

Technical note

Project	Oxford City LDF Testing	Date	21 June 2009
Note	Addendum to Oxford City LDF Testing	Ref	CTFANG510
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1 *Introduction*

1.1 The Southern Development Area, Northern Gateway and Barton Land developments constitute three of the most significant proposed developments in Oxford. A series of select links have been conducted on sensitive areas of the Oxford road network in order to provide an indication of the impact of these sites.

2 *Methodology*

2.1 A select link analysis provides information regarding the quantity of trips on a link, as well as the origins and destinations of these trips. Select link analysis has been performed on links in both 2007 and 2026, this makes it possible to consider the growth of traffic on each link. In order to ensure a worst case scenario is considered, all select links have been performed in the 2026 high growth scenario. Select link analysis has been carried out at seven sites, as requested by Oxford City Council. The sites are as follows:

- (1) M40 – North of Junction 9
- (2) M40 – South of Junction 8
- (3) A34 – North of Peartree Interchange
- (4) A34 – South of Peartree Interchange
- (5) A34 – South of Hinksey Hill Interchange
- (6) A40 – South/East of Cutteslowe Roundabout
- (7) A4142 – Between Headington Roundabout and Cowley Interchange

2.2 The results of each select link were output into a matrix which was subsequently sectorised. This allowed the results to be tabulated in order to show the proportion of growth associated with each of the development sites. Growth associated with Oxford City (excluding these three development areas) and outside Oxford City has also been provided.

3 *Results*

3.1 The results have been tabulated and are displayed below. Each table shows the total new trips generated on a link, i.e. both directions on the link. Trip growth is given in PCU hours and represents demand flows.

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M40 North of Junction 9

- 3.2 Table 1 indicates that a large growth in demand will be experienced on the M40 North of Junction 9. Around a 30% growth in trips is experienced on this link in both the morning and evening peaks. However, the table indicates that only a small proportion of this growth will be associated with the developments in Oxford.

M40 South of Junction 8

- 3.3 The M40 south of Junction 8 experiences a similar level of growth to that experienced on this road north of Junction 9. However, a larger proportion of this growth can be attributed to new employment sites at the Northern Gateway and in Oxford City itself.

- 3.4 Of the 3740 new trips generated on this link in the AM peak, over 5% of these are travelling towards the Northern Gateway, whilst over 10% are travelling to other destinations within Oxford City. Interestingly the number of trips travelling away from Oxford in the AM peak, as well as the number of trips travelling towards Oxford in the PM peak actually reduces. This suggests that in the future years less people from Oxford choose to work in areas east of Oxford, this is likely to be caused by the increased job opportunities in both Oxford and areas such as South Oxfordshire and Cherwell.

A34 North of Peartree Interchange

- 3.5 North of Peartree interchange, the A34 experiences a large increase in growth, both in absolute and relative terms. In the morning peak, the select link analysis suggests that the Northern Gateway and developments elsewhere in Oxford attract relatively small numbers of trips with the vast majority of the additional trips coming from sources external to Oxford. The trips originating from Oxford in the AM peak actually reduce, as do the trips travelling back to Oxford in the PM peak.

A34 South of Peartree Interchange

- 3.6 The A34 south of Peartree experiences more than a 10% growth in trips during the AM peak, with a much larger increase of almost 27% observed in the PM peak.

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A34 South of Hinksey Hill

3.7 An increase of over 20% is observed on the A34 South of Hinksey Hill in both the AM and PM peaks. The vast majority of the increase in trips on this link is not associated with developments in Oxford. A small amount of the increase in trips on this link is a result of Northern Gateway, and to an even lesser extent the SDA development.

3.8 However trips from Oxford in the AM and trips to Oxford in the PM actually see a reduction on this link. This is a result of increased employment opportunities in Oxford City itself.

A40 South of Cutteslowe Roundabout

3.9 The A40 south of Cutteslowe roundabout experiences a 30% increase in trips during the AM peak, and a 36% increase during the PM peak. This increase in trips is relatively evenly distributed between several causal factors.

3.10 A relatively large proportion of this increase is associated with new employment at the Northern Gateway, this is shown by a high level of trips travelling towards this site in the morning and similarly these trips can then be seen leaving the site in the evening.

