

# Sandy Lane & Yarnton Lane, Oxfordshire

## Technical Note: Level Crossing Impact Study

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**Issue**  
P02

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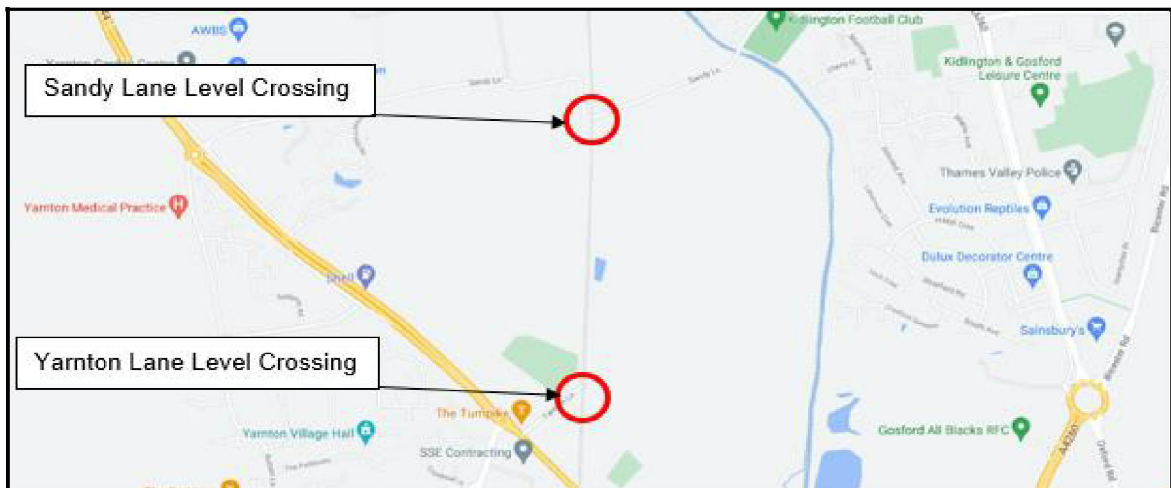
## 1. Background

- 1.1. This Technical Note has been prepared by Waterman Infrastructure & Environment Ltd (WIE) on behalf of Network Rail and considers the likely increase in vehicle, pedestrian and cycle movements over the Sandy Lane and Green Lane/Kidlington Lane (hereafter referred to as Yarnton Lane) level crossings in Oxfordshire up to 2033.

## 2. Level Crossings

- 2.1. The Sandy Lane and Yarnton Lane level crossings are located between the towns of Kidlington and Yarnton. The locations of the level crossings are shown in **Figure 1**.

**Figure 1 – Location Plan**



- 2.2. The Sandy Lane level crossing and the Yarnton Lane level crossing are both Automatic Half Barrier (AHB) crossings. The AHB crossings are designed to be used in very rural areas with low levels of road traffic and medium levels of train services. This type of crossing is considered to be suitable for the present use at Sandy Lane and Yarnton Lane, however this may change in the future if a number of strategic housing sites are granted planning permission.

### 3. Level Crossing Risk Rating

- 3.1. Level crossings are assessed using ‘The All-Level Crossing Risk Model’ (ALCRM). **Table 1** highlights the risk score for the crossings along with the number of trains per day and the line speed in 2023. ‘A’ is the highest risk score that can be given to a crossing and ‘M’ is the lowest. It can therefore be determined that the two level crossings are in the higher risk category.

**Table 1: Level Crossing data for Sandy Lane and Yarnton Lane**

Level Crossing	Risk Score	Trains per day	Line Speed
Sandy Lane	E2	114	100mph
Yarnton Lane	D4	114	95mph

- 3.2. The present ‘Risk Levels’ at the Sandy Lane and Yarnton Lane level crossing are considered manageable in the short-medium term. However, however this may change in the future if a number of strategic housing sites are granted planning permission.

### 4. Existing Traffic Flows

- 4.1. To ascertain the background traffic flows on Sandy Lane and Yarnton Road, traffic surveys were carried out during October 2022. The traffic surveys consisted of:
- Automatic Traffic Counters (ATC) on Sandy Lane and Yarnton Lane between Monday 3<sup>rd</sup> October and Sunday 16<sup>th</sup> October (two full weeks); and
  - Pedestrian and cycle link counts on Sandy Lane and Yarnton Lane between Thursday 6<sup>th</sup> October and Saturday 8<sup>th</sup> October (full day surveys).
- 4.2. In addition to the above surveys, historical traffic count data is also available for Sandy Lane. This consists of an ATC between 27<sup>th</sup> January 2014 and 9<sup>th</sup> February 2014 (two weeks).
- 4.3. A copy of the above traffic data is provided in **Appendix A**. A summary of the traffic survey results from 2022 is presented in **Table 2**.

**Table 2 – 2022 Traffic Survey Results (Two-Way Average)**

Road	Vehicles (7-Day Average)	Pedestrians		Cyclists	
		Thursday	Saturday	Thursday	Saturday
Sandy Lane	2,506	7	5	95	93
Yarnton Lane	61	79	71	27	23

- 4.4. The average two-way traffic flow on Sandy Lane was 2,506 vehicles per day in 2022. Comparison with traffic data from 2014 indicates that vehicle movements have remained relatively constant over the nine-year period, with 2,500 vehicles recorded on Sandy Lane for the week commencing 27<sup>th</sup> January 2014 and 2,443 vehicles for the week commencing 3<sup>rd</sup> February 2014 (a difference of 6 vehicles and 63 vehicles respectively). Pedestrian and cycle movements on Sandy Lane are low in number, with an average of 6 two-way pedestrian movements per day and 94 cycle movements per day in 2022.
- 4.5. Yarnton Lane is a lightly trafficked lane with only 61 two-way vehicle trips recorded per day in 2022. Pedestrian and cycle movements are low in number in 2022, with an average of 75 two-way pedestrian movements recorded on verge per day and 25 two-way cycle movements recorded on average per day.

## 5. Future Traffic Flows

5.1. In order to determine future traffic levels on Sandy Lane and Yarnton Lane, traffic data has been reviewed from the following sources:

- TEMPro;
- Department for Transport; and
- Cherwell District Council’s Local Plan 2011-2031 (Part 1) Partial Review.

### TEMPro Predicted Growth

5.2. TEMPro, the Trip End Model Presentation Program, is a program designed to allow detailed analysis of pre-processed trip-end, journey mileage, car ownership and population/workforce planning data from the National Trip End Model (NTEM). TEMPro is also the industry standard tool for estimating traffic growth, which is required when assessing the traffic impact of a development on the local highway network. The model forecasts the growth in trip origin to destination up to 2051 for use in transport modelling, considering population, employment, housing, car ownership and trip rates.

5.3. The TEMPro database has been interrogated to ascertain what traffic, pedestrian and cycle levels are predicted to be in the future. Data has been obtained year-on-year up until 2031, which would coincide with the end of the adopted Cherwell Local Plan, the County Councils VISSIM model and is the point anticipated that the Policy Review sites will be build out (discussed further in paragraphs 5.17-5.25). Data has also been obtained for the years 2032 and 3033 which allows for the ‘Land East of the A44’ (PR8) site to be fully built out.

