	7%	9%
Drive / ride the whole journey	10%	11%
Get a lift to the station	3%	4%
Walk to the station	4%	3%
Cycle to the station	1%	1%
Take a bus to the station	9%	6%
Take a taxi/mini cab to the station	4%	3%
Park at another Underground station (Please specify which station)	28%	23%
Park at a National Rail station (Please specify which station)	5%	4%
Would not make the journey	5%	4%
Other (please specify)	1%	-

Appendix 2 - Research details

A2.1 Methodology

Quantitative research was conducted at 39 selected LU car parks. This involved a combination of three different data collection methods employed at each car park:

- face to face interviewing of car park users;
- distribution of paper questionnaires to car park users on car windscreens, for car park users to complete in their own time and return via the post; and
- provision of an online questionnaire link (on the paper self-completion questionnaires) for respondents to complete in their own time.

As shown in the Table below, the online method had a yield of less than 1%. The low take up is likely to be due to people finding it more efficient to complete the questionnaire as they carried out their journey on the Tube. The face-to-face and self-completion method had a similar yield.

Data collection methods	Total completes	%
Face-to-face	1669	48%
Self-completion	1768	51%
Online	20	<1%
	3457	

A minimum of four shifts of face to face interviewing and two shifts of paper questionnaire distribution were conducted at each car park. Shifts were conducted on weekday mornings (5am to 11am), weekday afternoons / evenings (2pm to 8pm), Saturday mornings (9am to 2pm) and Saturday afternoons / evenings (2pm to 8pm).

The sampling frame consisted of LU car park users. All car park users who parked or picked up their vehicle during interviewing times qualified to participate in the survey. There were no set quotas. A key advantage of providing three data collection methods was that those who did not have time to complete the survey face-to-face could do so in their own time. This helps to ensure that those who are more likely to be in a hurry had their views represented in the survey.

Prior to starting fieldwork, interviewers were sent full written briefing instructions about all aspects of the survey (see Appendix 4). At the start of each shift, interviewers reported to the Underground station and car park security. Interviewers were required to show a copy of the letter of authorisation from LU to respondents who requested more information about the survey (see Appendix 4).

A2.2 Observations of car park usage

Interviewers were required to conduct a count of available car parking spaces at designated times (6am, 7am, 8am on weekday morning shifts; 5pm, 6pm and 7pm on weekday afternoon/evening shifts; 10am, 11am 12pm on weekend morning shifts; 3pm, 4pm and 5pm on weekend afternoon shifts). Collated data is shown in section 5. Where more than one type of shift was conducted at a particular car park (e.g. two weekday morning shifts), results have been averaged for each specific time period.

A2.3 Questionnaire design

The questionnaire was developed by Synovate in consultation with TfL. The questionnaire comprised questions around journey origin, destination, purpose of journey, alternatives used when the car park is full, perceived future behaviour if the car park is temporarily closed, willingness to cycle and barriers to cycling. After analysing phase 1 data the length of stay question was changed to ensure that

respondents gave more accurate information..Interviews were around five minutes in duration. The questionnaire was consistent across the three data collection methodologies. (See Appendix 4 for the master questionnaire).

A2.4 Sample

The aim was to sample as many different car park users as possible, across a range of days and times. A total of 3,457 questionnaires were completed. The total number of completed questionnaires for each car park is shown overleaf (*see Table A*). At five stations, results were very low, preventing individual station analysis, although results for these station car parks are included in aggregated data across groups of car parks (also see section A3.1). Appendix 3 gives a detailed breakdown of response rates and user profile for each car park. Buckhurst Hill has two separate car parks both of which were covered by the interviewers. Zones 2 and 8 were not analysed separately as the base sizes are too small.

No weighting was applied to the data; results are aimed to represent the car park users based on the sampling.

Compared to London residents⁹ and to London Underground customers, the profile of car park users is more skewed towards men, middle to older ages (35-54 in particular) and to people of white ethnicity.

⁹ Based on TfL 'Regular Research Slot' January, April, July, October 2009: results from 4,000 interviews with a representative sample of Greater London residents (proportional across the London boroughs) aged 16+.

