

TN002: Response to LB Camden Comments – Mode Share

Client Moorfields Eye Hospital NHS Foundation Trust UCL Institute of Ophthalmology Moorfields Eye Charity	Discipline Transportation	Date 18 Feb 2021	Project number 60588325
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Revision History

Revision	Revision date	Details	Authorised	Name	Position

Introduction

This Technical Note (TN) has been produced as a response to comments provided by London Borough of Camden (LBC) in relation to the Transport Assessment, received via email on 4th December 2020. This TN is in response to comments 2a-e which are repeated below.

2. Specific evidence required within the Transport Assessment

- a. Confirmation that the reductions in taxi and private vehicles secured when comparing the city road site (approx..50% share from survey data), to that set out for the proposed site (1%) are achievable. We obviously support this reduction completely, but need to understand your thinking on how this can be achieved (see last half mile points)
- b. Similarly to the above, you state that 36% of all trips to the site will be by rail. Given that the nearest station is half a mile away this should be stated as Rail + Last Half Mile trips (presumably walking, shuttle service or taxi), with the 36% of trips allocated to the different last half mile options available, and a justification of the allocation.
- c. Can you confirm why our request during pre-app meetings for telematics data in lieu of new survey data was not forthcoming? Alternatively is there no prospect of conducting a survey in the new year in advance of a committee meeting if the current tier is maintained? I note that the TA was informed by site visits conducted this year.
- d. Table 5.20 should be split to include separate figures for staff and patients. Without this we do not have a clear picture of the operational impacts and scope for mitigation under, for instance, a travel plan
- e. Please confirm if the existing trip data calculated for the 'existing site' refers to:
 - a) the city road site:
 - b) the entire St Pancras hospital, or
 - c) only those hospital buildings that fall within your red line. Without this it is difficult to confirm the validity of the conclusion that the development would lead to only a 3% increase in traffic conditions compared the 'existing'.

Comment 2a – Taxi and private vehicle modes

As described in the Moorfields Eye Hospital Survey Results Note (Appendix C of the TA), a total of 164 drop-offs by vehicle were recorded during the survey. Of these, 75 (46%) were by taxi and 59 (36%) by private car. On a typical day up to 1,500 patients visit the site, and therefore the proportions of patients currently arriving at the site by taxi and private car are approximately 5% and 4% respectively.

The assumption of 1% taxi mode share, as shown in Table 5.20 of the TA, represents the main mode of travel, i.e. travel directly from home to the site by taxi. Some patients travelling by rail/Underground as their main mode of travel will also complete the journey by taxi. An assessment of the potential impact of the proposed

relocation of MEH on patient travel choices is presented in a separate Technical Note *TN003: Patient Travel Behaviour*. The secondary mode of travel is discussed further below.

Comment 2b – Secondary mode for Rail/LU travellers

Table 5.20 of the Transport Assessment sets out the mode share assumptions for staff/students and patients/carers. The combined Rail/London Underground mode share is 71% for staff/students and 77% for patients/carers, with the great majority of these trips expected to be to Kings Cross/St Pancras International.

It has been assumed that almost all staff/students will be able to walk the last part of their journey (e.g. 700m from St Pancras International west exit on Midland Road; 900m from Kings Cross exit on Pancras Road).

For patients the distance to the St Pancras Hospital site may be more challenging, and for some walking may not be possible. In the absence of patient travel survey data (due to Covid-19) a sensitivity test has been carried out, with a range of assumptions regarding the proportion of patients who would consider walking not to be feasible and would seek an alternative mode of travel.

Factors that will affect patient travel choices will include age and weather conditions, as well as their sight and other health issues. Table 1 below sets out the age profile of patients, based on data collected by MEH between March 2019 and February 2020, and compares it to the general UK population.