5.4. Growth forecasts have been obtained for the local area of Yarnton/Kidlington using data for the Cherwell 17-19 Super Output Areas (Middle Layer). The data incorporates all known local committed developments and allocated sites. Within the 11-year period between 2022-2033, TEMPro predicts housing levels would grow by 1,569 dwellings, which would equate to 143 dwellings per annum. In addition to the growth in housing figures the number of employment opportunities locally would increase by 385, an increase of 35 jobs per year. When compared against current/live planning applications these numbers appear to under predict the levels of growth, particularly with respect to housing numbers, which are likely to be in excess of 2,500 dwellings within this period.

5.5. A summary of the TEMPro growth forecasts for vehicles, pedestrians and cyclists are presented in **Table 3**.

**Table 3 – TEMPro Growth Forecasts**

Forecast Year	Vehicle	Pedestrian	Cycle
2022 - 2025	1.063	1.028	1.024
2022 - 2026	1.076	1.037	1.032
2022 - 2027	1.086	1.042	1.036
2022 - 2028	1.096	1.048	1.040
2022 - 2029	1.105	1.053	1.044
2022 - 2030	1.115	1.059	1.048
2022 - 2031	1.125	1.064	1.051
2022 - 2032	1.136	1.069	1.055
2022 - 2033	1.147	1.074	1.059

- 5.6. The above forecasts indicate year on year growth between 2025 and 2033. Between 2022 and 2033 vehicle flows are predicted to increase by 14.7%, pedestrian trips by 7.4% and cycle trips by 5.9%.
- 5.7. The above forecasts are consistent with other TEMPro data sets throughout Great Britain which indicate growth, albeit not to the levels previously forecast by older datasets. This is primarily due to travel patterns changing over recent years, with more and more people now working from home, due to lifestyle changes brought about by the Covid-19 pandemic, improvements in remote working capabilities (due to technological advancements) and the increase in online shopping/deliveries. Forecast future traffic flows are therefore predicted to be lower than previous estimates.
- 5.8. Applying the above growth forecasts in **Table 3** to the existing traffic flows on Sandy Lane and Yarnton Lane (as detailed in **Table 2**) would result in the following number of two-way trips (vehicle, pedestrian and cycle), presented in **Table 4**.

**Table 4 – Sandy Lane & Yarnton Lane Future Traffic Flows (TEMPro Adjusted)**

Year	Sandy Lane			Yarnton Lane		
	Vehicle	Pedestrian	Cycle	Vehicle	Pedestrian	Cycle
2022	2,506	6	94	61	75	25
2025	2,663	6	96	65	77	26
2026	2,697	6	97	66	78	26
2027	2,721	6	97	66	78	26
2028	2,746	6	98	67	79	26
2029	2,770	6	98	67	79	26
2030	2,794	6	98	68	79	26
2031	2,820	6	99	69	80	26
2032	2,848	6	99	69	80	26
2033	2,876	6	100	70	81	26
<b>Total Increase</b>	<b>370</b>	<b>0</b>	<b>6</b>	<b>9</b>	<b>6</b>	<b>1</b>

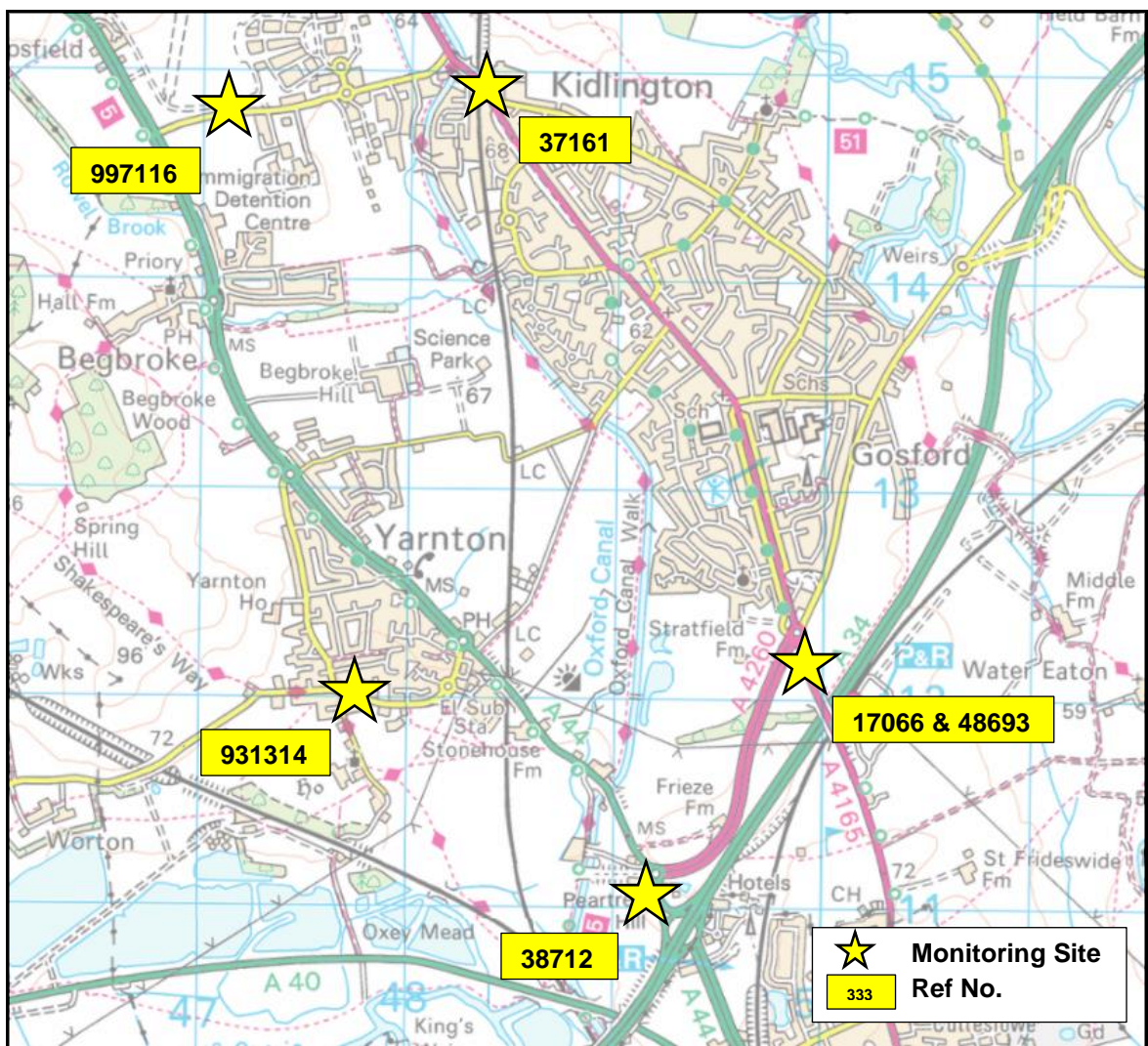
- 5.9. The data presented in **Table 4** would indicate that vehicle flows on Sandy Lane and Yarnton Lane would increase by 370 (13%) and 9 (6%) respectively.
- 5.10. Pedestrian flows would remain the same on Sandy Lane and would increase by 6 (7%) on Yarnton Lane. Cycle flows would be expected to increase slightly, with increases of 6 (6%) predicted on Sandy Lane and 1 (6%) on Yarnton Lane.
- 5.11. The data presented in **Table 4** is likely to reasonably reflect the growth in vehicle trips between Yarnton and Kidlington (albeit slightly under estimated). However, it is considered that the pedestrian/cycle trips have been significantly under predicted. For example, the location of the strategic housing sites, particularly the 'Land East of the A44' site at Begbroke (PR8) would result in a large number of leisure related trips which is not reflected in the above data. The data analysed within the review of the strategic housing sites (paragraphs 6.7-6.27) is considered to more accurately reflect future pedestrian/cycle flows.



