

Travel Behaviour Survey Results

Client name Moorfields Eye Hospital NHS Foundation Trust UCL Institute of Ophthalmology Moorfields Eye Charity	Discipline Transportation	Date 22 March 2021	Project number 60588325
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Revision History

Revision	Revision date	Details	Authorised	Name	Position

1. Introduction

Oriel has undertaken a travel survey of both UCL and Moorfields staff, students, visitors, patients and their carers/family members to provide evidence that the assumptions made in the Transport Assessment provide a reasonable basis on which to assess the impact of the proposed Oriel development.

The questions asked respondents to state how they travelled to the existing City Road site prior to Covid restrictions being introduced, and to consider how they might travel to the St Pancras site in the future once Covid restrictions have been lifted. This Technical Note presents the results of the travel survey. Further consideration of the survey results in relation to the Last Half Mile study has been undertaken by Buro Happold and is included in Appendix A of this Technical Note.

2. Survey

The survey was carried out on-line, with staff, students, visitors, patients and carers provided with a link to the survey app. The survey comprised 12 questions, plus an opportunity to make general comments on the journey to and from the site at the end. The survey was open for two weeks commencing Wednesday 10 February 2021. A copy of the survey questions is provided in Appendix B.

3. Survey Results

3.1 Respondents

Table 3.1 outlines the proportion of the different types of visitors that responded to the survey.

Table 3.1: Type of Visitor

Type of Visitor	Count	Percent
Patient/ Carer/ Family Member	233	57%
Staff member	163	40%
Student	4	1%
Visitor/ Guest	11	3%
Total	411	100%

It should be noted that the number of responses from students and visitors was relatively small, and therefore the results of the survey for these users are based on very small sample sizes.

3.2 Postcode Data Analysis

Out of the 411 responses to the survey, 359 respondents provided a valid postcode. To establish whether the respondents to the travel survey provide a representative sample, the proportion of respondents living in London has been compared to postcode data held by MEH for patients that visited the City Road site between 01 March 2019 and 28 February 2020 (ref Technical Note TN003 '*Patient Travel Behaviour*'). The postcodes obtained from the travel survey and MEH were truncated to ensure anonymity.

The results from the MEH data indicated that approximately 70% of the patients that visited the City Road site between 01 March 2019 and 28 February 2020 lived in London which is comparable to the results of the travel behaviour survey which indicated that 64% of the survey respondents that provided a valid postcode lived in London.

3.3 Main Mode of Travel

The survey asked how people travelled to the City Road site before the Covid-19 restrictions were implemented. The respondents were asked to provide all modes of travel used in their journey. From this the main mode of travel was estimated by applying the following hierarchy:

1. Train
2. Underground
3. Bus
4. Taxi
5. Car
6. Cycle
7. Walk

For example, if a respondent selected train plus any other mode, it has been assumed that the main mode of travel was train. A respondent selecting Underground plus any other mode excluding Train was assumed to travel by Underground.

Patients who selected the following were assumed to travel directly from home by these modes:

8. Moorfields Patient Transfer Service
9. Other assisted travel service e.g. local council

The resultant estimate of patient, staff, student and visitor mode shares for visits to the City Road site are presented below. Respondents who indicated that they had not attended in person or who skipped this question have been excluded from the mode share calculation.

Survey participants were also asked how they would anticipate travelling to the new site in St Pancras, assuming no Covid restrictions. The resultant mode share is also presented in Table 3.2 below.

Table 3.2: Main Mode of Travel to City Road and St Pancras Sites

Mode		City Road site			St Pancras site		
		Patients	Staff and Students	Visitors	Patients	Staff and Students	Visitors
Highway	Car	3%	2%	11%	3%	2%	0%
	Taxi	3%	1%	0%	5%	1%	0%
Public Transport	Train	57%	50%	56%	59%	53%	45%
	Underground	27%	28%	33%	24%	33%	36%
	Bus	7%	7%	0%	6%	8%	0%
Active Travel	Walk	2%	6%	0%	3%	4%	9%
	Cycle	1%	6%	0%	0%	0%	0%
Other	Moorfields Patient Transfer Service	1%	0%	0%	1%	0%	9%
	Other assisted travel service e.g. local council	0%	0%	0%	0%	0%	0%
Total		100%	100%	100%	100%	100%	100%

Comparison between the two tables above indicates that generally there is little difference between the current main mode of travel to the City Road site and the anticipated mode of travel to the St Pancras site. As noted in the Transport Assessment, these trips are already on the networks and therefore any impacts will be limited to the local area around the two sites.

