



Technical Note

Project No: ITB14377

Project Title: Green Lane Chesterton

Title: National Highways Response

Ref: TW/GT/ITB14377-008
Date: 21 February 2023

SECTION 1 Overview

1.1.1 i-Transport LLP has been appointed by Wates Developments to provide highways and transport advice for an outline planning application for a proposed residential development of 147 dwellings, sports pitches, and public open space on land south of Green Lane, Chesterton.

1.1.2 The outline planning application was submitted to Cherwell District Council (CDC) in January 2023 and National Highways (NH), who have been appointed by the Secretary of State for Transport, have recommended that the Local Planning Authority does not grant planning permission for the application (Ref: 23/00173/OUT) until further details are provided to NH regarding:

"AM and PM peak hour distribution flows for all arms of the M40 J9 roundabout. This should show the expected number of development trips leaving / joining the SRN (M40 & A34) at reach of the roundabout."

1.1.3 Section 2 of this Technical Note (TN) provides the additional information requested by NH.

SECTION 2 Development Traffic Impact

2.1.1 The Transport Assessment calculated the proposed development would generate 80 two-way vehicle movements during the morning peak hour and 74 two-way vehicle movements during the evening peak hour. To accurately calculate the number of development generated vehicles will reach the Strategic Road Network, the same distribution methodology used within the Transport Assessment has been utilised:

For commuting and business trips, the 2011 National Census Journey to Work data (for car
journeys) for the Cherwell 016 Super Output Area – have been used. This dataset identifies
existing resident's employment locations and so existing commuter patterns;



- For the other journey purpose trips such as personal business, leisure, retail etc, a P/T² of gravity model has been undertaken using the population of key urban areas (from the 2011 Census) within a 30-minute drive time of the site (estimate from Google Maps Directions facility).
- 2.1.2 The two sets of data have been combined to generate a single set of distribution parameters to inform the development trip assignment and full distribution model is presented in **Appendix A**. **Table 2.1** provides a summary of the development traffic assignment.

Table 2.1: SRN Development Traffic Assignment (M40 J9 Roundabout)

Arm	% 1	Traffic	М	orning Pe	ak	Evening Peak			
	Arrivals	Departures	ln	Out	Two- way	ln	Out	Two- way	
M40 (North)	1%	1%	0	1	1	0	0	0	
A41 (North-East)	11%	11%	2	9	11	5	3	8	
M40 (South)	4%	4%	1	2	3	2	1	3	
A34 (South-East)	6%	10%	1	6	7	3	2	5	
Total	22%	26%	4	18	22	10	6	16	

Source: 2011 Census / Google Maps / Consultant's Calculations

2.1.3 **Table 2.1** shows the M40 Junction 9 roundabout will experience an increase of circa 16-22 two-way vehicle movements during the peak hours, which equates to one additional vehicle movement every three to four minutes. This is a minimal increase for a junction of this nature and to calculate a percentage impact of the proposed development, 2024 future year traffic flows have been derived from the Symmetry Park, Oxford North Transport Assessment (Ref: 22/01144/F) for the M40 Junction 9 roundabout. The percentage impact assessment is presented in **Table 2.2**.

Table 2.2: SRN Development Traffic Percentage Impact Assessment

		Morning Peak		Evening Peak				
Arm	2024 Baseline	Development Traffic	% Impact	2024 Baseline	Development Traffic	% Impact		
	Two-way	Two-way	Two-way	Two-way	Two-way	Two-way		
M40 (North)	1782	1	0.06%	2210	0	0.00%		
A41 (North-East)	991	11	1.10%	883	8	0.90%		
M40 (South)	466	3	0.64%	899	3	0.33%		
A34 (South-East)	3379	7	0.21%	3370	5	0.15%		
Total		tion (Morning eak)	0.33%	Total June	0.22%			

Source: 22/01144/F & Consultant's Calculations



2.1.4 The proposed development would generate a maximum increase of just 1% on the A41 arm of the M40 Junction 9 roundabout with all other arms experiencing an increase of less than 1%. This falls short of a severe intensification in use of the Strategic Road Network.