### Department for Transport Monitoring Sites

- 5.12. In areas such as those around Oxford, traffic volumes are not necessarily increasing on an exponential basis as one would expect if traffic forecasts assumed all traffic associated with committed developments is 'new'. In such instances it is appropriate to consider local traffic trends when deriving traffic forecasts to ensure that the outcome can be considered realistic and plausible.
- 5.13. Historic traffic data has therefore been analysed to determine how traffic flows have changed on the local highway network over the past 20 years. Data has been obtained from the Department for Transport (DfT) for traffic monitoring sites located locally in the Yarnton and Kidlington areas. A plan showing the site locations is provided below.

**Figure 2 – DfT Traffic Monitoring Site Locations**



- 5.14. A summary of the motor vehicle and cycle flows between 2000 and 2018 are presented in **Table 5** and **Table 6**. With regards to Covid related transport effects, the historic data did not include traffic data during the Covid pandemic and therefore any traffic effects of the pandemic have not been accounted for.

**Table 5 – DfT Motor Vehicle Two-Way Trips**

Year	997116	931314	38712	48693	17066	37161
2018	-	-	-	12,584	17,843	-
2017	-	-	29,649	-	-	-
2016	-	-	-	-	-	14,807
2015	-	-	33,610	-	-	-
2014	-	-	-	-	18,149	-
2013	-	-	30,963	-	-	-
2012	-	-	-	10,350	-	-
2011	-	-	28,654	-	-	-
2010	-	-	30,237	-	18,526	-
2009	10,338	3,467	30,793	-	-	-
2008	10,316	3,480	32,691	11,272	21,082	-
2007	10,376	3,733	-	-	-	12,950
2006	9,720	3,408	-	-	-	-
2005	9,599	3,640	-	-	-	14,298
2004	9,108	3,729	-	-	20,181	-
2003	9,612	3,511	-	-	-	15,128
2002	9,433	-	-	-	-	16,033
2001	8,701	-	33,678	10,342	20,272	15,468
2000	8,691	-	-	-	-	-
<b>Change</b>	<b>1,647</b>	<b>-44</b>	<b>-4,029</b>	<b>2,242</b>	<b>-2,429</b>	<b>-661</b>

**Table 6 – DfT Cycle Two-Way Trips**

Year	997116	931314	38712	48693	17066	37161
2018				4	556	
2017			290			
2016						294
2015			248			
2014					519	
2013			200			
2012				14		
2011			229			
2010			156		493	
2009	124	36	90			
2008	105	47	161	17	567	
2007	96	40				176
2006	143	38				
2005	54	30				256
2004	66	19			384	
2003	73	24				479

Year	997116	931314	38712	48693	17066	37161
2002	102					247
2001	131		131	1	533	447
2000	42					
<b>Change</b>	<b>12</b>	<b>12</b>	<b>159</b>	<b>3</b>	<b>23</b>	<b>-153</b>

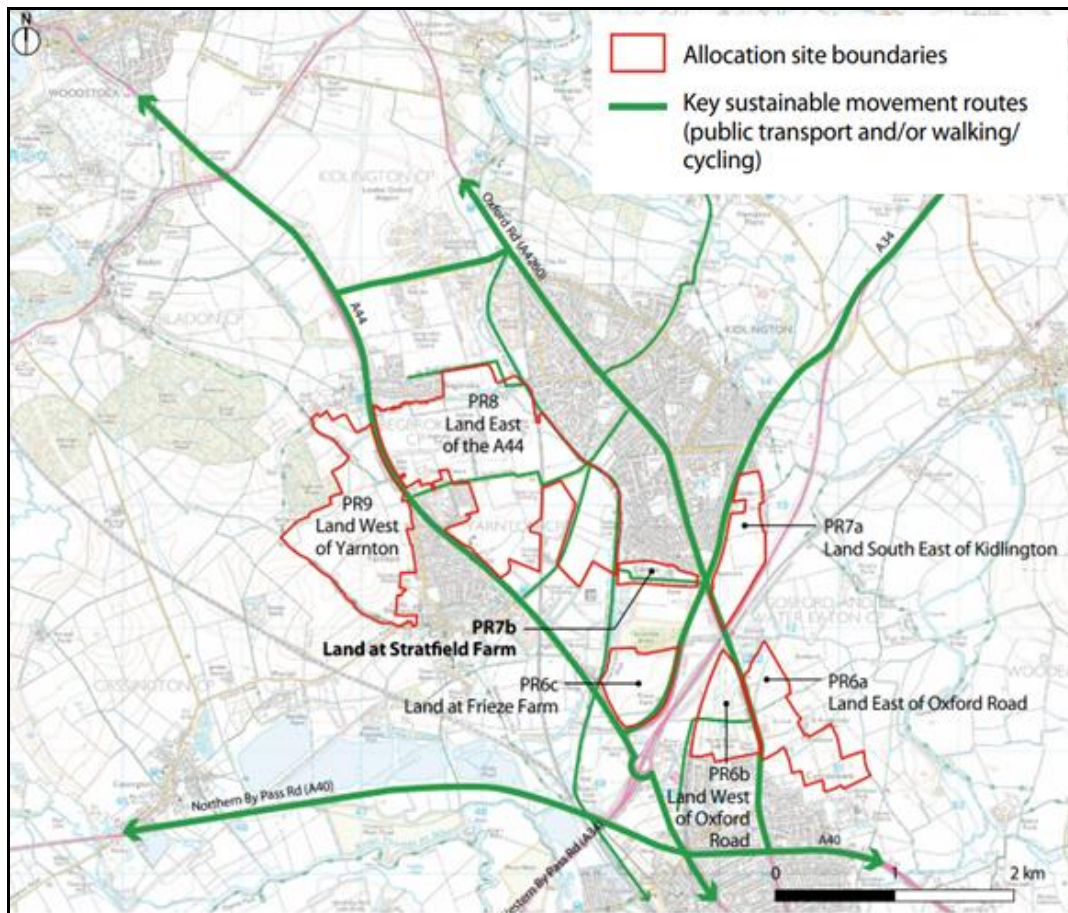
- 5.15. The data presented in **Table 5** indicates that traffic flows have remained relatively constant on the local highway network and as a whole, traffic flows have decreased. It would therefore be reasonable to assume that with the exception of the strategic housing sites that flows will continue to remain at similar levels and that they could show a slight reduction. This conclusion is consistent with the findings detailed within the “Oxford PR Sites VISSIM Assessment Forecast Capping Discussion Note” (dated May 2023) which found “the trend of traffic levels between 2002 and 2017 is a negative one” for traffic data sites locally. The report also compares traffic trends relative to housing delivery which reveals that the drop in traffic volumes is actually accompanied by an increase in housing provision.
- 5.16. Cycle flows presented in **Table 6** indicate slight increases at 6 of the 7 monitoring sites. Numbers are expected to continue to rise in the future with the Councils vision to deliver a net-zero Oxfordshire transport and travel system by 2040 as well as reducing private vehicle use, and prioritising walking, cycling, and public transport.