The responses from staff/students indicate that travel by public transport to St Pancras may be more convenient, at a combined total of 94% compared to 85% for City Road. This is offset mainly by a reduction in active travel, which drops from 12% at City Road to 4% at St Pancras.

Table 3.3 compares the assumptions made in the Transport Assessment with the results of the travel survey for the journey to the St Pancras site.

Table 3.3: Main Mode Share – Transport Assessment and Travel Survey Comparison

Mode		Transport Assessment		Travel Survey	
		Patients	Staff/ students	Patients	Staff/ students
Highway	Car Driver	0%	0%	0%	2%
	Car Passenger	1%	1%	3%	0%
	Taxi	1%	0%	5%	1%
	Motorcycle	2%	2%	-	-
Public Transport	Train	36%	33%	59%	53%
	Underground	41%	38%	24%	33%
	Bus	15%	14%	6%	8%
Active Travel	Walk	3%	8%	3%	4%
	Cycle	1%	5%	0%	0%
Other	Other	0%	0%	1%	0%
Total		100%	100%	100%	100%

The trip generation assumed in the Transport Assessment is shown in Table 3.4.

Table 3.4: Combined Trip Generation presented in the TA (Main Mode)

Mode		AM Peak Hour			PM Peak Hour		
		Inbound	Outbound	Two-Way	Inbound	Outbound	Two-Way
Highway	Car	11	1	12	2	11	13
	Taxi	10	2	11	3	12	15
	Motorcycle	26	2	28	4	23	27
Public Transport	Train	529	49	577	81	485	567
	Underground	612	56	668	94	562	656
	Bus	225	21	246	35	207	241
Active Travel	Walk	98	5	103	8	77	84
	Cycle	61	2	64	3	45	48
Other	Other	2	0	2	0	1	1
Total		1,573	138	1,711	230	1,422	1,651

Trip generation based on the results of the travel survey for travel to the St Pancras site is shown below.

Table 3.5: Combined Main Mode Trip Generation using Travel Behaviour Survey Mode Shares

Mode		AM Peak Hour			PM Peak Hour		
		Inbound	Outbound	Two-Way	Inbound	Outbound	Two-Way
Highway	Car	34	3	37	6	32	38
	Taxi	32	6	38	10	39	49
	Motorcycle	0	0	0	0	0	0
Public Transport	Train	861	80	941	134	794	928
	Underground	467	34	502	56	400	457
	Bus	119	9	128	14	102	116
Active Travel	Walk	54	4	58	6	46	52
	Cycle	0	0	0	0	0	0
Other	Other	7	2	8	3	9	12
Total		1,574	138	1,712	230	1,423	1,652

The difference between the trip generation assumed in the Transport Assessment and the trip generation obtained using the travel survey data is shown in Table 3.6.

Table 3.6: Net Change in Main Mode Trip Generation between TA and Travel Behaviour Survey

Mode		AM Peak Hour			PM Peak Hour		
		Inbound	Outbound	Two-Way	Inbound	Outbound	Two-Way
Highway	Car	23	2	26	4	22	25
	Taxi	22	4	26	7	28	35
	Motorcycle	-26	-2	-28	-4	-23	-27
Public Transport	Train	332	32	364	53	309	361
	Underground	-144	-22	-166	-38	-162	-199
	Bus	-106	-12	-118	-20	-105	-125
Active Travel	Walk	-44	-1	-45	-2	-31	-33
	Cycle	-61	-2	-64	-3	-45	-48
Other	Other	7	2	6	3	8	11
Total		3	0	1	0	1	1

The results reflect the higher proportion of people who stated in the survey they would travel by Rail, and lower proportions who stated they would travel by London Underground and bus. Table 3.2 indicates little change in how people expect to travel to the St Pancras site, and therefore it should be noted that these trips are therefore already on the respective networks. The Transport Assessment identifies impacts on bus services local to the St Pancras site, and therefore based on the survey results these impacts are likely to be lower than anticipated.

3.4 Final Mode of Travel

Respondents who answered that they would travel by Rail or London Underground were asked how they would prefer to travel from their final station/stop to the new St Pancras site, and the results are shown below.

Table 3.7: How would you prefer to travel from the station/ stop to the new St Pancras site?

Mode	Patients	Staff and Students	Visitors
Bus	22%	8%	0%
Taxi	7%	1%	0%
Cycle	0%	4%	0%
Walk	71%	88%	100%
Total	100%	100%	100%

The results show that 7% of patients indicated a preference to travel by taxi from their station to the St Pancras site, with a further 22% indicating that they would prefer to travel by bus.

