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	Subject Review of car park survey data	By [REDACTED] [REDACTED]

Pell Frischmann is commissioned by TfL to provide transport planning advice in connection with the redevelopment of the existing car parks at Arnos Grove and Cockfosters Stations. This note provides a review of the car parking user surveys undertaken between 26th June 2018 and 30th June 2018.

The surveys returned 247 responses for Arnos Grove and 359 responses for Cockfosters, which included a postcode of the trip origin. These have been reviewed and the locations are shown in Figures 1 and 2 for Arnos Grove and Cockfosters respectively.

The data shows that the users of Arnos Grove Station Car Park have their trip origin more local to the station, whereas the users of Cockfosters Station Car Park travel from further afield, with over 75% of those using the car park having their trip origin outside of the M25.

The majority of those using the car parks travel from home and this data is shown in Table 1. The journey purpose data shows a difference between the two stations, with the majority of those using the car park at Arnos Grove doing so for travel to work, whereas at Cockfosters the number using it for travel to work is much lower.

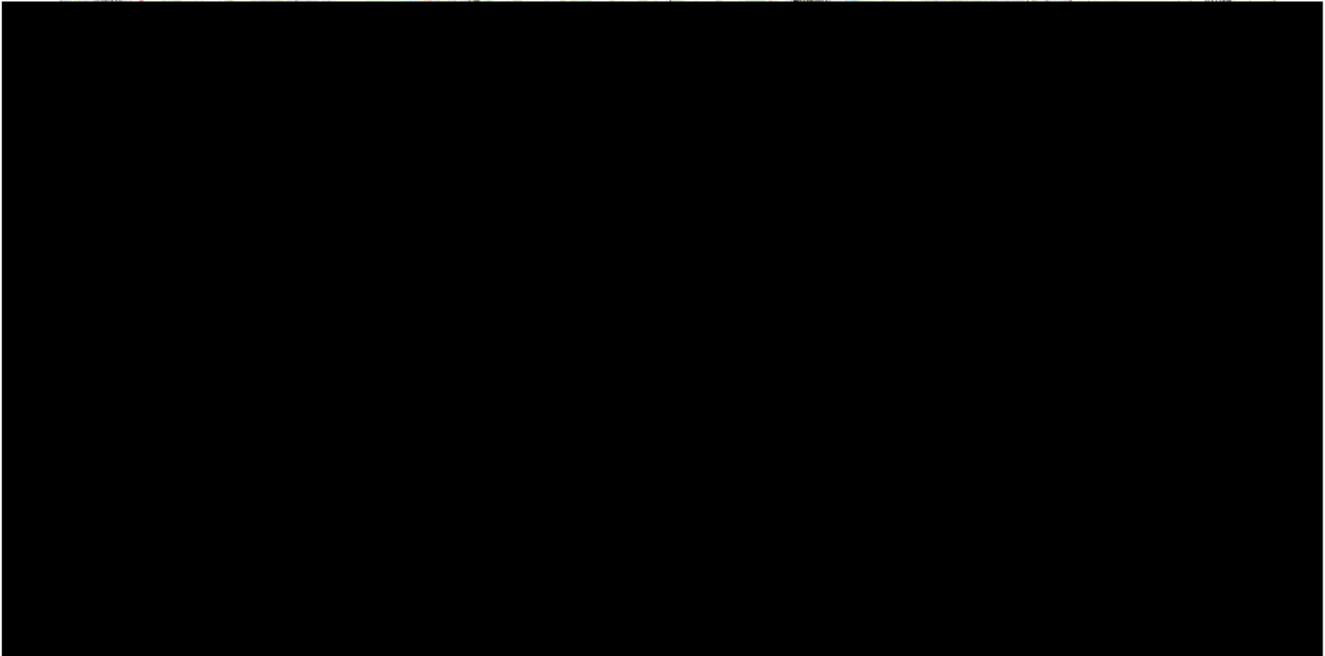
Table 1: Where have you travelled from?