### Local Developments

- 5.17. The Cherwell Local Plan 2011-2031 (Part 1) Partial Review (LPPR), which provides for Cherwell’s share of Oxford City’s unmet housing needs, identifies six strategic housing sites within close proximity to the Sandy Lane and Yarnton Lane level crossings at Yarnton and Kidlington.
- 5.18. Of particular importance to this study is the ‘Land East of the A44’ site at Begbroke (PR8) and ‘Land West of Yarnton’ site at Yarnton (PR9), referred to collectively as the ‘PR sites’. Both PR sites would directly impact upon the traffic flows at the Sandy Lane and/or Yarnton Lane level crossings and are therefore considered in more detail within this study. The other PR sites, namely PR6a, PR6b, PR7a and PR7b are all unlikely to result in a material change in traffic flows on Sandy Lane or Yarnton Lane.
- 5.19. A plan illustrating the location of the above-mentioned strategic housing sites is provided in **Figure 3**.



**Figure 3 – Local Plan Partial Review Site Allocations Location**



- 5.20. The LPPR provides for the development of a total of six strategic housing sites that will best achieve the Council's vision and objectives and deliver sustainable development of, in total, 4,400 new homes to meet Oxford's needs together with supporting infrastructure.
- 5.21. The PR sites have all been allocated based on their existing and future characteristics and are therefore all well located to existing settlements and facilities. They are expected to bring forward a range of facilities and measures, both internally and externally which will facilitate internalisation of trips, reducing the need to travel and ensure that as many residual trips as possible are catered for by active travel and public transport modes. The number of walking/cycling trips could therefore be high.
- 5.22. At the time of writing this report two planning applications have been submitted to Cherwell District Council for developments associated with 'Land East of the A44' (PR8). These include the following applications which are both currently pending consideration:
- 23/03307/OUT – Former Piggery and Land North of Woodstock Road, Yarnton – Hallam Land Management Ltd – Outline planning application for the residential development of up to 300 dwellings with associated infrastructure and open space (outline) and new access off the A44 (detailed) – Validated December 2023 – Awaiting Decision; and
  - 23/02098/OUT – Begbroke Science Park Begbroke Hill Begbroke (PR8) – Outline application, with all matters reserved, for a multi-phased (severable), comprehensive residential-led mixed use development comprising circa 1,800 dwellings – Validated August 2023 – Awaiting Decision.



- 5.23. A planning application has also been submitted to Cherwell District Council for development associated with the 'Land West of Yarnton' site (PR9). The details of this planning application, which was recently allowed at appeal are provided below.
- 21/03522/OUT – Land West of Yarnton (PR9) – The erection of up to 540 dwellings (Class C3), up to 9,000sqm GEA of elderly/extra care residential floorspace (Class C2), a Community Home Work Hub (up to 200sqm) (Class E) – Validated March 2024 – Appeal Allowed 2nd April 2024.
- 5.24. In addition to the above-mentioned strategic housing sites (PR sites), a planning application has also been submitted to redevelop 'Yarnton Home and Garden Centre'. This planning application is also pending consideration. The application details are provided below.
- 24/00657/OUT – Yarnton Home and Garden Sandy Lane Yarnton – Retention of existing garden centre and associated car parking, in a modified fashion. Outline application, proposed 10no. two storey dwellings accessed from Sandy Lane. Proposed new day nursery (approx. 90no. children) and proposed 120no. units of retirement living accommodation in two to four storey development. Proposed new two-tier decked car park to provide approximately 270no. car parking spaces, plus retention of existing car parking area in modified fashion, and staff car parking – Validated March 2024 – Awaiting Decision.
- 5.25. Should all of the above-mentioned sites be granted planning permission, they would generate significant amounts of vehicle, pedestrian and cycle movements some of which would reasonably be expected to route via Sandy Lane and/or Yarnton Lane. The technical work submitted in support of each of the planning applications has been interrogated to determine the predicted change in traffic flows on Sandy Lane and Yarnton Lane. The results of this exercise are detailed in the following paragraphs.

### ***Trip Generation***

- 5.26. The North Oxford VISSIM model has been used to assess the cumulative impact of development generated traffic from the PR sites on the operation of the highway network. The VISSIM model is a micro-simulation model representing a large study area. The model is primarily formed of four key corridors including a 7km section of the A34 corridor, an 11km section of the A40 corridor, an 11km section of the A44-A4144 corridor and a 12km section of the A4260-A4165 corridor.
- 5.27. The PR sites have all engaged with Oxfordshire County Council over a number of years to agree the scope of the modelling including the model software, study area, trip rates and assumptions for permitted, committed and planned growth.
- 5.28. The model has been calibrated to run to a future year of 2031, this being the end of the Cherwell Local Plan, at which point it is anticipated that all PR sites will be built out, albeit PR8 is expected to be completed shortly afterwards by 2033.
- 5.29. Sandy Lane is identified as a Quietway and Policy PR8 of the Partial Review Local Plan requires Sandy Lane to be closed to vehicular traffic and to be for active travel only. As a result, all future year model runs have assumed that the Sandy Lane level crossing would be closed. No modelling has been undertaken of a 'without Sandy Lane closure' scenario.
- 5.30. The assumption that Sandy Lane would be closed to vehicular traffic is not based on any feasible evidence. The assumption is that because PR8 requires Sandy Lane to be closed to vehicular traffic, it will be. There is no mechanism in place for this to happen. The modelling should therefore have included for a scenario whereby the level crossing are open and the closure is either delayed or denied consent.

5.31. In the absence of this scenario the agreed trip rates, distribution patterns, trip purpose and modal split data used to inform the VISSIM model for the PR8 application (the most comprehensive of all the submissions) have been analysed and manually input to determine what the likely increase in vehicle, pedestrian and cycle trips would be on Sandy Lane and Yarnton Lane for each of the above-mentioned planning applications (once fully built out). The results of this exercise are detailed below in **Tables 7-9** with the calculations provided in **Appendix A**.