3.11 The Southern Development area is also responsible for generating trips on this section of the network, suggesting that cross city (north/south) movements are more popular on the eastern side of the ring road than on the A34.

A40 South of Cutteslowe Roundabout

3.12 The A4142 experiences a 27% growth in trips in the AM peak and a 15% growth in trips in the PM peak. A large proportion of this growth can be attributed to development in Oxford, particularly the Southern Development Area.

3.13 For example, in the AM peak, the South Oxford SDA generates over 30% of the new trips on this link and is also responsible for attracting over 10% of the growth in trips.

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Table 1: M40 North of Junction 9							
	Site/Zone	AM new peak hour trips	% of total new trips	% of total trips	PM new peak hour trips	% of total new trips	% of total trips
From	Barton	0	0.0%	0.0%	0	0.0%	0.0%
	Northern Gateway	7	0.2%	0.1%	1	0.0%	0.0%
	South Oxford SDA	3	0.1%	0.0%	59	1.9%	0.6%
	Oxford	3	0.1%	0.0%	42	1.3%	0.4%
	Outside Oxford	3696	99.6%	28.4%	3072	96.8%	30.5%
	Total new trips	3710	100.0%	28.5%	3175	100.0%	31.5%
To	Barton	0	0.0%	0.0%	1	0.0%	0.0%
	Northern Gateway	82	2.2%	0.6%	0	0.0%	0.0%
	South Oxford SDA	65	1.8%	0.5%	2	0.1%	0.0%
	Oxford	76	2.1%	0.6%	43	1.3%	0.4%
	Outside Oxford	3487	94.0%	26.8%	3129	98.6%	31.1%
	Total new trips	3710	100.0%	28.5%	3175	100.0%	31.5%

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	Site/Zone	AM new peak hour trips	% of total new trips	% of total trips	PM new peak hour trips	% of total new trips	% of total trips
From	Barton	1	0.0%	0.0%	0	0.0%	0.0%
	Northern Gateway	7	0.2%	0.1%	139	3.9%	1.3%
	South Oxford SDA	1	0.0%	0.0%	13	0.4%	0.1%
	Oxford	-12	-0.3%	-0.1%	208	5.9%	1.9%
	Outside Oxford	3748	100.1%	34.5%	3196	89.9%	29.4%
	Total new trips	3744	100.0%	34.4%	3557	100.0%	32.7%
To	Barton	0	0.0%	0.0%	0	0.0%	0.0%
	Northern Gateway	205	5.5%	1.9%	6	0.2%	0.1%
	South Oxford SDA	4	0.1%	0.0%	0	0.0%	0.0%
	Oxford	377	10.1%	3.5%	-92	-2.6%	-0.8%
	Outside Oxford	3157	84.3%	29.0%	3642	102.4%	31.7%
	Total new trips	3744	100.0%	34.4%	3557	100.0%	31.0%

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Table 3: A34 North of Peartree							
	Site/Zone	AM new peak hour trips	% of total new trips	% of total trips	PM new peak hour trips	% of total new trips	% of total trips
From	Barton	7	0.4%	0.1%	1	0.0%	0.0%
	Northern Gateway	21	1.3%	0.3%	339	14.5%	5.0%
	South Oxford SDA	3	0.2%	0.0%	6	0.2%	0.1%
	Oxford	-109	-6.7%	-1.5%	273	11.7%	4.1%
	Outside Oxford	1692	104.8%	23.8%	1714	73.5%	25.5%
	Total new trips	1615	100.0%	22.7%	2332	100.0%	34.7%
To	Barton	1	0.1%	0.0%	0	0.0%	0.0%
	Northern Gateway	154	9.5%	2.2%	20	0.9%	0.3%
	South Oxford SDA	-7	-0.4%	-0.1%	3	0.1%	0.0%
	Oxford	163	10.1%	2.3%	-100	-4.3%	-1.5%
	Outside Oxford	1303	80.7%	18.3%	2408	103.3%	35.8%
	Total new trips	1615	100.0%	22.7%	2332	100.0%	34.7%