2.2 **Summary**

2.2.1 The extension of the development distribution model has demonstrated the Strategic Road network will experience minimal increases in peak hour vehicle movements because of the proposed development. On this basis, the information presented in this Technical Note should be sufficient to address NH's comments and remove the holding objection.

APPENDIX A. DEVELOPMENT DISTRIBUTION MODEL

Journey to Work Distribution Model (Departures)										
	To	ital	Proportion per	By Route	Route 1 (Site					
Destination	Proportion	Driving a	route	Proportion	Access)	Route 2	Route 3	Route 4	Route 5	Route 6
	by car	car or van		by car						
Oxford	84.8%	30.6%	50%	15.3%	Green Lane West	Green Lane West	B430 Northampton Road South	A34 South West	A34 South West	A34 South West
		30.00	50%	15.3%	Green Lane East	Unnamed Road South	Wendlebury Road South	A41 South West	A34 South West	A34 South West
			10%	0.9%	Green Lane East	Alchester Road				
			10%	0.9%	Green Lane East	Unnamed Road South	Wendlebury Road West	Wendlebury Road West		
Chesterton / Wendlebury / Weston on the Green / Otmoor / Islip /	65.5%	8.7%	10%	0.9%	Green Lane West	Green Lane West	B430 Northampton Road South			
Amcott	23.3.1		10%	0.9%	Green Lane West	Green Lane West	B430 Northampton Road South	A34 South West	Blechington Road	-
			10%	0.9%	Green Lane West	Green Lane West	B430 Northampton Road South	A34 South West	Blechington Road	Wheatley Road
			50%	4.4%	Green Lane East	Unnamed Road South	Wendlebury Road North	A41 North Oxford Road	A41 South East	A41 South East
			33%	1.9%	Green Lane West	Green Lane West	B430 Northampton Road South	A34 South West	A34 South West	A34 South West
Yarnton / Oxford Airport	54.3%	5.6%	33%	1.9%	Green Lane East	Unnamed Road South	Wendlebury Road South	A41 South West	A34 South West	A44 Woodstock Road North
			33%	1.9%	Green Lane West	Akeman Street	A4095 Heyford Road	A4095 Oxford Road	A4095 Bunkers Hill	A4260 Banbury Road
London	71.2%	4.3%	100%	4.3%	Green Lane East	Unnamed Road South	Wendlebury Road North	A41 North Oxford Road	M40 South East	-
Bicester (north)	93.1%	5 5%	100%	5.5%	Green Lane West	Unnamed Road North	A4095 North	Vendee Drive North	A4095 Howes Lane	A4095
	55.2.1		0%	0.0%	Green Lane West	Unnamed Road North	A4095 North	Vendee Drive North	Middleston Stoney Road East	Kings End
Bicester (South)	85.1%	4.7%	50%	2.3%	Green Lane West	Unnamed Road North	A4095 North	Vendee Drive North	Middleston Stoney Road East	Kings End
			50%	2.3%	Green Lane East	Unnamed Road South	Wendlebury Road North	A41 North Oxford Road	Oxford Road	Kings End
Banbury	76.7%	3.4%	50%	1.7%	Green Lane East	Unnamed Road South	Wendlebury Road North	A41 North Oxford Road	M40 North	
		g	50%	1.7%	Green Lane West	Unnamed Road North	A4095 West	B340 Oxford Road North	B340 Ardley Road North	M40 North
Ambrosen / Caversfield / Fringford / Finmere	81.4%	3.4%	50%	1.7%	Green Lane West	Unnamed Road North	A4095 North	Vendee Drive North	A4095 Howes Lane	A4095
Antiboden Careranad / Fingloid / Finnanc	01.470	3.470	50%	1.7%	Green Lane East	Unnamed Road South	Wendlebury Road North	A41 North Oxford Road	A41 South East	A41 South East
Other North	88.2%	2.8%	100%	2.8%	Green Lane West	Unnamed Road North	A4095 West	B340 Oxford Road North	B340 Ardley Road North	M40 North
Other South West	91.0%	2.6%	50%	1.3%	Green Lane West	Green Lane West	B430 Northampton Road South	A34 South West	A34 South West	A34 South West
Orial County Van	31.0%	2.0%	50%	1.3%	Green Lane East	Unnamed Road South	Wendlebury Road South	A41 South West	A34 South West	A34 South West