**Table 7 – 2033 External Development Generated Daily Trips via Sandy Lane & Yarnton Lane**

Development Site	Pedestrian	Cycle	Vehicle
PR8	449	447	820
East A44	13	21	48
Yarnton Home & Garden Centre	5	3	5
PR9	20	32	73
<b>Total</b>	<b>487</b>	<b>502</b>	<b>945</b>

*Note: Numbers do not add up due to rounding.*

**Table 8 – 2033 Internal Development Generated Daily Trips via Sandy Lane & Yarnton Lane**

Development Site	Pedestrian	Cycle	Vehicle
PR8	72	18	0
East A44	60	3	0
Yarnton Home & Garden Centre	N/A	N/A	N/A
PR9	5	5	0
<b>Total</b>	<b>137</b>	<b>26</b>	<b>0</b>

**Table 9 – 2033 Total Daily Trips via Sandy Lane & Yarnton Lane**

Development Site	Pedestrian	Cycle	Vehicles
<b>Total</b>	<b>625</b>	<b>531</b>	<b>946</b>

*Note: Numbers do not add up due to rounding.*

5.32. As detailed in **Table 9**, The total daily trips over the Sandy Lane and Yarnton Lane level crossing from the PR sites would be 946 vehicles, 625 pedestrians and 531 cyclists. The above trip generation is the predicted demand and does not take into account the current nature of Sandy Lane (which has no pedestrian facilities). The lack of pedestrian facilities on Sandy Lane could potentially deter some individuals from walking or alternatively could result in some pedestrians choosing to route via Yarnton Lane (which is a lightly trafficked lane and for this reason much more attractive to pedestrians). Reasons for not walking on Sandy Lane or routing via Yarnton Lane could depend upon the purpose of the trip and the end destination.

5.33. The split via Sandy Lane and Yarnton Lane is detailed below in **Table 10**.

**Table 10 – 2033 Total Development Generated Trips Split via Sandy Lane & Yarnton Lane (excluding background traffic)**

Road	Pedestrian	Cycle	Vehicles
Sandy Lane	549	506	946
Yarnton Lane	76	25	0

5.34. The predicted year-on-year traffic flows on Sandy Lane and Yarnton Lane are detailed in **Table 12**. The build-out assumptions are detailed within **Appendix A**.

**Table 12 – Yearly Change in daily flows on Sandy Lane & Yarnton Lane**

Year	Sandy Lane			Yarnton Lane		
	Pedestrian	Cycle	Vehicle	Pedestrian	Cycle	Vehicle
2022	6	94	2,506	75	25	61
2023	6	94	2,506	75	25	61
2024	11	101	2,521	76	26	61
2025	20	111	2,540	76	26	61
2026	309	259	2,705	88	30	61
2027	332	285	2,763	98	34	61
2028	466	511	3,249	111	37	61
2029	486	530	3,293	121	41	61
2030	506	548	3,336	132	44	61
2031	526	567	3,380	141	48	61
2032	541	584	3,416	147	49	61
2033	555	600	3,452	151	50	61

5.35. The percentage increase in trips on Sandy Lane and Yarnton Lane in 2033 is detailed in **Table 11**.

**Table 11 – 2033 Percentage Change in daily flows on Sandy Lane & Yarnton Lane**

Mode	Year/Change	Sandy Lane	Yarnton Lane
Pedestrian	Existing	6	75
	Future	555	151
	% Change	9,150%	101%
Cycle	Existing	94	25
	Future	600	50
	% Change	538%	100%
Vehicles	Existing	2,506	61
	Future	3,452	61
	% Change	38%	0%

5.36. Following occupation of the strategic housing sites pedestrian and cycle trips are expected to increase significantly on Sandy Lane and Yarnton Lane. The increase in vehicle trip is more moderate with a 38% increase expected on Sandy Lane. No increase in vehicle trips is expected on Yarnton Lane. Note: We have assumed all vehicular traffic travelling to/from Kidlington would use Sandy Lane rather than Yarnton Lane.

#### **Mode Shift Targets**

5.37. Oxfordshire County Council's Local Transport and Connectivity Plan (LTCP), adopted in July 2022, outlines a clear vision to deliver a net-zero Oxfordshire transport and travel system by 2040 as well as reducing private vehicle use, and prioritising walking, cycling, and public transport.

5.38. The LTCP includes the following targets for replacing or removing car trips across the County:

By 2030:

- Replace or remove 1 out of every 4 current car trips in Oxfordshire.
- Increase the number of cycle trips from 600,000 to 1 million cycle trips per week: and
- Reduce road fatalities or life changing injuries by 50%.

By 2040:

- Deliver a net-zero transport network; and
- Replace or remove an additional 1 out of 3 car trips in Oxfordshire.

By 2050:

- Deliver a transport network that contributes to a climate positive future; and
- Have zero, or as close as possible, road fatalities or life-changing injuries.

5.39. The LTCP mode shift targets have not been included in the PR site modelling. If the LTCP targets are realised (i.e., 25% mode shift away from the car by 2030) through a wider set of interventions currently being planned by the County Council, then the predicted vehicle, pedestrian and cycle trips would be as detailed in **Table 13** below. Note: The 25% reduction has also been applied to background traffic and assumes an even shift in terms of walking, cycling and public transport trips (8.33% increase). The below table does not include public transport trips.

**Table 13 – Yearly Change in daily flows on Sandy Lane & Yarnton Lane (Incl. 25% Mode Shift)**

Year	Mode Shift	Sandy Lane			Yarnton Lane		
		Pedestrian	Cycle	Vehicle	Pedestrian	Cycle	Vehicle
2022	0%	6	94	2506	75	25	61
2023	0%	6	94	2506	75	25	61
2024	5%	53	143	2395	77	27	58
2025	10%	105	196	2286	78	28	55
2026	15%	444	394	2299	91	33	52
2027	18%	498	451	2266	102	38	50
2028	20%	683	728	2599	115	41	49
2029	23%	738	782	2536	126	46	47
2030	25%	784	826	2502	137	49	46
2031	25%	808	849	2535	147	53	46
2032	25%	826	869	2562	152	54	46
2033	25%	843	888	2589	156	55	46

5.40. With the 25% mode shift the percentage increase in trips on Sandy Lane and Yarnton Lane in 2033 is detailed in **Table 14**.



**Table 14 – 2033 Percentage Change in daily flows on Sandy Lane & Yarnton Lane (Incl. 25% Mode Shift)**

Mode	Year/Change	Sandy Lane	Yarnton Lane
Pedestrian	Existing	6	75
	Future	843	156
	% Change	13,950%	108%
Cycle	Existing	94	25
	Future	888	55
	% Change	845%	120%
Vehicles	Existing	2,506	61
	Future	2,589	46
	% Change	3%	-25%

5.41. If the LTCP targets are realised (i.e., 25% mode shift away from the car by 2030) through a wider set of interventions currently being planned by the County, then the network will operate significantly better than predicted to be in the future. As presented in **Table 14**, with the 25% mode shift, pedestrian and cycle trips are expected to further increase on Sandy Lane and Yarnton Lane. The increase in vehicle trips would be relatively modest at only 3% on Sandy Lane (as opposed to 38% without the mode shift interventions/measures).