Respondents who answered that they would travel by Rail or London Underground were also asked how far they would feel comfortable walking, and the results are shown below.

Table 3.8: Comfortable Walking Distances

Comfortable Walking Distance	Patients	Staff and Students	Visitors
N/A – unable to walk the minimum distance	2%	2%	0%
Up to 100m	6%	0%	0%
Up to 300m	8%	1%	9%
Up to 600m	8%	5%	0%
At least 900m	9%	4%	9%
900 meters or more	67%	88%	82%
Total	100%	100%	100%

The results show that 76% of patients indicated that they could comfortably walk 900m or more.

Vehicle trip generation based on the results of the travel survey have been calculated and set out in the following table.

To calculate trips from Rail/LU stations to the site by taxi, the proportion of respondents who indicated a preference to use this mode (ref Table 3.7) has been used.

The staff and student car trips have been removed from the final mode vehicle trip generation presented as it is not anticipated that they would travel to the site as there is no parking available and therefore only the patient car trips are anticipated to use the drop-off facility at the site.

Table 3.9: Vehicle trip generation based on Travel Survey

Mode	AM Peak Hour (08:00-09:00)			PM Peak Hour (17:00-18:00)		
	In	Out	Two-Way	In	Out	Two-Way
Car	14	3	17	5	19	24
Taxi - main mode	32	6	38	10	39	49
Rail/LU – taxi (staff/patients)	35	6	41	11	42	53
NEPT	4	0	4	0	4	4
Total	85	15	100	26	104	131

Table 3.9 indicates that the drop-off would be operating within but close to its theoretical capacity of 84-140 vehicles/hour (ref Technical Note TN002 '*Response to LB Camden Comments – Mode Share*') at peak times. The drop off capacity is based on a dwell time of 3-5 minutes per vehicle, which is considered robust. This assumes that all vehicles use the drop-off facility, however in reality some people could also be dropped-off on Granary Street near the eastern entrance to the building.

The vehicle trip totals above are considerably higher than the numbers observed at the existing City Road site, even excluding the Rail/LU-taxi trips. As noted in Technical Note TN002, the maximum number of taxi trips observed at any time was 21 per hour, with morning and evening peak hour vehicular activity lower still. Whilst respondents were asked to consider travel either pre- or post-Covid, it is possible that responses are still affected by the current lockdown.

The totals in Table 3.9 exclude patients and staff who stated that they would prefer to travel by bus from the Rail/LU station to the site. Applying the proportions from Table 3.7 to the numbers of patients/companions and staff/students/visitors travelling by Rail/LU results in the following numbers of bus trips.

Table 3.10: Prefer to Travel from Rail/LU Station to Site by Bus

User	AM Peak Hour (08:00-09:00)			PM Peak Hour (17:00-18:00)		
	In	Out	Two-Way	In	Out	Two-Way
Staff	64	1	65	1	42	44
Patients	87	20	106	34	119	154
Total	151	21	171	36	162	197

Whilst these respondents did not select travel by taxi between the station and the site, it does identify that a convenient bus service to the site from local stations would be welcomed by both staff and patients.

3.5 Blue Badge Holders

Table 3.11 outlines the proportion of the different types of respondents that are blue badge holders.

Table 3.11: Blue Badge Holders

User	Blue badge holder
Patients/family member/carers	22.8%
Staff/students	1.8%
Visitors	9.1%

Three blue badge bays are proposed within the site, and it is proposed that these would be made available to staff. Whilst not all blue badge holders would choose to travel to work by car, it appears likely that demand for blue badge spaces will be high and it would not be feasible to offer spaces to patients on a regular basis.

4. Conclusions


The following conclusions can be drawn from the results of the travel survey:

- The analysis of postcodes indicates that the respondents to the survey provide a reasonable representation of visitors to the Oriel site;
- There is generally little difference between the current main mode of travel to the City Road site and the anticipated mode of travel to the St Pancras site;
- A higher proportion of respondents stated that they would travel by Rail to the St Pancras site than that assumed in the Transport Assessment, with lower proportions travelling by London Underground and bus. However, these trips are already on the respective networks;
- The Transport Assessment identifies impacts on bus services local to the St Pancras site, and based on the survey results impacts are likely to be lower than anticipated;
- The results show that 7% of patients indicated a preference to travel by taxi from their station to the St Pancras site, with a further 22% indicating that they would prefer to travel by bus;
- A regular and convenient bus or shuttle service from local stations to the Oriel site would reduce taxi use and minimise vehicle activity in the vicinity of the site. This would reduce demand on the drop-off on St Pancras Way and the potential risk of queuing and congestion on St Pancras Way and Granary Street;
- It appears likely that demand from staff for the three proposed blue badge spaces will be high and it would not be feasible to offer spaces to patients on a regular basis.