Aylesbury	95.8%	2.6%	100%	2.6%	Green Lane East	Unnamed Road South	Wendlebury Road North	A41 North Oxford Road	A41 South East	A41 South East
			33%	0.8%	Green Lane West	Green Lane West	B430 Northampton Road South	A34 South West	A34 South West	Bicester Road
Kidlington	87.3%	% 2.3%	33%	0.8%	Green Lane East	Unnamed Road South	Wendlebury Road South	A41 South West	A34 South West	A34 South West
			33%	0.8%	Green Lane West	Akeman Street	A4095 Heyford Road	A4095 Oxford Road	A4095 Bunkers Hill	A4260 Banbury Road
Other South East	88.9%	2.4%	100%	2.4%	Green Lane East	Unnamed Road South	Wendlebury Road North	A41 North Oxford Road	M40 South East	
High Wycombe	80.4%	1.5%	100%	1.5%	Green Lane East	Unnamed Road South	Wendlebury Road North	A41 North Oxford Road	M40 South East	
Abingdon	91.8%	1.7%	50%	0.8%	Green Lane West	Green Lane West	B430 Northampton Road South	A34 South West	A34 South West	A34 South West
- Carigadii	31.070	2.770	50%	0.8%	Green Lane East	Unnamed Road South	Wendlebury Road South	A41 South West	A34 South West	A34 South West
Heyford / Deddington	83.0%	1.4%	50%	0.7%	Green Lane West	Akeman Street	Port Way	B4030 West		-
Treyora / Decangeon	63.674	2.4%	50%	0.7%	Green Lane West	Unnamed Road North	A4095 North	Vendee Drive North	B4030 West	
Woodstock	80.0%	1.3%	100%	1.3%	Green Lane West	Akeman Street	A4095 Heyford Road	A4095 Oxford Road	A4095 Bunkers Hill	B4095 Upper Camsfield Roa
West Oxford	95.6%	1.6%	50%	0.8%	Green Lane West	Green Lane West	B430 Northampton Road South	A34 South West	A34 South West	A34 South West
Treat Oxford	33.0%	2.0%	50%	0.8%	Green Lane East	Unnamed Road South	Wendlebury Road South	A41 South West	A34 South West	A34 South West
Witney	83.3%	1.3%	100%	1.3%	Green Lane West	Akeman Street	A4095 Heyford Road	A4095 Oxford Road	A4095 Bunkers Hill	B4095 Upper Camsfield Road
Other West	81.0%	1.3%	100%	1.3%	Green Lane West	Green Lane West	B430 Northampton Road South	A34 South West	A34 South West	A34 South West
Wantage	84.2%	1.2%	50%	0.6%	Green Lane West	Green Lane West	B430 Northampton Road South	A34 South West	A34 South West	A34 South West
**************************************	04.270	1.170	50%	0.6%	Green Lane East	Unnamed Road South	Wendlebury Road South	A41 South West	A34 South West	A34 South West
Other South	97.3%	2.5%	50%	1.3%	Green Lane West	Green Lane West	B430 Northampton Road South	A34 South West	A34 South West	A34 South West
Out Soul	37.374	13/0	50%	1.3%	Green Lane East	Unnamed Road South	Wendlebury Road South	A41 South West	A34 South West	A34 South West
Long Hanborough	81.3%	1.0%	100%	1.0%	Green Lane West	Akeman Street	A4095 Heyford Road	A4095 Oxford Road	A4095 Bunkers Hill	B4095 Upper Camsfield Road
Other North West	90.0%	1.0%	100%	1.0%	Green Lane West	Unnamed Road North	A4095 West	B340 Oxford Road North	B340 Ardley Road North	M40 North
Wheatley	89.7%	1.0%	100%	1.0%	Green Lane East	Unnamed Road South	Wendlebury Road North	A41 North Oxford Road	M40 South East	
Westcott / Underwood	85.7%	0.9%	100%	0.9%	Green Lane East	Unnamed Road South	Wendlebury Road North	A41 North Oxford Road	A41 South East	A41 South East
Brackley	100.0%	1.0%	100%	1.0%	Green Lane West	Unnamed Road North	A4095 North	Vendee Drive North	A4095 Howes Lane	A4095
Other North	75.0%	0.8%	100%	0.8%	Green Lane West	Unnamed Road North	A4095 West	B340 Oxford Road North	B340 Ardley Road North	M40 North
East Oxford	88.9%	0.9%	100%	0.9%	Green Lane West	Green Lane West	B430 Northampton Road South	A34 South West	Blechington Road	Wheatley Road
Milton Keynes	95.5%	0.8%	100%	0.8%	Green Lane West	Unnamed Road North	A4095 North	Vendee Drive North	A4095 Howes Lane	A4095
Total		100%		100.0%		-	-			-