Table 1: Patients by age

Age range	MEH Patients	UK Population*
0 – 9	5.3%	12.0%
10 – 19	4.5%	11.4%
20 – 29	8.4%	13.0%
30 – 39	11.2%	13.3%
40 – 49	11.8%	12.6%
50 – 59	16.5%	13.6%
60 – 69	17.5%	10.7%
70 – 79	15.2%	8.4%
80+	9.6%	5.0%

* Ref <https://commonslibrary.parliament.uk/constituency-statistics-population-by-age/>

The table demonstrates that the age profile of MEH patients is higher than the general population. For example, 42% of patients are 60 or over, compared to 24% of the UK population. This has been reflected in the sensitivity test assumptions, which are set out below.

Scenarios Considered

The following scenarios have been considered for the mode share for journeys from Rail and Underground stations to the Oriel building. Scenario 1 assumes 10% of patients/companions would travel by taxi and is slightly higher than the current mode share at the City Road site (based on traffic data collected in 2019 – ref Table 3). Scenarios 2 and 3 are sensitivity tests that assume 25% and 50% of patients (and their companions) would choose to travel by taxi from Rail/Underground stations to the Oriel site, due to the greater distance and complexity of the routes when compared to the journey from Old Street station to the City Road site.

Table 2: Secondary Mode Assumptions

Scenario	Staff/students		Patients/companions	
	Walk	Taxi	Walk	Taxi
Scenario 1	98%	2%	90%	10%
Scenario 2	98%	2%	75%	25%
Scenario 3	98%	2%	50%	50%

Drop-off Facility Capacity

Section 3.3.54 of the TA identifies the maximum theoretical capacity of the drop-off facility on St Pancras Way as 84-140 vehicles/hour, assuming a capacity of 7 vehicles and average dwell times of 3-5 minutes per vehicle.

Existing Taxi Drop-Off / Pick-Up Activity

In May 2019 AECOM undertook a survey at the Moorfields Eye Hospital at City Road and the University College of London Institute of Ophthalmology (UCL IoO) to quantify the existing levels of drop-off / pick-up activity and servicing vehicle volumes. The survey was carried out from 07:00 to 19:00 on Thursday 23rd May 2019 on the four roads surrounding the site, City Road, Cayton Street, Bath Street and Peerless Street. It should be noted that the survey was undertaken on a dry, sunny and warm day and therefore the level activity observed may differ to days where it is raining.

The taxi / private hire vehicle drop-off or pick-up arrival count is outlined in Table 3 below.

Table 3: Taxi / Private Hire Vehicle Drop-Off / Pick-up Count

Arrival Time	Taxi / Private Hire Vehicle Count
07:00 – 08:00	1
08:00 – 09:00	2
09:00 – 10:00	7
10:00 – 11:00	9
11:00 – 12:00	12
12:00 – 13:00	7
13:00 – 14:00	23
14:00 – 15:00	14
15:00 – 16:00	16
16:00 – 17:00	16
17:00 – 18:00	11
18:00 – 19:00	9

The results indicate that over the duration of the survey 127 drop-offs or pick-ups were undertaken by taxis or private hire vehicles. During the AM peak hour, two drop-offs or pick-ups were undertaken by taxi or private hire vehicles and 11 in the PM peak hour. The maximum number of taxi trips observed for Moorfields Eye Hospital and the UCL IoO in an hour is 23, which occurred between 13:00-14:00.

Peak Hour Trip Generation – Scenario 1

In this scenario it has been assumed that 10% of patients and their companions would choose to travel by taxi from Rail/Underground stations to the Oriel site, with the remaining 90% travelling on foot.

Table 4: Scenario 1 - Secondary Mode

Secondary Mode	Staff/students	Patients/companions
Rail - walk	98%	90%
Rail – taxi	2%	10%
Underground - walk	98%	90%
Underground - taxi	2%	10%

Staff/student and patient/companion trip generation is shown in the following tables (these expand on the trip generation set out in Tables 5.23 and 5.24 of the TA).