5.42. A 25% mode shift towards more active/sustainable modes of transport is considered highly optimistic and would be extremely difficult to achieve within such a short period of time (by 2030). A more realistic and achievable target by 2030 would be a 10% mode shift away from the private car, with walking/cycling and public transport trips increasing by 3.33% each. The predicted vehicle, pedestrian and cycle trips on Sandy Lane / Yarnton Lane with a 10% mode shift are detailed in **Table 15** below. Note: The 10% reduction has also been applied to background traffic and assumes an even shift in terms of walking, cycling and public transport trips (3.33% increase). The table below does not include public transport trips.

**Table 15 – Yearly Change in daily flows on Sandy Lane & Yarnton Lane (Incl. 10% Mode Shift)**

Year	Mode Shift	Sandy Lane			Yarnton Lane		
		Pedestrian	Cycle	Vehicle	Pedestrian	Cycle	Vehicle
2022	0%	6	94	2506	75	25	61
2023	0%	6	94	2506	75	25	61
2024	0%	11	101	2521	76	26	61
2025	0%	20	111	2540	76	26	61
2026	2%	327	277	2651	88	30	60
2027	4%	369	322	2652	99	35	59
2028	6%	531	576	3054	112	38	57
2029	8%	574	618	3030	123	43	56
2030	10%	617	659	3002	134	46	55
2031	10%	639	680	3042	144	50	55
2032	10%	655	698	3074	149	51	55
2033	10%	670	715	3107	153	52	55

5.43. With the 10% mode shift the percentage increase in trips on Sandy Lane and Yarnton Lane in 2033 is detailed in **Table 16**.

**Table 16 – 2033 Percentage Change in daily flows on Sandy Lane & Yarnton Lane (Incl. 10% Mode Shift)**

Mode	Year/Change	Sandy Lane	Yarnton Lane
Pedestrian	Existing	6	75
	Future	670	153
	% Change	11,067%	104%
Cycle	Existing	94	25
	Future	715	52
	% Change	661%	108%
Vehicles	Existing	2,506	61
	Future	3,107	55
	% Change	24%	-10%

5.44. If the 10% target is realised there would be a significant increase in vehicle, pedestrian and cycle trips on Sandy Lane. Yarnton Lane would experience modest increases in pedestrian / cycle trips and a decrease in vehicle trips by 10%.

## 6. Summary

- 6.1. This Technical Note has been prepared by WIE on behalf of Network Rail and considers the likely increase in vehicle, pedestrian and cycle movements over the Sandy Lane Yarnton Lane level crossings in Oxfordshire up to 2033.
- 6.2. The average two-way traffic flow on Sandy Lane in 2022 was 2,506 vehicles per day. Pedestrian and cycle movements on Sandy Lane were low in number, with an average of 6 two-way pedestrian movements per day and 94 cycle movements per day in 2022. Yarnton Lane is a lightly trafficked lane with only 61 two-way vehicle trips recorded per day in 2022. Pedestrian and cycle movements are also low in number, with an average of 75 two-way pedestrian movements recorded per day and 25 two-way cycle movements recorded on average per day in 2022.
- 6.3. The PR sites are predicted to increase daily trips on Sandy Lane and Yarnton Lane by 2033 as follows:
- 946 vehicles via Sandy Lane (38% increase) and 0 vehicles via Yarnton Lane (0%);
  - 549 pedestrians via Sandy Lane (9,150% increase) and 76 pedestrians via Yarnton Lane (104% increase); and
  - 506 cycles via Sandy Lane (538% increase) and 25 cycles via Yarnton Lane (100% increase).
- 6.4. Overall the PR will significantly impact the Sandy Lane and Yarnton Lane levels crossings with the 'Land East of the A44' site at Begbroke (PR8), which includes circa 1,800 dwellings, having the greatest impact.
- 6.5. Oxfordshire County Council's LTCP outlines a vision to deliver a net-zero Oxfordshire transport and travel system by 2040 as well as reducing private vehicle use, and prioritising walking, cycling, and public transport. Should the LTCP targets be realised (i.e., 25% mode shift away from the car by 2030) then the predicted increase/decrease in vehicle, pedestrian and cycle trips would be as follows:

- 83 vehicles via Sandy Lane (3% increase) and -15 vehicles via Yarnton Lane (25% decrease);
- 837 pedestrians via Sandy Lane (13,950% increase) and 81 pedestrians via Yarnton Lane (108% increase); and
- 794 cycles via Sandy Lane (845% increase) and 30 cycles via Yarnton Lane (120% increase).

6.6. A 25% mode shift towards more active/sustainable modes of transport is considered highly optimistic and would be extremely difficult to achieve within such a short period of time (by 2030). A more realistic and achievable target by 2030 would be a 10% mode shift away from the private car, with walking/cycling and public transport trips increasing by 3.33% each. Should a 10% mode shift be achieved then the predicted increase/decrease in vehicle, pedestrian and cycle trips would be as follows:

- 601 vehicles via Sandy Lane (24% increase) and -6 vehicles via Yarnton Lane (10% decrease);
- 664 pedestrians via Sandy Lane (11,067% increase) and 78 pedestrians via Yarnton Lane (104% increase); and
- 621 cycles via Sandy Lane (661% increase) and 27 cycles via Yarnton Lane (108% increase).

## 7. Conclusion

- 7.1. Vehicle, pedestrian, and cycle numbers are all expected to rise by significant amounts by 2033, particularly on Sandy Lane. Should Oxfordshire County Council's mode shift target (25%) be realised, the increase in pedestrian/cycle trips over the Sandy Lane and Yarnton Lane levels crossings would be even more significant. A 10% mode shift is considered more appropriate and achievable by 2030. A 10% shift away from the private car would still result in a significant increase in vehicle, pedestrian and cycle trips over the Sandy Lane level crossing. Yarnton Lane would experience more modest changes in vehicle, pedestrian and cycle flows.
- 7.2. Overall, the PR sites will significantly impact the Sandy Lane and Yarnton Lane levels crossings with the Land East of the A44' site at Begbroke (PR8) having the greatest impact.