Car park details / no. interviews per car park

Table a

Station	Zone	Borough	LU lines	No. car spaces	Car park importance ¹⁰		No. interviews
					Rank	Pts	
Arnos Grove	4	Enfield	Piccadilly	306	15	23.5	102
Barkingside	4	Redbridge	Central	46	44	14	51
Blackhorse Road	3	Waltham Forest	Victoria	342	26	20.5	89
Buckhurst Hill	5	Epping Forest	Central	120	44	14	70
Canons Park	5	Harrow	Jubilee	156	35	16.5	83
Chalfont & Latimer	8	Chiltern	Metropolitan	487	1	37	94
Chorleywood	7	Three Rivers	Metropolitan	238	3	32	87
Cockfosters	5	Enfield	Piccadilly	430	8	27	123
Colindale	4	Barnet	Northern	21	59	11	21
Croxley	7	Three Rivers	Metropolitan	86	8	27	61
Debden	6	Epping Forest	Central	190	19	22	98
East Finchley	3	Barnet	Northern	267	19	22	96
Eastcote	5	Hillingdon	Met, Picc	50	38	15.5	48
Epping	6	Epping Forest	Central	518	5	29.5	128
Finchley Central	4	Barnet	Northern	262	15	23.5	99
Harrow & Wealdstone	5	Harrow	Bakerloo	118	38	15.5	33
High Barnet	5	Barnet	Northern	207	11	24	105
Hillingdon	6	Hillingdon	Met, Picc	283	4	31	71
Hornchurch	6	Havering	District	68	38	15.5	55
Hounslow East	4	Hounslow	Piccadilly	56	50	13.5	24
Hounslow West	5	Hounslow	Piccadilly	425	6	28.5	102
Ickenham	6	Hillingdon	Met, Picc	176	19	22	137
Loughton	6	Epping Forest	Central	288	11	24	96
Newbury Park	4	Redbridge	Central	459	8	27	96
North Ealing	3	Ealing	Piccadilly	95	11	24	76
North Greenwich	2	Greenwich	Jubilee	506	15	23.5	100
Northwood	6	Hillingdon	Metropolitan	175	11	24	76
Oakwood	5	Enfield	Piccadilly	149	31	19	113
Osterley	4	Hounslow	Piccadilly	135	19	22	89
Rayners Lane	5	Harrow	Met, Picc	244	19	22	86
Continued over...							

⁸ North London Car Parks – Modelling report - Steer Davies Gleave (SDG)

Car park details / no. interviews per car park

Table a

Station	Zone	Borough	LU lines	No. car spaces	Car park importance ¹¹		No. interviews
Redbridge	4	Redbridge	Central	147	26	20.5	169
Ruislip	6	Hillingdon	Met, Picc	154	26	20.5	90
Snaresbrook	4	Redbridge	Central	110	35	16.5	99
South Harrow	5	Harrow	Piccadilly	73	56	12.5	45
South Woodford	4	Redbridge	Central	75	24	21	89
Stanmore	5	Harrow	Jubilee	450	7	28	185
Theydon Bois	6	Epping Forest	Central	65	15	23.5	78
Woodford	4	Redbridge	Central	168	30	19.5	116
Woodside Park	4	Barnet	Northern	141	32	18.5	77

A2.5 Timing

Fieldwork was conducted in three phases. Phase 1 was conducted principally to pilot the different data collection methodologies and response rates. Phase 2 was the main fieldwork stage and Phase 3 was conducted to boost the car parks with a low response rate at Phase 2.

- Phase 1 (Barkingside, Ickenham, North Ealing, North Greenwich, Oakwood, Redbridge, South Harrow and South Woodford) was conducted between 2nd and 8th November 2009.
- Phase 2 (all remaining car parks except Eastcote, plus additional face to face fieldwork at Barkingside, North Ealing, Redbridge, and South Harrow) was conducted between 23rd November and 12th December 2009.
- Phase 3 (Arnos Grove, Buckhurst Hill, Chalfont and Latimer, Chorleywood, Debden, Eastcote, Harrow and Wealdstone, Hillingdon, Northwood, Rayners Lane, Ruislip and Theydon Bois) was conducted between 9th January and 16th January 2010.

⁹ North London Car Parks – Modelling report - Steer Davies Gleave (SDG)

A2.6 Future fieldwork considerations

The following affected fieldwork procedure and strike rates.