Table 5: Scenario 1 - Proposed Development Trip Generation – Staff/Students

Mode		AM Peak Hour (08:00-09:00)			PM Peak Hour (17:00-18:00)		
		In	Out	Two-Way	In	Out	Two-Way
Highway	Car Driver	0	0	0	0	0	0
	Car Passenger	5	0	5	0	3	4
	Taxi	2	0	2	0	1	1
	Motorcycle	17	0	17	0	11	12
Public Transport	Rail - walk	332	6	338	6	221	227
	Rail - taxi	7	0	7	0	5	5
	U/ground - walk	385	7	391	7	255	262
	U/ground - taxi	8	0	8	0	5	5
	Bus	144	2	147	3	96	98
Active Travel	Walk	82	1	84	1	55	56
	Cycle	56	1	57	1	37	38
Other	Other	2	0	2	0	1	1
Total		1,041	18	1,059	18	691	710

Table 6: Scenario 1 - Proposed Development Trip Generation – Patients/Companions

Mode		AM Peak Hour (08:00-09:00)			PM Peak Hour (17:00-18:00)		
		In	Out	Two-Way	In	Out	Two-Way
Highway	Car Driver	0	0	0	0	0	0
	Car Passenger	5	1	7	2	7	9
	Taxi	7	2	9	3	10	13
	Motorcycle	9	2	10	3	12	15
Public Transport	Rail - walk	170	39	209	68	234	302
	Rail - taxi	19	4	23	8	26	34
	U/ground - walk	197	45	242	78	271	349
	U/ground - taxi	22	5	27	9	30	39
	Bus	81	18	99	32	111	143
Active Travel	Walk	16	4	20	6	22	28
	Cycle	5	1	7	2	7	9
Other	Other	0	0	0	0	0	0
Total		532	120	652	211	730	941

Combining the vehicle trips for staff/students and patients/companions provides the following totals.

Table 7: Scenario 1 - Vehicle trip generation

Mode	AM Peak Hour (08:00-09:00)			PM Peak Hour (17:00-18:00)		
	In	Out	Two-Way	In	Out	Two-Way
Car	11	1	12	2	11	13
Taxi	41	6	47	10	44	54
NEPT	4	0	4	0	4	4
Total	56	7	63	12	59	71

In this scenario the drop-off facility would have adequate capacity to accommodate peak hour vehicle movements.

In comparison to the taxi drop-off / pick-up activity observed in May 2019, the 10% sensitivity test identified above indicates 20 times more taxi trips in the AM peak hour than the levels observed. In terms of the PM peak hour, the 10% sensitivity test is predicting nearly five times the amount of taxi trips than observed in May 2019. The maximum taxi trips observed in an hour was 23, this is approximately half the number of taxi trips forecast in the AM peak in this sensitivity test.

Peak Hour Trip Generation – Scenario 2

In this scenario it has been assumed that 25% of patients and their companions would choose to travel by taxi from Rail/Underground stations to the Oriel site, with the remaining 75% travelling on foot.

Table 8: Scenario 2 - Secondary Mode

Secondary Mode	Staff/students	Patients/companions
Rail - walk	98%	75%
Rail - taxi	2%	25%
Underground - walk	98%	75%
Underground - taxi	2%	25%

Table 9: Scenario 2 - Proposed Development Trip Generation – Staff/Students

Mode		AM Peak Hour (08:00-09:00)			PM Peak Hour (17:00-18:00)		
		In	Out	Two-Way	In	Out	Two-Way
Highway	Car Driver	0	0	0	0	0	0
	Car Passenger	5	0	5	0	3	4
	Taxi	2	0	2	0	1	1
	Motorcycle	17	0	17	0	11	12
Public Transport	Rail - walk	332	6	338	6	221	227
	Rail - taxi	7	0	7	0	5	5
	U/ground - walk	385	7	391	7	255	262
	U/ground - taxi	8	0	8	0	5	5
	Bus	144	2	147	3	96	98
Active Travel	Walk	82	1	84	1	55	56
	Cycle	56	1	57	1	37	38
Other	Other	2	0	2	0	1	1
Total		1,041	18	1,059	18	691	710

Table 10: Scenario 2 - Proposed Development Trip Generation – Patients/Companions