Origin	Cockfosters	Arnos Grove
Home	63%	73%
Work	10%	10%
Education	0%	0%
Leisure	13%	15%
Shopping	6%	1%
Other	8%	1%
Total	100%	100%

Table 2: Main purpose of the journey

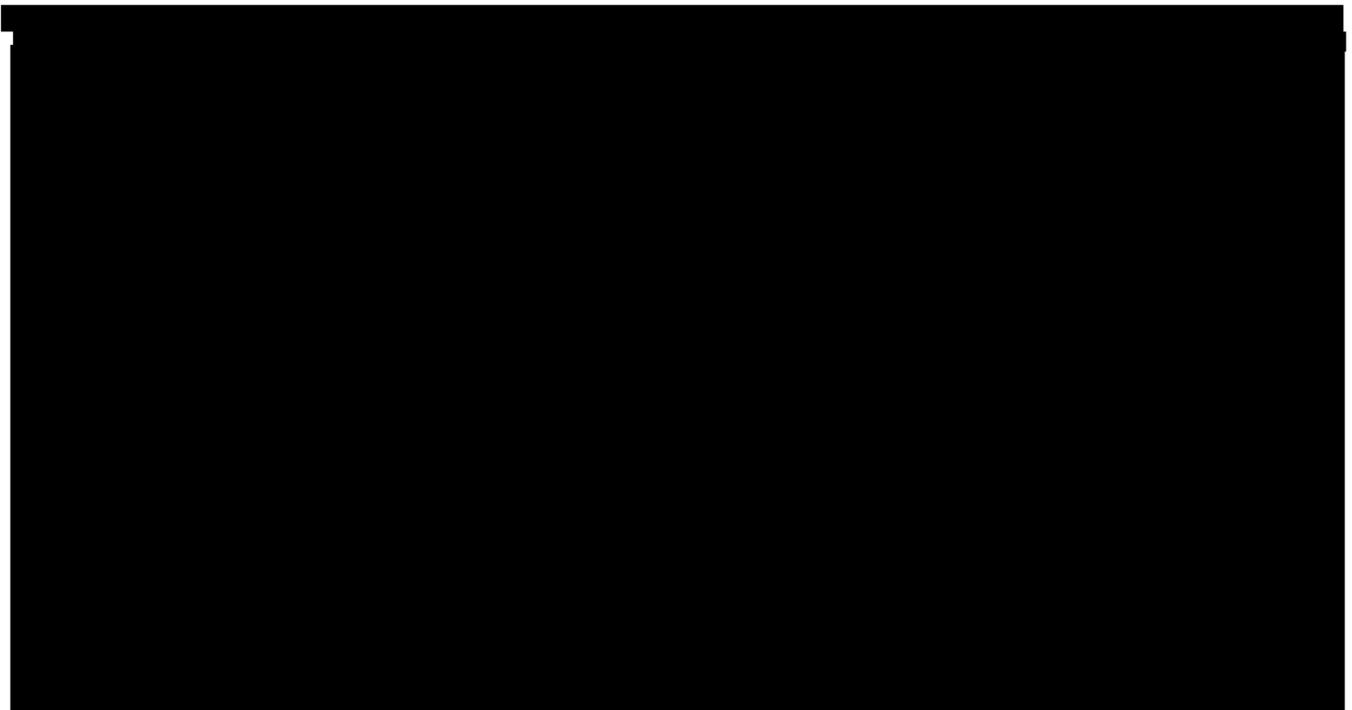
Journey Purpose	Cockfosters	Arnos Grove
Healthcare appointment	4%	3%
Holidays	0%	3%
Leisure	33%	18%
Other (specify)	8%	2%
Personal business	3%	3%
Shopping	9%	5%
Sightseeing	1%	1%
Travel to / from education	1%	3%
Travel to / from work	24%	61%
Visiting friends / relatives	17%	2%
Total	100%	100%

Figure 1: Locations of trip origins for parking at Arnos Grove Station Car Park



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Figure 2: Locations of trip origins for parking at Cockfosters Station Car Park



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The different trip purposes are also reflected in the duration of stay data and frequency of car park use. At Cockfosters the users of the car park tend to stay for shorter periods, and use the car park less frequently, than at Arnos Grove. This data is shown in Tables 3 and 4.