- Weather. Fieldwork was carried out during the winter months of November, December and January. On some days, the weather conditions were quite extreme and this is one of the reasons why some car parks had low response rates.
- Time of year. Fieldwork was carried out in the weeks leading up to Christmas and a few weeks after in January. The fieldwork window (specifically for weekend shifts before Christmas) was quite narrow and did not allow for any unforeseen eventualities.
- Royal Mail strikes (impacts of strikes in October 2009, further action in early December 2009) and the Christmas post. These caused delays in the returns of the self completion surveys.
- Smaller car parks. Interviewers reported that they were exhausting their sample base as they would often encounter the same commuters, especially during the weekdays.
- The online method yielded less than 1% of completed interviews.

Appendix 3 - Car park profiling

A3.1 Profile of car parks and usage pattern

Car park details / no. interviews per car park							Table b
Station	Zone	Borough	LU lines	No. car spaces	Car park importance ¹²		No. interviews
					Rank	Pts	
Arnos Grove	4	Enfield	Piccadilly	306	15	23.5	102
Barkingside	4	Redbridge	Central	46	44	14	51
Blackhorse Road	3	Waltham Forest	Victoria	342	26	20.5	89
Buckhurst Hill	5	Epping Forest	Central	120	44	14	70
Canons Park	5	Harrow	Jubilee	156	35	16.5	83
Chalfont & Latimer	8	Chiltern	Metropolitan	487	1	37	94
Chorleywood	7	Three Rivers	Metropolitan	238	3	32	87
Cockfosters	5	Enfield	Piccadilly	430	8	27	123
Colindale	4	Barnet	Northern	21	59	11	21
Croxley	7	Three Rivers	Metropolitan	86	8	27	61
Debden	6	Epping Forest	Central	190	19	22	98
East Finchley	3	Barnet	Northern	267	19	22	96
Eastcote	5	Hillingdon	Met, Picc	50	38	15.5	48
Epping	6	Epping Forest	Central	518	5	29.5	128
Finchley Central	4	Barnet	Northern	262	15	23.5	99
Harrow & Wealdstone	5	Harrow	Bakerloo	118	38	15.5	33
High Barnet	5	Barnet	Northern	207	11	24	105
Hillingdon	6	Hillingdon	Met, Picc	283	4	31	71
Hornchurch	6	Havering	District	68	38	15.5	55
Hounslow East	4	Hounslow	Piccadilly	56	50	13.5	24
Hounslow West	5	Hounslow	Piccadilly	425	6	28.5	102
Ickenham	6	Hillingdon	Met, Picc	176	19	22	137
Loughton	6	Epping Forest	Central	288	11	24	96
Newbury Park	4	Redbridge	Central	459	8	27	96
Continued over...							

¹⁰ North London Car Parks – Modelling report - Steer Davies Gleave (SDG)

Car park details / no. interviews per car park

Table b

Station	Zone	Borough	LU lines	No. car spaces	Car park importance ¹³		No. interviews
North Ealing	3	Ealing	Piccadilly	95	11	24	76
North Greenwich	2	Greenwich	Jubilee	506	15	23.5	100
Northwood	6	Hillingdon	Metropolitan	175	11	24	76
Oakwood	5	Enfield	Piccadilly	149	31	19	113
Osterley	4	Hounslow	Piccadilly	135	19	22	89
Rayners Lane	5	Harrow	Met, Picc	244	19	22	86
Redbridge	4	Redbridge	Central	147	26	20.5	169
Ruislip	6	Hillingdon	Met, Picc	154	26	20.5	90
Snaresbrook	4	Redbridge	Central	110	35	16.5	99
South Harrow	5	Harrow	Piccadilly	73	56	12.5	45
South Woodford	4	Redbridge	Central	75	24	21	89
Stanmore	5	Harrow	Jubilee	450	7	28	185
Theydon Bois	6	Epping Forest	Central	65	15	23.5	78
Woodford	4	Redbridge	Central	168	30	19.5	116
Woodside Park	4	Barnet	Northern	141	32	18.5	77

¹¹ North London Car Parks – Modelling report - Steer Davies Gleave (SDG)