Mode		AM Peak Hour (08:00-09:00)			PM Peak Hour (17:00-18:00)		
		In	Out	Two-Way	In	Out	Two-Way
Highway	Car Driver	0	0	0	0	0	0
	Car Passenger	5	1	7	2	7	9
	Taxi	7	2	9	3	10	13
	Motorcycle	9	2	10	3	12	15
Public Transport	Rail - walk	142	32	174	56	195	251
	Rail - taxi	47	11	58	19	65	84
	U/ground - walk	164	37	202	65	226	291
	U/ground - taxi	55	12	67	22	75	97
	Bus	81	18	99	32	111	143
Active Travel	Walk	16	4	20	6	22	28
	Cycle	5	1	7	2	7	9
Other	Other	0	0	0	0	0	0
Total		532	120	652	211	730	941

Table 11: Scenario 2 - Vehicle trip generation

Mode	AM Peak Hour (08:00-09:00)			PM Peak Hour (17:00-18:00)		
	In	Out	Two-Way	In	Out	Two-Way
Car	11	1	12	2	11	13
Taxi	72	13	84	22	86	108
NEPT	4	0	4	0	4	4
Total	86	14	100	24	101	125

In this scenario the drop-off facility would be operating at close to its theoretical capacity, and some queuing is likely to occur at times.

In comparison to the level of taxi drop-off / pick-up activity observed in May 2019, Table 11 is forecasting 36 times the level of taxi activity in the AM peak hour and nearly 10 times the level of activity in the PM peak hour. In addition, in the AM peak hour Table 11 is forecasting over three times the maximum level of taxi activity observed.

An alternative transport solution with capacity for approximately 100 passengers/hour would reduce demand from patient/companion taxi trips by 50. With this solution in place vehicle trip generation would be as follows:

Table 12: Scenario 2 - Vehicle trip generation with alternative transport solution

Mode	AM Peak Hour (08:00-09:00)			PM Peak Hour (17:00-18:00)		
	In	Out	Two-Way	In	Out	Two-Way
Car	11	1	12	2	11	13
Taxi	22	0	22	0	36	36
Alternative transport solution	6	0	6	0	6	6
NEPT	4	0	4	0	4	4
Total	43	1	44	2	57	59

Assuming one space within the drop-off facility was reserved for the alternative service, this would leave 5 spaces for car, taxi and NEPT use with a capacity of 60-100 vehicles per hour, which would be adequate to accommodate predicted demand.

Peak Hour Trip Generation – Scenario 3

In this scenario it has been assumed that 50% of patients and their companions would choose to travel by taxi from Rail/Underground stations to the Oriel site, with the remaining 50% travelling on foot.

Table 13: Scenario 3 - Secondary Mode

Secondary Mode	Staff/students	Patients/companions
Rail - walk	98%	50%
Rail - taxi	2%	50%
Underground - walk	98%	50%
Underground - taxi	2%	50%

Table 14: Scenario 3 - Proposed Development Trip Generation – Staff/Students

Mode		AM Peak Hour (08:00-09:00)			PM Peak Hour (17:00-18:00)		
		In	Out	Two-Way	In	Out	Two-Way
Highway	Car Driver	0	0	0	0	0	0
	Car Passenger	5	0	5	0	3	4
	Taxi	2	0	2	0	1	1
	Motorcycle	17	0	17	0	11	12
Public Transport	Rail - walk	332	6	338	6	221	227
	Rail - taxi	7	0	7	0	5	5
	U/ground - walk	385	7	391	7	255	262
	U/ground - taxi	8	0	8	0	5	5
	Bus	144	2	147	3	96	98
Active Travel	Walk	82	1	84	1	55	56
	Cycle	56	1	57	1	37	38
Other	Other	2	0	2	0	1	1
Total		1,041	18	1,059	18	691	710

Table 15: Scenario 3 - Proposed Development Trip Generation – Patients/Companions