APPENDIX A –Annex to Travel Behaviour Survey Results Report

Annex to Travel Behaviour Survey Results Report

Project Oriel Centre for advancing eye health
 Subject Travel Survey and the Last Half Mile
 Project no 0046801
 Date 22 March 2021

Revision	Description	Issued by	Date	Approved (signature)
00	Annex for the Travel Behaviour Report by Aecom	JAHewitt	22.03.21	

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1 Introduction

This annex provides Buro Happold's additional considerations on the travel behaviour survey report by Aecom, dated March 2021. Oriel organised a travel survey for both UCL and Moorfields staff, students, visitors, patients and their carers/family members over a two week period in order to test assumptions made in the Transport Assessment and subsequent proposals for the last half mile. (For details of the questions, please refer to Aecom's report).

Buro Happold's specialist accessibility team are engaged by the Oriel partners, (Moorfields Eye Hospital NHS Foundation Trust, Moorfields Eye Charity, and UCL Institute of Ophthalmology) for client-side support as their accessibility lead on stakeholder engagement for the "last half mile" project. The "last half mile" initiative refers specifically to the journey and user experience between the public transport links or vehicular drop and entry to the new Oriel centre for advancing eye health.

Buro Happold have proposed a primary walking route from Kings Cross/St Pancras to the site, for which a visual green line is proposed. A report on the proposed green line was submitted to London Borough of Camden earlier this month. This short report focuses on the relevance of survey results for the green line route and other proposals.

2 Validity of sample respondents

Of the 411 respondents, 233 were either patients or a carer or family member completing the survey on behalf of a patient.

A key area of the travel focus is the ability for independent travel by adults, and in particular older adults where the ability to walk distances may be less. It was therefore felt important that the age of respondents to the survey can be shown as representative, proportionately, of the most recent actual data for MEH. MEH has data for patient visitors for the year to February 2020 grouped by age, so this data has been used for comparison to the survey data.

The following table shows that the respondent sample was very representative as a proportion to adult visitor figures to City Road (see figures highlighted in yellow boxes). The exception is the 65-74 years age range which had a much higher proportion of respondents to the travel survey. This again supports the fact that the sample of respondents is likely to be a fair representation of older patients and validates the survey in this respect as a representative sample of older people where mobility impairment is more likely.

Patient age ranges	0-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
City Rd Visits Yr to 02/2020 Qty Patients by age range	54350	44411	46117	57995	73247	70681	49908	18037
City Rd Visits Yr to 02/2020 % of total patient visitors by age range	13%	10.70%	11.11%	13.98%	17.60%	17%	12.03%	4.30%
2021 Travel Survey patient respondents % by age range	3.87%	5.15%	9.01%	15.88%	20.17%	28.76%	12.45%	3.43%

Table 1: Comparison of Survey respondents to actual travellers for the previous year – by age band

3 Canalside Route

In response to question 11, over 35% of the patient respondents would not be happy to use a route alongside a canal independently or escorted, supporting the establishment of a primary route to avoid this. It is also acknowledged that a significant proportion of patients, particularly when accompanied, might like this as an alternative route. This supports the current proposals to provide options for additional alternative routes to the new site, whilst providing a primary route that is suitable for everyone with interventions that maximise independence, including a visual ground surface line for the entire route. (The survey did not explore this further but it is anticipated that the canal route in poor daylight, such as might be experienced for early and late appointments in the winter months, would be less favoured).

4 Travel Mode preferences for the Last Half Mile

Question 12 revealed a strong preference (64%) for walking, with taking a bus being the second preferred option at 20% of patient respondents. Since some 42% of patient respondents indicate that they have a condition affecting their ability for independent travel, the need for a safe walking route with design interventions to support the desire for independent travel is confirmed.

The numbers of people who might choose a taxi are examined further within Aecom's analysis.

5 Walking distance

Question 8 examined the ability to walk distances and this question was included to examine whether the increased distance to the new site is likely to be a barrier to walking. The result was that 66.5% of respondents are able to walk 900m or more, this aligns to the distance of the proposed green line route between Kings Cross/St Pancras and the site and demonstrates that the walking distance should not be a barrier for the majority of patients.