A3.2 Car park usage patterns

Car park usage patterns ¹⁴							Table c
Station	Total	Intend to travel from LU station (%)		Time of week usually use the car park (%)			
		Yes	No	Weekday	Weekend	Both	
Total	3,457	91	8	55	16	24	
Arnos Grove	102	94	6	58	18	24	
Barkingside	51	78	22	78	2	18	
Blackhorse Rd	89	97	3	52	20	26	
Buckhurst Hill	70	99	1	31	31	27	
Canons Park	83	98	1	75	2	23	
Chalfont & Latimer	94	87	11	49	16	31	
Chorleywood	87	89	10	71	3	25	
Cockfosters	123	88	12	41	16	37	
Croxley	61	90	8	70	11	15	
Debden	98	95	4	77	3	19	
East Finchley	96	90	10	52	28	19	
Eastcote	48	52	48	33	15	52	
Epping	128	98	2	65	14	16	
Finchley Central	99	96	3	48	20	29	
High Barnet	105	94	6	30	35	29	
Hillingdon	71	93	3	59	15	21	
Hornchurch	55	98	2	53	22	24	
Hounslow West	102	96	4	74	2	24	
Ickenham	137	98	2	78	1	20	
Loughton	96	98	2	61	16	21	
Newbury Park	96	97	3	43	38	19	
North Ealing	76	95	5	63	17	20	
North Greenwich	100	82	18	54	9	37	
Northwood	76	87	12	72	11	12	
Oakwood	113	84	16	54	19	27	
Osterley	89	98	2	43	24	31	
Continued over...							

¹⁴ Colindale, Harrow & Wealdstone and Hounslow East are not included in the above table due to their small base sizes.

Car park usage patterns¹⁵

Table c

Station	Total	Intend to travel from LU station (%)		Time of week usually use the car park (%)		
		Yes	No	Weekday	Weekend	Both
Total	3,457	91	8	55	16	24
Rayners Lane	86	73	26	50	21	26
Redbridge	169	99	1	41	38	20
Ruislip	90	89	10	57	17	23
Snaresbrook	99	97	2	37	34	27
South Harrow	45	47	53	44	29	27
South Woodford	89	88	12	52	16	33
Stanmore	185	95	5	68	11	18
Theydon Bois	78	90	9	46	29	22
Woodford	116	97	3	49	18	31
Woodside Park	77	97	3	69	5	25

¹⁵ Colindale, Harrow & Wealdstone and Hounslow East are not included in the above table due to their small base sizes.

A3.3 Car park user profiles

Car park user profiles ¹⁶										
Sample / Station	Total	Gender (%)		Age (%)					Ethnicity (%)	
		M	F	16-34	35-44	45-54	55-64	65+	White	BAME
		London residents¹⁷	4015	49	51	39	20	14	11	16
LU users¹⁵	3258	50	50	41	26	14	11	14	69	29
Total sample	3457	56	43	21	27	28	16	7	83	15
Amnos Grove	102	43	57	31	25	26	11	7	78	19
Barkingside	51	51	47	24	14	35	20	4	76	22
Blackhorse Rd	89	61	39	24	25	26	18	8	84	15
Buckhurst Hill	70	44	54	21	31	26	16	6	87	13
Canons Park	83	63	36	20	17	30	22	11	76	20
Chalfont & Latimer	94	54	44	15	19	27	21	16	89	1
Chorleywood	87	67	33	9	30	36	17	8	93	7
Cockfosters	123	63	33	15	23	29	20	13	85	11
Croxley	61	62	34	15	28	30	15	11	93	5
Debden	98	57	41	30	31	22	14	2	95	3
East Finchley	96	58	42	20	35	27	10	7	83	15
Eastcote	48	52	46	15	25	33	10	13	81	15
Epping	128	54	44	26	27	23	19	2	90	6
Finchley Central	99	57	42	17	23	26	20	13	81	16
High Barnet	105	58	40	18	19	36	18	7	85	12
Hillingdon	71	68	32	15	28	25	18	13	89	10
Hornchurch	55	62	36	15	33	27	18	5	85	7
Hounslow West	102	59	40	16	23	28	24	10	64	33
Ickenham	137	67	33	19	27	31	20	4	82	15
Loughton	96	52	48	23	20	40	13	3	94	3
Newbury Park	96	61	38	36	29	20	10	3	88	11
North Ealing	76	58	42	18	26	30	16	9	75	24
North Greenwich	100	56	44	36	29	27	7	1	84	15
Continued over...										

¹⁶ Colindale, Harrow & Wealdstone and Hounslow East are not included in the above table due to their small base sizes.

¹⁷ Based on TfL 'Regular Research Slot' January, April, July, October 2009: results from 4015 interviews with a representative sample of Greater London residents (proportional across the London boroughs) aged 16+.