Table 3: Duration of stay

Duration of Stay	Cockfosters	Arnos Grove
<Hour	1%	13%
1-3 Hours	2%	0%
3-6 Hours	19%	3%
6-9 Hours	40%	4%
9-12 Hours	28%	5%
1 Day	3%	68%
1-2 Days	2%	2%
2 Days	2%	2%
3 Days	3%	2%
4 Days	0%	0%
5+ Days	0%	1%
Total	100%	100%

Table 4: Frequency of car park use

How Often	Cockfosters	Arnos Grove
2-3 days a week	8%	23%
4-5 days a week	10%	30%
6-7 days a week	1%	5%
One day a week	6%	7%
Once a fortnight	13%	6%
Once a month	19%	10%
Less often	43%	19%
Total	100%	100%

Based on previous experience of similar projects, a key statistic is the distribution of the car park users in terms of their proximity to other mainline and London Underground stations. The ability to travel to alternative stations has been reviewed in terms of the distance to other stations.

The data shows that 91.9% of the respondents have an alternative mainline or London Underground station closer to their home than Arnos Grove. 96.1% of respondents to the Cockfosters Station survey had an alternative mainline or London Underground station closer to their home. When proximity to an alternative London Underground station only is considered, the percentage with a closer alternative is 88.3% and 89.4% for the respondents parking at Arnos Grove and Cockfosters respectively.

The distribution of car park users shown in Figures 1 and 2 has been considered in the context of rail journey times from multiple stations in the areas where there are multiple responses. Tables 5 shows the travel times for some of the alternative stations to Arnos Grove and Cockfosters. The destination chosen to determine the journey times was Leicester Square (Piccadilly Line) in central London. The off peak car drive time from these stations to

Cockfosters and Arnos Grove are also shown. This shows that using other stations would not significantly change the overall travel times for those living within the boundary of the M25. For those outside the M25, the journey time information suggests that it is quicker to travel from the National Rail Stations.

Table 5: Rail journey times

Station	Travel time (minutes)	Drive time to Cockfosters (minutes)	Drive time to Arnos Grove (minutes)
Arnos Grove (Piccadilly)	26		
Cockfosters (Piccadilly)	37		
New Barnet (National Rail)	35	6	10
Oakleigh Park (National Rail)	31	6	9
Enfield Chase (National Rail)	40	9	17
Enfield Town (Overground)	57	12	18
Southbury (National Rail)	45	18	18
Grange Park (National Rail)	41	9	12
Winchmore Hill (National Rail)	36	10	10
Palmers Green (National Rail)	45	14	7
Bounds Green (Piccadilly)	24	15	6
New Southgate (National Rail)	28	11	5
Totteridge and Whetstone (Northern)	31	11	11
Finchley Central (Northern)	23	21	14
High Barnet (Northern)	32	9	15
Hadley Wood (National Rail)	39	5	17
Potters Bar (National Rail)	47	11	19
Hatfield (National Rail)	37	20	31
St Albans (National Rail)	37	24	35
Broxbourne (National Rail)	40	26	36
Stevenage (National Rail)	41	38	39
Cheshunt (Overground)	40	22	34

The proportion of car park users within a 960m (used in TfL's PTAL calculations) from Arnos Grove and Cockfosters Stations are 7.7% and 1.6% respectively, indicating that walking is a viable option for some of those currently parking at the stations. Analysis of the 960m catchment of other London Underground stations and national rail stations showed the following.

- Arnos Grove: 40.5% and 32.4% of respondents were within walking distance of London Underground and national rail stations respectively.
- Cockfosters: 4.2% and 24.5% of respondents were within walking distance of London Underground and national rail stations respectively.