The current green line proposals include supplementing the existing seating on the route to make provision every 100-150m. 91.4% of the respondents are able to walk for at least 300m. The provision of the seating is likely to mean that actual numbers walking could be higher, once the presence of rest points is widely publicised.

6 Additional survey feedback

A free text opportunity was given at Question 13 and was used by 161 of the 233 patient respondents.

The free text comments have been grouped thematically, with the key points are listed below:

- The equivalent of a green line as provided at Old Street was the most common request – attracting 31 comments.
- This was closely followed by the requirement for good connectivity with bus routes - 27 comments.
- Many referred to safety and crossings specifically were raised six times
- Signage and/or directions are essential - mentioned 22 times.
- Parking or drop off requirements were mentioned 13 times.
- Shelter on the route was mentioned twice, lighting was raised four times.
- Surprisingly, seating or rest points were not mentioned at all.

Conclusions

The travel survey has resulted in a representative age sample of adult patients.

The responses to quantitative and qualitative questions appear to confirm that the proposals for the last half mile primary pedestrian route are in keeping with the assumptions on which they are based.

It is believed that with improved crossings and more rest points, there could be an increase in the numbers able to walk the 900m route for the primary designated "green line" route, raising the 64% indicated in the survey.

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APPENDIX B – Travel Survey Questions

Oriel Travel Survey
February 2021

1. I am completing this form
 - For myself
 - On behalf of someone else
2. What type of visitor are you?
 - Patient/carer/family member
 - Staff member
 - Student
 - Visitor/guest
3. What are the 4 first characters of your home postcode? (e.g. SW1 A)
4. Please indicate your age group
 - Under 18
 - 18-24
 - 25-34
 - 35-44
 - 45-54
 - 55-64
 - 65-74
 - 75-84
 - 85+
 - Prefer not to say
5. Which of these best describes your ethnic group? This information will help us ensure we are collating feedback from a diverse range of respondents that reflect our community.
 - Asian or Asian British
 - Black or Black British
 - White
 - Arab
 - Mixed
 - Other
 - Prefer not to say
6. Do you have a disability or condition which impacts on your ability to travel to the eye centre independently?
 - Yes
 - No
7. Are you a blue badge holder?
 - Yes
 - No
8. If applicable, how far can you comfortably walk?
 - Up to 100m
 - Up to 300m
 - Up to 600m
 - At least 900m
 - 900 meters or more
 - N/A – unable to walk the minimum distance

Existing Moorfields Eye Hospital at City Road or UCL IoO at Bath Street

9. If you attended Moorfields Eye Hospital in City Road or / UCL Institute of Ophthalmology in Bath Street before Covid-19 restrictions, what type of travel did you use for your journey? (please select all that apply)
- Train
 - Underground
 - Bus
 - Taxi
 - Car
 - Cycle
 - Walk
 - Moorfields Patient Transfer Service
 - Other assisted travel service e.g. local council
 - Have not attended in-person at Moorfields Eye Hospital at City Road or UCL IoO at Bath Street
 - If you selected 'train' or 'underground', please specify what station you arrived at below. If you selected 'bus' please, specify what route/bus number(s) you used.

Proposed new eye care centre at St Pancras

The new site is approximately:

- 600m walk from Mornington Crescent Tube Northern line underground station (not step-free)
- 800m walk from St Pancras International station
- 900m walk from Kings Cross (National main line, multiple London underground lines and internal and external walking routes from St Pancras international)
- 1300m walk from Euston station (national main line, Northern and Victoria underground lines and London Overground)

For comparison, the existing Moorfields Eye Hospital at City Road is approximately 300m from the Old Street station entrance.

10. Based on the public transport options that were in existence before Covid-19 restrictions (i.e. before March 2020), how would you travel to the proposed Oriel site at St Pancras? (please select all that apply)
- Train
 - Underground
 - Bus
 - Private car
 - Taxi
 - Walk
 - Bicycle
 - Moorfields patient transfer service
 - Local council assisted transport scheme
 - If you selected 'train' or 'underground', please specify what station you would arrive at below. If you selected 'bus' please, specify what route/bus number(s) you would use.

11. If there was a route which included a canal path, would you take it?
- Yes
 - Yes, if I was accompanied by a companion
 - No
12. If your journey would involve travel by train or London Underground, how would you prefer to travel from the station/stop to the new St Pancras site?
- Walk
 - Bicycle
 - Bus
 - Taxi
 - Not applicable (I do not need to travel by train or London Underground)
 - Other (please specify)
13. Do you have any comments about the journey to the new site?