Car park user profiles¹⁸

Table d

Sample / Station	Total	Gender (%)		Age (%)					Ethnicity (%)	
		M	F	16-34	35-44	45-54	55-64	65+	White	BAME
London residents ¹⁹	4015	49	51	39	20	14	11	16	69	29
LU users ¹⁷	3258	50	50	41	26	14	11	14	69	29
Total sample	3457	56	43	21	27	28	16	7	83	15
Northwood	76	49	51	22	26	29	14	8	74	22
Oakwood	113	51	49	22	23	32	13	10	87	12
Osterley	89	46	52	25	25	21	21	6	67	28
Rayners Lane	86	47	52	13	34	22	17	13	69	29
Redbridge	169	67	33	24	38	22	14	2	81	18
Ruislip	90	47	51	12	23	28	16	18	91	7
Snaresbrook	99	43	57	30	25	23	15	6	94	6
South Harrow	45	56	44	38	29	20	9	4	69	27
South Woodford	89	52	48	24	35	29	9	2	83	16
Stanmore	185	65	33	23	22	32	15	6	86	10
Theydon Bois	78	65	35	15	27	27	17	14	92	6
Woodford	116	43	55	25	27	36	9	2	82	16
Woodside Park	77	48	51	14	32	18	21	13	74	23

¹⁶ Colindale, Harrow & Wealdstone and Hounslow East are not included in the above table due to their small base sizes.

¹⁹ Based on TfL 'Regular Research Slot' January, April, July, October 2009: results from 4015 interviews with a representative sample of Greater London residents (proportional across the London boroughs) aged 16+.

A3.4 Borough demographics

Borough Demographics

	Demographics	Hounslow	Hillingdon	Harrow	Redbridge	Enfield	Epping	Three Rivers	Barnet	Waltham Forest
Base size		215	422	432	620	338	470	148	398	89
Age	16 to 34	20%	17%	22%	27%	22%	24%	11%	17%	24%
	35 to 44	24%	26%	24%	30%	23%	27%	29%	28%	25%
	45 to 54	26%	29%	28%	27%	29%	27%	33%	28%	26%
	55 to 64	21%	17%	16%	12%	15%	16%	16%	17%	18%
	65+	7%	10%	8%	29%	10%	5%	9%	10%	8%
Gender	Male	52%	58%	59%	55%	53%	55%	65%	56%	61%
	Female	47%	41%	39%	45%	45%	44%	34%	43%	39%
Ethnicity	White	64%	84%	77%	84%	83%	92%	93%	80%	84%
	BAME	33%	14%	19%	15%	14%	6%	6%	17%	15%
Willingness to consider alternatives to driving	Would consider alternatives	16%	16%	13%	18%	17%	18%	23%	22%	13%
	Would find alternative parking	78%	79%	80%	79%	79%	77%	75%	75%	85%

Appendix 4 – Survey documents

A4.1 Interviewer instructions

At the start of your shift in the car park please make yourself known to the staff in the Underground Station and/or the car park staff/security if there is any.

Halfway through your shift and at the end of the shift please check the Underground station and pick up any questionnaires that may have been littered on the floor.

Only ask people once, if you happen to stop someone in a different shift and they state they have already answered the questionnaire, do not survey them again.

Please make a note of how many available car parking spaces there are at the times designated in your empty car space count form enclosed in your pack. If you are working at more than one car park please ensure that you complete a different form for each. The form needs to be completed fully the information is very important.

If there are vehicles already parked at the start of your shift please place a survey on their windscreens. We have provided you with plastic sleeves in your pack which you will need to place the survey pack into just in case it rains.

You have been provided with pens which you can give out to people who are given the survey to complete in their own time.

Please give your Supervisor an update at the end of each shift, or if you are working late first thing in the morning. We are required to give the client a daily update so it is important that this is done.

Please post your completed surveys back to the office after each shift or the next day. Due to the Christmas season postal delays and postal strike we do not want all your completed surveys posted back at the same time in case there are huge delays.

Please deliver the questionnaires for face-to-face shifts that are conducted between the 9th – 12th December by hand to the Minerva House Office.

A4.2 Questionnaire

Parking at Arnos Grove station survey - Autumn 2009

INTRODUCTION

Good morning/afternoon/evening. My name is from Synovate an independent market research agency. We are conducting a survey on behalf of Transport of London, who wish to gain a better understanding about car and motorcycle parking at Arnos Grove London Underground station. Please could you spare a few minutes of your time to answer a few questions.