Mode		AM Peak Hour (08:00-09:00)			PM Peak Hour (17:00-18:00)		
		In	Out	Two-Way	In	Out	Two-Way
Highway	Car Driver	0	0	0	0	0	0
	Car Passenger	5	1	7	2	7	9
	Taxi	7	2	9	3	10	13
	Motorcycle	9	2	10	3	12	15
Public Transport	Rail - walk	95	21	116	38	130	168
	Rail - taxi	95	21	116	38	130	168
	U/ground - walk	110	25	134	44	151	194
	U/ground - taxi	110	25	134	44	151	194
	Bus	81	18	99	32	111	143
Active Travel	Walk	16	4	20	6	22	28
	Cycle	5	1	7	2	7	9
Other	Other	0	0	0	0	0	0
Total		532	120	652	211	730	941

Table 16: Scenario 3 - Vehicle trip generation

Mode	AM Peak Hour (08:00-09:00)			PM Peak Hour (17:00-18:00)		
	In	Out	Two-Way	In	Out	Two-Way
Car	11	1	12	2	11	13
Taxi	123	24	147	42	157	199
NEPT	4	0	4	0	4	4
Total	137	26	163	45	171	216

In this scenario the capacity of the drop-off facility would be exceeded due to excessive demand from taxis.

In comparison to the observed taxi activity at Moorfields Eye Hospital and the UCL IoO, Table 16 forecasts over 60 times the level of taxi activity in the AM peak hour and 18 times the level of activity in the PM peak hour. In addition, in the AM peak hour Table 16 is forecasting over five times the maximum level of taxi activity observed.

An alternative transport solution with capacity for approximately 220 passengers/hour would reduce demand from patient/companion taxi trips by 110. With this service in place vehicle trip generation would be as follows:

Table 17: Scenario 3 - Vehicle trip generation with alternative transport solution

Mode	AM Peak Hour (08:00-09:00)			PM Peak Hour (17:00-18:00)		
	In	Out	Two-Way	In	Out	Two-Way
Car	11	1	12	2	11	13
Taxi	17	0	17	0	47	47
Alternative transport solution	12	0	12	0	12	12
NEPT	4	0	4	0	4	4
Total	44	1	45	2	74	76

Assuming one space within the drop-off facility was reserved for the alternative service, this would leave 5 spaces for car, taxi and NEPT use with a capacity of 60-100 vehicles per hour, which would be adequate to accommodate demand.

Summary

A range of scenarios has been considered to assess the impact of varying proportions of patients travelling to Oriel by Rail/Underground that then choose to walk from their station to the Oriel building.

At high levels of walking, the level of traffic that would be generated would be similar to that seen at the existing City Road site and the proposed drop-off facility would have adequate capacity to accommodate demand.

If the proportion of patients who would choose to walk decreases, and these patients choose to travel by taxi instead, then a point would be reached where the capacity of the drop-off bay would be exceeded, potentially leading to congestion on St Pancras Way.

The process for addressing this is firstly to seek to encourage active travel by improving the pedestrian routes to the Oriel building, in line with London Plan policy. If despite these measures there is still some latent demand from patients for transport to the Oriel building, further options would include improvements to existing public bus services, such as re-routing, new public bus services, or a supplementary commercial service run by a private operator.

Comment 2c – Survey data

Contact details/link for the telematic data was requested but we did not receive a response. A separate request to LBC (Philip Dawson) for any other historic data available was submitted but no suitable data was available. We also reviewed the Transport Assessments for other nearby developments, including the Ugly Brown Building and the Camley Street developments, but they do not include any traffic flow data.

Given the current lockdown in England we do not consider that commissioning new traffic surveys now would provide any data that could reliably be used to assess impacts in 2026 (scheme opening).

Comment 2d – Mode share for staff/students and patients/companions

Table 5.20 of the Transport assessment provides separate columns for staff/students and patients/companions.

Comment 2e – Trip data for ‘existing site’

The data shown in Table 5.9 of the TA represents the trips estimated for the existing buildings within the St Pancras Hospital site that fall within the red line - this is approximately 23% of the total St Pancras Hospital floor area. These trips have been subtracted from the proposed development trip generation (Table 5.25 of the TA) to estimate the net increase (Table 5.26 of the TA).