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Table 4: A34 South of Peartree							
	Site/Zone	AM new peak hour trips	% of total new trips	% of total trips	PM new peak hour trips	% of total new trips	% of total trips
From	Barton	4	0.4%	0.1%	-2	-0.1%	0.0%
	Northern Gateway	0	0.0%	0.0%	197	8.3%	2.2%
	South Oxford SDA	12	1.1%	0.1%	11	0.5%	0.1%
	Oxford	-509	-49.0%	-6.3%	-173	-7.3%	-2.0%
	Outside Oxford	1533	147.4%	19.0%	2333	98.6%	26.4%
	Total new trips	1040	100.0%	12.9%	2365	100.0%	26.7%
To	Barton	-11	-1.0%	-0.1%	15	0.6%	0.2%
	Northern Gateway	227	21.8%	2.8%	18	0.8%	0.2%
	South Oxford SDA	13	1.3%	0.2%	20	0.8%	0.2%
	Oxford	246	23.7%	3.1%	9	0.4%	0.1%
	Outside Oxford	564	54.2%	7.0%	2303	97.4%	26.0%
	Total new trips	1040	100.0%	12.9%	2365	100.0%	26.7%

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	Site/Zone	AM new peak hour trips	% of total new trips	% of total trips	PM new peak hour trips	% of total new trips	% of total trips
From	Barton	10	0.5%	0.1%	-2	-0.1%	0.0%
	Northern Gateway	8	0.4%	0.1%	127	6.7%	1.5%
	South Oxford SDA	92	4.6%	1.0%	23	1.2%	0.3%
	Oxford	-306	-15.2%	-3.4%	45	2.4%	0.5%
	Outside Oxford	2205	109.8%	24.6%	1691	89.7%	19.6%
	Total new trips	2009	100.0%	22.4%	1885	100.0%	21.9%
To	Barton	-2	-0.1%	0.0%	13	0.7%	0.2%
	Northern Gateway	141	7.0%	1.6%	11	0.6%	0.1%
	South Oxford SDA	20	1.0%	0.2%	124	6.6%	1.4%
	Oxford	71	3.5%	0.8%	-170	-9.0%	-2.0%
	Outside Oxford	1780	88.6%	19.8%	1907	101.2%	22.2%
	Total new trips	2009	100.0%	22.4%	1885	100.0%	21.9%

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Table 6: A40 South of Cutteslowe							
	Site/Zone	AM new peak hour trips	% of total new trips	% of total trips	PM new peak hour trips	% of total new trips	% of total trips
From	Barton	58	3.9%	1.2%	9	0.5%	0.2%
	Northern Gateway	37	2.5%	0.7%	338	18.3%	6.6%
	South Oxford SDA	239	16.1%	4.8%	76	4.1%	1.5%
	Oxford	297	20.0%	6.0%	554	30.0%	10.8%
	Outside Oxford	857	57.6%	17.4%	872	47.2%	17.1%
	Total new trips	1488	100.0%	30.2%	1849	100.0%	36.2%
To	Barton	2	0.1%	0.0%	100	5.4%	2.0%
	Northern Gateway	531	35.7%	10.8%	30	1.6%	0.6%
	South Oxford SDA	68	4.6%	1.4%	201	10.9%	3.9%
	Oxford	613	41.2%	12.4%	202	10.9%	3.9%
	Outside Oxford	273	18.4%	5.5%	1315	71.1%	25.8%
	Total new trips	1488	100.0%	30.2%	1849	100.0%	36.2%

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Table 7: A4142 - between Headington and Cowley Junctions							
	Site/Zone	AM new peak hour trips	% of total new trips	% of total trips	PM new peak hour trips	% of total new trips	% of total trips
From	Barton	73	5.7%	1.6%	33	4.6%	0.8%
	Northern Gateway	10	0.8%	0.2%	53	7.4%	1.3%
	South Oxford SDA	398	31.4%	8.5%	167	23.4%	4.1%
	Oxford	95	7.5%	2.0%	42	5.8%	1.0%
	Outside Oxford	690	54.6%	14.7%	420	58.7%	10.4%
	Total new trips		1265	100.0%	27.0%	715	100.0%
To	Barton	26	2.1%	0.6%	71	9.9%	1.8%
	Northern Gateway	82	6.4%	1.7%	4	0.6%	0.1%
	South Oxford SDA	156	12.3%	3.3%	411	57.5%	10.2%
	Oxford	406	32.1%	8.7%	185	25.8%	4.6%
	Outside Oxford	596	47.1%	12.7%	44	6.2%	1.1%
	Total new trips		1265	100.0%	27.0%	715	100.0%