## **Appendix A – Trip Generation Calculations**



**PR8 Development (taken from the TA)**

**Total External Trip Generation - Daily**

<b>External Trip Generation Daily</b>	<b>2 Way</b>
<b>Land Use / Trip Purpose</b>	
<b>Residential to Employment</b>	3376
<b>Residential to Leisure</b>	2740
<b>Residential to Shopping</b>	2265
<b>Residential to Education</b>	352
<b>Off-Site to Begbrook Science Park (employment)</b>	13075
<b>Off-Site to Education (staff)</b>	590
<b>External Primary School Pupil</b>	255
<b>External Secondary School Pupil</b>	1042
<b>Hotel</b>	993

**Residential External Distribution - using Sandy & Yarton Lanes**

	<b>Employment</b>	<b>Leisure</b>	<b>Shopping</b>	<b>Primary Education</b>	<b>Secondary Education</b>
<b>Cherwell 017</b>	4.2%	2.5%	12.0%		
<b>Cherwell 018</b>	1.1%	2.5%	2.0%	2.3%	
<b>Cherwell 019</b>	8.2%	1.7%	19.0%	4.3%	0.6%
<b>Cherwell 019*</b>	1.6%	0.3%	3.8%	0.9%	0.1%
<b>Cherwell 017</b>	142	69	272		
<b>Cherwell 018</b>	37	69	45	8	
<b>Cherwell 019*</b>	55	9	86	3	0
<b>Total</b>	<b>234</b>	<b>146</b>	<b>403</b>	<b>11</b>	<b>0</b>

\* Assuming 20% of Cherwell 0.19 Area

**Non Residential Trips Distribution - using Sandy & Yarton Lanes**

	<b>Primary Education</b>	<b>Secondary Education</b>	<b>School Staff</b>	<b>Employment</b>
<b>Cherwell 017</b>	33.3%	18.7%	14.0%	2.7%
<b>Cherwell 018</b>	33.3%	18.7%	8.3%	1.9%
<b>Cherwell 019</b>	33.3%	29.0%	14.9%	9.4%
<b>Cherwell 19*</b>	6.7%	5.8%	3.0%	1.9%
<b>Cherwell 017</b>	85	195	83	353
<b>Cherwell 018</b>	85	195	49	248
<b>Cherwell 019*</b>	17	60	18	246
<b>Total</b>	<b>187</b>	<b>450</b>	<b>149</b>	<b>847</b>

**External Mode Share**

<b>Land Use / Trip Purpose</b>	<b>Walk</b>	<b>Cycle</b>	<b>Public Transport</b>	<b>Car Driver</b>	<b>Passenger</b>
<b>Residential to Employment</b>	10.5%	15.9%	29.0%	38.9%	5.8%
<b>Residential to Leisure</b>	5.4%	16.7%	45.8%	26.9%	5.3%
<b>Residential to Shopping</b>	10.8%	14.6%	30.7%	38.2%	5.8%
<b>Residential to Education</b>	17.9%	26.0%	27.5%	15.2%	13.4%
<b>Off-Site to BSP</b>	6.8%	21.1%	21.0%	46.8%	4.3%
<b>Off-Site to Education (staff)</b>	15.1%	24.4%	16.3%	41.1%	3.1%
<b>Off-Site to Primary School</b>	47.5%	12.8%	7.5%	16.7%	15.5%
<b>Off-Site to Secondary School</b>	44.8%	18.8%	17.3%	9.9%	9.2%
	19.9%	18.8%	24.4%		
<b>Residential to Employment</b>	25	37	68	91	14
<b>Residential to Leisure</b>	8	24	67	39	8
<b>Residential to Shopping</b>	44	59	124	154	23
<b>Residential to Education</b>	2	3	3	2	2
<b>Off-Site to BSP</b>	58	179	178	397	36
<b>Off-Site to Education (staff)</b>	23	36	24	61	5
<b>Off-Site to Primary School</b>	89	24	14	31	29
<b>Off-Site to Secondary School</b>	202	85	78	45	41

**Total External Trips from the Development using Sandy and Yarton Lanes**

<b>Total External Daily Trips over the bridges</b>	<b>Walk</b>	<b>Cycle</b>	<b>Public Transport</b>	<b>Car Driver</b>	<b>Passenger</b>
	449	447	556	820	158

**Internalisation Daily Leisure Trips**

<b>Total Internal Daily Trips over the bridges</b>	<b>Walk*</b>	<b>Cycle*</b>	<b>Public Transport</b>	<b>Car Driver</b>	<b>Passenger</b>
	36	9	0	0	0

\* Assumed that 2% of the internal walking trips will use Sandy Lane. National Stats for Cherwell assume 20% of Houses undertake Leisure Walking Trips more than 5 times a week. When looking at the site layout and the green routes provided it is thought that only 2% will undertake a circular walk using Yarton and Sandy Lanes

\* Assumed that 0.5% of the internal cycling trips will use Sandy Lane. National Stats for Cherwell assume 6% of Houses undertake Leisure Cycling Trips once per week. When looking at the site layout and the cycling routes provided it is thought that only 0.5% will undertake a circular cycle ride using Yarton and Sandy Lanes daily

East A44 Development (taken from the TA)

Total External Residential Trip Generation - Daily

External Trip Generation Daily	2 Way
Land Use / Trip Purpose	
Residential to Employment	562.67
Residential to Leisure	456.67
Residential to Shopping	377.50
Residential to Education	58.67

Residential External Distribution - using Sandy & Yarton Lanes

	Employment	Leisure	Shopping	Primary Education	Secondary Education
Cherwell 017	4.2%	2.5%	12.0%		
Cherwell 018	1.1%	2.5%	2.0%	2.3%	
Cherwell 019	8.2%	1.7%	19.0%	4.3%	0.6%
Cherwell 019*	1.6%	0.3%	3.8%	0.9%	0.1%
Cherwell 017	24	11	45		
Cherwell 018	6	11	8	1	
Cherwell 019*	9	2	14	1	0
<b>Total</b>	<b>39</b>	<b>24</b>	<b>67</b>	<b>2</b>	<b>0</b>

\* Assuming 20% of Cherwell 0.19 Area

External Mode Share

Land Use / Trip Purpose	Walk	Cycle	Public Transport	Car Driver	Passenger
Residential to Employment	10.5%	15.9%	29.0%	38.9%	5.8%
Residential to Leisure	5.4%	16.7%	45.8%	26.9%	5.3%
Residential to Shopping	10.8%	14.6%	30.7%	38.2%	5.8%
Residential to Education	17.9%	26.0%	27.5%	15.2%	13.4%
Residential to Employment	4	6	11	15	2
Residential to Leisure	1	4	11	7	1
Residential to Shopping	7	10	21	26	4
Residential to Education	0	1	1	0	0
Off-Site to BSP	0	0	0	0	0
Off-Site to Education (staff)	0	0	0	0	0
Off-Site to Primary School	0	0	0	0	0
Off-Site to Secondary School	0	0	0	0	0



### Total External Trips from the Development using Sandy Lane

Total External Daily Trips over the railway	Walk	Cycle	Public Transport	Car Driver	Passenger
	13	21	44	48	8

### Internalisation Daily Leisure Trips

Total Internal Daily Trips over the railway	Walk	Cycle	Public Transport	Car Driver	Passenger
	30	2	0	0	0

\* Assumed that 1% of the internal walking trips will use Sandy Lane. National Stats for Cherwell assume 20% of Houses undertake Leisure Walking Trips more than 5 times a week. When looking at the site layout and the green routes provided it is thought that only 1% will undertake a circular walk using Yarton