There are bus stops located outside of both Arnos Grove and Cockfosters Stations and these provide access to the following services:

- Arnos Grove: routes 34, 184, 232, 251, 298, 384, and N91

- Cockfosters: routes 298, 299, 384, 692, 699, and N91

The proportion of car park users who live within walking distance (640m) of bus stops located along these routes has been calculated and is 69.6% and 15.8% for Arnos Grove and Cockfosters respectively. This demonstrates that there is a high number of users who could use the bus to travel to/ from Arnos Grove Station. The number of car park users at Cockfosters Station who could use the bus is lower, however as shown in Figure 2, over 75% of those who use Cockfosters Station live outside of the M25.

Overall, when the aforementioned alternative options were considered it showed that 6% and 1.4% of car park users at Arnos Grove and Cockfosters station car parks respectively did not have a closer alternative mainline or underground station, or live within walking distance of Arnos Grove and Cockfosters Stations, or live within walking distance of a bus route that served these stations. However, all of these respondents do live within walking distance of a bus route that serves either Enfield Town or Edmonton Green, which provides access to the London Overground network and potential for interchange to the underground at other stations.

The survey also asked for the users of the car parks opinions on whether their behaviour would be changed, or what they do when the car parks are full. The results from these are shown in Tables 6 to 10. The data in Table 6 suggests that a low number of people would choose to drive all the way to their destination in the event the car park was full, and nearly 50% would park in a surrounding road in the case of Cockfosters Station.

Table 6: What do you do if the car park is full?

When do you Park	Cockfosters	Arnos Grove
Drive/ride the whole journey	3%	14%
Never happens	37%	39%
Park at another station	2%	4%
Park at nearby car park	4%	21%
Park in a nearby road	48%	20%
Return home and travel another way	5%	2%

Tables 7 and 8 include data relating to whether there are interventions that would stop people using the station car parks. The most common response was that an increase in car parking charges would result in not using the car park, with the most common response to any of the interventions to be park in a road surrounding the station. The answers also show that travelling to the station by alternative modes or station would be considered by approximately 30% of respondents using Cockfosters, and approximately 46% using Arnos Grove.

The respondents were also asked whether they would consider cycling if facilities were improved. The results shown in Tables 9 and 10 suggest that cycling is not considered to be an attractive alternative.

Table 7: If you had to repeat today's journey would any of the following result in you not using the station car park?

Answer 1	Cockfosters	Arnos Grove
A reduction in the number of car parking spaces (e.g. 10-25%)	5%	5%
Larger reduction in car park size and number of spaces available (e.g. 25-50%)	19%	11%
An increase in car parking charges	52%	59%
Better information about alternative public transport routes	1%	4%
Better parking availability at a nearby station car park (tick and state if known)	1%	1%
Improved cycle parking facilities	2%	3%
None of the above	16%	15%
Park in a nearby road	0%	0%
Other	3%	0%

Table 8: Which of the following would you consider as an alternative in a previous situation?

Answer 1	Cockfosters	Arnos Grove
Cycle to the station	1%	1%
Drive / ride the whole journey (i.e. continue by car)	4%	13%
Get a lift to the station	12%	4%
Park at another Underground / National Rail station	5%	6%
Park at nearby car park	2%	5%
Park in a nearby road	60%	32%
Take a bus to the station	6%	21%
Take a taxi/mini cab to the station	5%	5%
Walk to the station	2%	9%
None of the above	1%	0%
Other	3%	3%
Total	100%	100%

Table 9: Would you consider cycling if facilities were improved?

Consider Cycling	Cockfosters	Arnos Grove
Yes	5%	30%
No	95%	70%
Total	100%	100%

Table 10: If no, what would encourage you?

Consider Cycling	Cockfosters	Arnos Grove
Nothing	100%	95%
Cycle Parking Facilities	0%	2%
Improved Cycle Lanes	0%	1%
Owning a Bicycle	0%	2%
Total	100%	100%