Routes from site to Strategic Road Network

1	2	3	4	5	6	100%	44%
Green Lane East	Unnamed Road South	Wendlebury Road South	A41 South West	A34 South West	A34 South West	20.9%	9.18%
Green Lane East	Unnamed Road South	Wendlebury Road South	A41 South West	A34 South West	A44 Woodstock Road Norti	1.9%	0.83%
Green Lane East	Unnamed Road South	Wendlebury Road North	A41 North Oxford Road	M40 South East		9.2%	4.04%
Green Lane East	Unnamed Road South	Wendlebury Road North	A41 North Oxford Road	M40 North		1.7%	0.75%

Journey to Work Distribution Model (Arrivals)

Journey to Work Distribution Model (Arrivals)										
		tal	Proportion per	By Route	Route 1 (Site					
Destination	Proportion	Driving a car	route	Proportion	Access)	Route 2	Route 3	Route 4	Route 5	Route 6
	by car	or van		by car						
Oxford	84.8%	30.6%	25%	7.7%	Green Lane West	Green Lane West	B430 Northampton Road Sc		A34 South West	A34 South West
Oxford	84.8%	30.6%	25%	7.7%	Green Lane East	Unnamed Road South	Wendlebury Road South	A41 South West	A34 South West	A34 South West
			50% 10%	15.3%	Green Lane West	Little Chesterton Road Alchester Road	Little Chesterton Road	A41 South West	A34 South West	A34 South West
			10%	0.9%	Green Lane East	Alchester Road Unnamed Road South	-	-	*	-
01				0.9%	Green Lane East		Wendlebury Road West	Wendlebury Road West	*	-
Chesterton / Wendlebury / Weston on the Green / Otmoor / Islip / Amontt	65.5%	8.7%	10%	0.9%	Green Lane West	Green Lane West Green Lane West	B430 Northampton Road Sc B430 Northampton Road Sc	*********	Blechington Road	-
Pillion			10%	0.9%	Green Lane West Green Lane West	Green Lane West	B430 Northampton Road Sc		Blechington Road	Wheatley Road
			50%	4.4%	Green Lane East	Unnamed Road South	Wendlebury Road North	A41 North Oxford Road	A41 South East	A41 South East
			17%	0.9%	Green Lane West	Green Lane West	B430 Northampton Road Sc	A34 South West	A34 South West	A34 South West
			17%	0.9%	Green Lane East	Unnamed Road South	Wendlebury Road South	A41 South West	A34 South West	A44 Woodstock Road North
Yarnton / Oxford Airport	54.3%	5.6%	17%	0.9%	Green Lane West	Akeman Street	A4095 Heyford Road	A4095 Oxford Road	A4095 Bunkers Hill	A4260 Banbury Road
			50%	2.8%	Green Lane West	Little Chesterton Road	Little Chesterton Road	A41 South West	A34 South West	A34 South West
London	71.2%	4.3%	100%	4.3%	Green Lane East	Unnamed Road South	Wendlebury Road North	A41 North Oxford Road	M40 South East	-
Bicester (north)	93.1%	5.5%	100%	5.5%	Green Lane West	Unnamed Road North	A4095 North	Vendee Drive North	A4095 Howes Lane	A4095
Bicester (north)	93.1%	5.5%	0%	0.0%	Green Lane West	Unnamed Road North	A4095 North	Vendee Drive North	Middleston Stoney Road East	Kings End
Bicester (South)	85.1%	4.7%	50%	2.3%	Green Lane West	Unnamed Road North	A4095 North	Vendee Drive North	Middleston Stoney Road East	Kings End