Please be assured that your responses will be treated as strictly confidential and used for statistical purposes only. Where address and/or postcode details are requested, this information will only be used by Synovate and TfL to analyze where people have travel from in order to use the Car Park.

If you have any queries or questions in relation to this survey please contact Rachel Wilson at Synovate on 020 3059 5000, or alternatively email: LUcarparks@tfl.gov.uk

Section 1 – Key details

For the following questions, please think about when you parked at Arnos Grove on this day in particular.

2. What type of vehicle have you parked at Arnos Grove today?
PLEASE TICK ONE ANSWER ONLY.

Car / Van/ Minibus Motorcycle / Scooter

3. How many passengers were travelling with you?
PLEASE TICK ONE ANSWER ONLY.

None One Two Three or more

Section 2 – Travelling to and from Arnos Grove station today

4. Which of the following options best describes where you travelled from to get to Arnos Grove station?
PLEASE TICK ONE ANSWER ONLY.

Home Work Education
Shopping Leisure Other

IF 'OTHER', PLEASE SPECIFY WHERE

5. Please could you tell me the street, nearest town and that you travelled from to get to Arnos Grove station?

Street

Nearest town

Postcode

6. At what time did you park at Arnos Grove station?
[PLEASE USE 24HR CLOCK E.G. FOR 1PM PLEASE ENTER 13:00]

:

7. Approximately how long do you plan to park / did you park at Arnos Grove station?

Please write the number of hours parked in the box. HOURS

Please write this to the
Less than 1 hour (Please tick box)

If more than 24 hours, please use this grid to estimate hours	
1 day = 24 hours	1.5 days = 36 hours
2 days = 48 hours	2.5 days = 60 hours
3 days = 72 hours	3.5 days = 84 hours
4 days = 96 hours	4.5 days = 108 hours
5 days = 120 hours	5.5 days = 132 hours
6 days = 144 hours	6.5 days = 156 hours
7 days = 198 hours	7.5 days = 210 hours

8. What is the main purpose of your journey today?
PLEASE TICK ONE ANSWER ONLY. SHOWCARD Q8

Travel to/from work	<input type="checkbox"/>	Holidays	<input type="checkbox"/>
Other work travel	<input type="checkbox"/>	Visiting friends/relatives	<input type="checkbox"/>
Travel to/from education	<input type="checkbox"/>	Leisure	<input type="checkbox"/>
Shopping	<input type="checkbox"/>	Healthcare appointment	<input type="checkbox"/>
Personal business	<input type="checkbox"/>	Sightseeing	<input type="checkbox"/>
Other (tick and write in)	<input type="checkbox"/> →	<input type="text"/>	

9. Do you plan to travel / did you travel on the Underground from Arnos Grove today?
Please tick one answer only.

Yes
No

ONLY ASK Q10 & Q11 TO ALL WHO ANSWERED CODE 1 'YES' AT Q9. CODE 2 'NO' SKIP TO Q12 IN SECTION 3

10. Where will you / did you leave the London Underground? (Which station is / was your final destination?)

PLEASE WRITE IN THE NAME OF THE LAST LONDON UNDERGROUND STATION RESPONDENT VISITED / WILL VISIT.

Station

11. Please could you give me the postcode and / or street and nearest town that you are travelling to / travelled to?

Street

Nearest town

Postcode

Refused

Section 3 – Parking at Arnos Grove station more generally

ASK ALL

**12. On average, how often do you park at Arnos Grove station, for any purpose?
PLEASE TICK ONE ANSWER ONLY.**

6 or 7 days a week
3 or 4 days a week
Once a week
Once a month

5 days a week
2 days a week
Once a fortnight
Less often

13. Do you usually park at Arnos Grove station only on weekdays, on weekends, or on both weekdays and weekends?

PLEASE TICK ONE ANSWER ONLY.