Discours (Goden)	63.176	4.770	50%	2.3%	Green Lane East	Unnamed Road South	Wendlebury Road North	A41 North Oxford Road	Oxford Road	Kings End
Banbury	76.7%	3.4%	50%	1.7%	Green Lane East	Unnamed Road South	Wendlebury Road North	A41 North Oxford Road	M40 North	-
Datoday	70.770	3.470	50%	1.7%	Green Lane West	Unnamed Road North	A4095 West	B340 Oxford Road North	B340 Ardley Road North	M40 North
Ambrosen / Caversfield / Fringford / Finmere	81 4%	3.4%	50%	1.7%	Green Lane West	Unnamed Road North	A4095 North	Vendee Drive North	A4095 Howes Lane	A4095
-			50%	1.7%	Green Lane East	Unnamed Road South	Wendlebury Road North	A41 North Oxford Road	A41 South East	A41 South East
Other North	88.2%	2.8%	100%	2.8%	Green Lane West	Unnamed Road North	A4095 West	B340 Oxford Road North	B340 Ardley Road North	M40 North
Other South West	91.0%	2.6%	50%	1.3%	Green Lane West	Green Lane West		A34 South West	A34 South West	A34 South West
			50%	1.3%	Green Lane East	Unnamed Road South	Wendlebury Road South	A41 South West	A34 South West	A34 South West
Aylesbury	95.8%	2.6%	100%	2.6%	Green Lane East	Unnamed Road South	Wendlebury Road North	A41 North Oxford Road	A41 South East	A41 South East
			17%	0.4%	Green Lane West	Green Lane West	B430 Northampton Road Sc		A34 South West	Bicester Road
Kidlington	87.3%	2.3%	17%	0.4%	Green Lane East	Unnamed Road South	Wendlebury Road South	A41 South West	A34 South West	A34 South West
			17% 50%	0.4%	Green Lane West	Akeman Street	A4095 Heyford Road	A4095 Oxford Road	A4095 Bunkers Hill	A4260 Banbury Road
Other South East	88.9%	2.4%	100%	2.4%	Green Lane West Green Lane East	Little Chesterton Road Unnamed Road South	Little Chesterton Road	A41 South West A41 North Oxford Road	A34 South West M40 South East	A34 South West
	88.9%	1.5%	100%	1.5%		Unnamed Road South	Wendlebury Road North			-
High Wycombe			50%	0.8%	Green Lane East Green Lane West	Green Lane West	Wendlebury Road North 8430 Northampton Road Sc	A41 North Oxford Road A34 South West	M40 South East A34 South West	A34 South West
Abingdon	91.8%	1.7%	50%	0.8%	Green Lane West	Unnamed Road South	Wendlebury Road South	A41 South West	A34 South West	A34 South West
			50%	0.7%	Green Lane West	Akeman Street	Port Way	R4030 West	A34 300til West	A34 300til West
Heyford / Deddington	83.0%	1.4%	50%	0.7%	Green Lane West	Unnamed Road North	A4095 North	Vendee Drive North	B4030 West	
Woodstock	80.0%	1.3%	100%	1.3%	Green Lane West	Akeman Street	A4095 Heyford Road	A4095 Oxford Road	A4095 Bunkers Hill	84095 Upper Camsfield Road
	00.070	2.3/0	25%	0.4%	Green Lane West	Green Lane West	B430 Northampton Road Sc	A34 South West	A34 South West	A34 South West
West Oxford	95.6%	1.6%	25%	0.4%	Green Lane East	Unnamed Road South	Wendlebury Road South	A41 South West	A34 South West	A34 South West
			50%	0.8%	Green Lane West	Little Chesterton Road	Little Chesterton Road	A41 South West	A34 South West	A34 South West
Witney	83.3%	1.3%	100%	1.3%	Green Lane West	Akeman Street	A4095 Heyford Road	A4095 Oxford Road	A4095 Bunkers Hill	B4095 Upper Camsfield Road
Other West			50%	0.6%	Green Lane West	Green Lane West	B430 Northampton Road Sc	A34 South West	A34 South West	A34 South West
	81.0%	1.3%	50%	0.6%	Green Lane West	Little Chesterton Road	Little Chesterton Road	A41 South West	A34 South West	A34 South West
			25%	0.3%	Green Lane West	Green Lane West	B430 Northampton Road Sc	A34 South West	A34 South West	A34 South West
Wantage	84.2%	1.2%	25%	0.3%	Green Lane East	Unnamed Road South	Wendlebury Road South	A41 South West	A34 South West	A34 South West
			50%	0.6%	Green Lane West	Little Chesterton Road	Little Chesterton Road	A41 South West	A34 South West	A34 South West
			25%	0.6%	Green Lane West	Green Lane West	B430 Northampton Road Sc		A34 South West	A34 South West
Other South	97.3%	2.5%	25%	0.6%	Green Lane East	Unnamed Road South	Wendlebury Road South	A41 South West	A34 South West	A34 South West
			50%	1.3%	Green Lane West	Little Chesterton Road	Little Chesterton Road	A41 South West	A34 South West	A34 South West
Long Hanborough	81.3%	1.0%	100%	1.0%	Green Lane West	Akeman Street	A4095 Heyford Road	A4095 Oxford Road	A4095 Bunkers Hill	B4095 Upper Camsfield Road
Other North West	90.0%	1.0%	100%	1.0%	Green Lane West	Unnamed Road North	A4095 West	B340 Oxford Road North	B340 Ardley Road North	M40 North
Wheatley	1		25%	0.2%	Green Lane East	Unnamed Road South	Wendlebury Road North	A41 North Oxford Road	M40 South East	-
	89.7%	1.0%	75%	0.7%	Green Lane West	Little Chesterton Road	Little Chesterton Road	A41 South West	A34 South West	A34 South West
Westcott / Underwood	85.7%	0.9%	100%	0.9%	Green Lane East	Unnamed Road South	Wendlebury Road North	A41 North Oxford Road	A41 South East	A41 South East
Brackley	100.0%	1.0%	100%	1.0%	Green Lane West	Unnamed Road North	A4095 North	Vendee Drive North	A4095 Howes Lane	A4095
Other North	75.0%	0.8%	100% 50%	0.8%	Green Lane West	Unnamed Road North	A4095 West	B340 Oxford Road North	B340 Ardley Road North	M40 North
East Oxford			50%	0.4%	Green Lane West	Green Lane West	B430 Northampton Road Sc	A34 South West	Blechington Road	Wheatley Road
APPA Marian	88.9%	0.9%			Green Lane West	Little Chesterton Road	Little Chesterton Road	A41 South West	A34 South West	A34 South West
Milton Keynes	95.5%	0.8%	100%	0.8%	Green Lane West	Unnamed Road North	A4095 North	Vendee Drive North	A4095 Howes Lane	A4095
Total	-	100%		100.0%	•	P.	I*	1-	I'	1-

Routes from site to Strategic Road Network

1	2	3	4	5	6	100%	44%
Green Lane East	Unnamed Road South	Wendlebury Road South	A41 South West	A34 South West	A34 South	17.5%	7.7%
Green Lane East	Unnamed Road South	Wendlebury Road South	A41 South West	A34 South West	A44 Wood	0.9%	0.4%
Green Lane East	Unnamed Road South	Wendlebury Road North	A41 North Oxford	M40 South East		2.0%	0.9%
Green Lane East	Unnamed Road South	Wendlebury Road North	A41 North Oxford	M40 North		2.3%	1.0%