Weekdays

Weekends

Both

**14. What do you do if you arrive at Arnos Grove and it is full (so you cannot park there)?
PLEASE TICK ALL THAT APPLY.
SHOWCARD Q14**

Park in a nearby road	<input type="checkbox"/>	Park at nearby car park	<input type="checkbox"/>
Drive / ride the whole journey	<input type="checkbox"/>	Return home and travel another way	<input type="checkbox"/>
Never happens – can always park	<input type="checkbox"/>	Would not make the journey	<input type="checkbox"/>
Park at another Underground station – which station (tick and write in)	<input type="checkbox"/>	<input type="text"/>	
Park at a National Rail station – which station (tick and write in)	<input type="checkbox"/>	<input type="text"/>	
Other (tick and write in)	<input type="checkbox"/>	<input type="text"/>	

**15. What would you do if the car park at Arnos Grove was temporarily closed (e.g. if it was not possible to park there for a few weeks)?
PLEASE TICK ALL THAT APPLY.
SHOWCARD Q15**

Park in a nearby road	<input type="checkbox"/>	Park at nearby car park	<input type="checkbox"/>
Drive / ride the whole journey	<input type="checkbox"/>	Get a lift to the station	<input type="checkbox"/>
Walk to the station	<input type="checkbox"/>	Cycle to the station	<input type="checkbox"/>
Take a bus to the station	<input type="checkbox"/>	Take a taxi/mini cab to the station	<input type="checkbox"/>
Would not make the journey	<input type="checkbox"/>	<input type="text"/>	
Park at another Underground station – which station (tick and write in)	<input type="checkbox"/>	<input type="text"/>	
Park at a National Rail station – which station (tick and write in)	<input type="checkbox"/>	<input type="text"/>	
Other (tick and write in)	<input type="checkbox"/>	<input type="text"/>	

**16. Would you consider cycling to Arnos Grove station, if there were improved facilities to park a bicycle?
PLEASE TICK ONE ANSWER ONLY.**

Yes No

ONLY ASK Q17 IF 'NO' WAS CODED AT Q16. IF 'YES' CODED AT Q16 SKIP TO Q18 IN SECTION 4]

17. You have said that you would not consider cycling to Arnos Grove station if there were improved facilities to park a bicycle?
 What, if anything would encourage you to cycle to this station?
 INTERVIEWER- PROBE FOR ANYTHING ELSE

Section 4 – About you - ASK ALL

18. In which London borough do you live?
 PLEASE TICK ONE ANSWER ONLY.

<<Borough name>>	<input type="checkbox"/>	<<Borough name>>	<input type="checkbox"/>
<<Borough name>>	<input type="checkbox"/>	<<Borough name>>	<input type="checkbox"/>
Other borough (TICK AND WRITE IN)	<input type="checkbox"/>	→	<input type="text"/>
Elsewhere (TICK AND WRITE IN TOWN)	<input type="checkbox"/>	→	<input type="text"/>
Refused	<input type="checkbox"/>		

19. Are you a Blue Badge holder?
 PLEASE TICK ONE ANSWER ONLY.

Yes No

20. Do you have any long-term physical or mental disability which limits your daily activities or the work you can do, including problems due to age?
 PLEASE SELECT ALL THAT MAY APPLY. NO AND REFUSED IS A SINGLE CODE
 SHOWCARD Q20

No	<input type="checkbox"/>	Visual impairment	<input type="checkbox"/>
Mobility impairment	<input type="checkbox"/>	Learning disability	<input type="checkbox"/>
Hearing impairment	<input type="checkbox"/>	Serious long term illness	<input type="checkbox"/>
Mental health condition	<input type="checkbox"/>		
Other (TICK AND WRITE)	<input type="checkbox"/>	→	<input type="text"/>
Refused	<input type="checkbox"/>		

21. Do you use a wheelchair?
PLEASE TICK ONE ANSWER ONLY.

Yes No

22. Interviewer code gender
PLEASE TICK ONE ANSWER ONLY.

Male Female

23. What age were you on your last birthday?
PLEASE TICK ONE ANSWER ONLY.

16 to 19	<input type="checkbox"/>	20 to 24	<input type="checkbox"/>	25 to 34	<input type="checkbox"/>
35 to 44	<input type="checkbox"/>	45 to 54	<input type="checkbox"/>	55 to 59	<input type="checkbox"/>
60 to 64	<input type="checkbox"/>	65 to 74	<input type="checkbox"/>	75 or older	<input type="checkbox"/>
Refused	<input type="checkbox"/>				

24. What is your ethnicity?
PLEASE TICK ONE ANSWER ONLY. SHOWCARD Q24

White	<input type="checkbox"/>	Asian/Asian British	<input type="checkbox"/>	Chinese	<input type="checkbox"/>
Mixed ethnic background	<input type="checkbox"/>	Black/Black British	<input type="checkbox"/>	Other ethnic background	<input type="checkbox"/>
Refused	<input type="checkbox"/>				

INTERVIEWER – Thank respondent and close. Hand respondent thank you leaflet