\* Assumed that 0.5% of the internal cycling trips will use Sandy Lane. National Stats for Cherwell assume 6% of Houses undertake Leisure Cycling Trips once per week. When looking at the site layout and the cycling routes provided it is thought that only 0.5% will undertake a circular cycle ride using Yarton and

Yarnton Home & Garden (taken from the TA)  
Future Year 2031

Total External Trip Generation - Daily

External Trip Generation Daily	2 Way
Land Use / Trip Purpose	
Residential to Employment	16.88
Residential to Leisure	13.70
Residential to Shopping	11.33
Residential to Education	1.76
Off-Site to Begbrook Science P	0.00
Off-Site to Education (staff)	14.75
External Nursery School Pupil	12.75
External Secondary School Pup	0.00

Residential External Distribution - using Sandy Lane

	Employment	Leisure	Shopping	Primary Education	Secondary Education
Cherwell 017	4.2%	2.5%	12.0%		
Cherwell 018	1.1%	2.5%	2.0%	2.3%	
Cherwell 019	8.2%	1.7%	19.0%	4.3%	0.6%
Cherwell 019*	1.6%	0.3%	3.8%	0.9%	0.1%
Cherwell 017	1	0	1		
Cherwell 018	0	0	0	0	
Cherwell 019*	0	0	0	0	0
<b>Total</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>0</b>

\* Assuming 20% of Cherwell 0.19 Area

Non Residential Trips Distribution - using Sandy Lane

	Primary Education	Secondary Education	School Staff	Employment
Cherwell 017	33.3%	18.7%	14.0%	2.7%
Cherwell 018	33.3%	18.7%	8.3%	1.9%
Cherwell 019	33.3%	29.0%	14.9%	9.4%
Cherwell 19*	6.7%	5.8%	3.0%	1.9%
Cherwell 017	4	0	2	0
Cherwell 018	4	0	1	0
Cherwell 019*	1	0	0	0
<b>Total</b>	<b>9</b>	<b>0</b>	<b>4</b>	<b>0</b>

\* Assuming 20% of Cherwell 0.19 Area

**External Mode Share**

Land Use / Trip Purpose	Walk	Cycle	Public Transport	Car Driver	Passenger
Residential to Employment	10.5%	15.9%	29.0%	38.9%	5.8%
Residential to Leisure	5.4%	16.7%	45.8%	26.9%	5.3%
Residential to Shopping	10.8%	14.6%	30.7%	38.2%	5.8%
Residential to Education	17.9%	26.0%	27.5%	15.2%	13.4%
Off-Site to BSP	6.8%	21.1%	21.0%	46.8%	4.3%
Off-Site to Education (staff)	15.1%	24.4%	16.3%	41.1%	3.1%
Off-Site to Primary School	47.5%	12.8%	7.5%	16.7%	15.5%
Off-Site to Secondary School	44.8%	18.8%	17.3%	9.9%	9.2%
Residential to Employment	0	0	0	0	0
Residential to Leisure	0	0	0	0	0
Residential to Shopping	0	0	1	1	0
Residential to Education	0	0	0	0	0
Off-Site to BSP	0	0	0	0	0
Off-Site to Education (staff)	1	1	1	2	0
Off-Site to Primary School	4	1	1	2	1
Off-Site to Secondary School	0	0	0	0	0

**Total External Trips from the Development using Sandy Lane**

Total External Daily Trips over the bridges	Walk	Cycle	Public Transport	Car Driver	Passenger
	5	3	3	5	2

PR9 Development (taken from the TA)  
Future Year 2028

**Total External Trip Generation - Daily**

External Trip Generation Daily	2 Way
Land Use / Trip Purpose	
Residential to Employment	1012.80
Residential to Leisure	822.00
Residential to Shopping	679.50
Residential to Education	105.60
Off-Site to Begbrook Science P	0
Off-Site to Education (staff)	0
External Primary School Pupil	0
External Secondary School Pu	0

**Residential External Distribution - using Sandy Lane**

	Employment	Leisure	Shopping	Primary Education	Secondary Education
<b>Cherwell 017</b>	4.2%	2.5%	12.0%		
<b>Cherwell 018</b>	1.1%	2.5%	2.0%	2.3%	
<b>Cherwell 019</b>	8.2%	1.7%	19.0%	4.3%	0.6%
<b>Cherwell 019*</b>	0.4%	0.1%	1.0%	0.2%	0.0%
<b>Cherwell 017</b>	43	21	82		
<b>Cherwell 018</b>	11	21	14	2	
<b>Cherwell 019*</b>	4	1	6	0	0
<b>Total</b>	<b>58</b>	<b>42</b>	<b>102</b>	<b>3</b>	<b>0</b>

\* Assuming 5% of Cherwell 0.19 Area

**Non Residential Trips Distribution - using Sandy Lane**

	Primary Education	Secondary Education	School Staff	Employment
<b>Cherwell 017</b>	33.3%	18.7%	14.0%	2.7%
<b>Cherwell 018</b>	33.3%	18.7%	8.3%	1.9%
<b>Cherwell 019</b>	33.3%	29.0%	14.9%	9.4%
<b>Cherwell 19*</b>	1.7%	1.5%	0.7%	0.5%
<b>Cherwell 017</b>	0	0	0	0
<b>Cherwell 018</b>	0	0	0	0
<b>Cherwell 019*</b>	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

\* Assuming 5% of Cherwell 0.19 Area

### External Mode Share

Land Use / Trip Purpose	Walk	Cycle	Public Transport	Car Driver	Passenger
Residential to Employment	10.5%	15.9%	29.0%	38.9%	5.8%
Residential to Leisure	5.4%	16.7%	45.8%	26.9%	5.3%
Residential to Shopping	10.8%	14.6%	30.7%	38.2%	5.8%
Residential to Education	17.9%	26.0%	27.5%	15.2%	13.4%
Off-Site to BSP	6.8%	21.1%	21.0%	46.8%	4.3%
Off-Site to Education (staff)	15.1%	24.4%	16.3%	41.1%	3.1%
Off-Site to Primary School	47.5%	12.8%	7.5%	16.7%	15.5%
Off-Site to Secondary School	44.8%	18.8%	17.3%	9.9%	9.2%
Residential to Employment	6	9	17	22	3
Residential to Leisure	2	7	19	11	2
Residential to Shopping	11	15	31	39	6
Residential to Education	0	1	1	0	0
Off-Site to BSP	0	0	0	0	0
Off-Site to Education (staff)	0	0	0	0	0
Off-Site to Primary School	0	0	0	0	0
Off-Site to Secondary School	0	0	0	0	0

### Total External Trips from the Development using Sandy Lane

Total External Daily Trips over the bridges	Walk	Cycle	Public Transport	Car Driver	Passenger
	20	32	68	73	12

### Internalisation Daily Leisure Trips

Total Internal Daily Trips over the bridges	Walk	Cycle	Public Transport	Car Driver	Passenger
	3	3	0	0	0

\* Assumed that 0.5% of the internal walking trips will use Sandy Lane. National Stats for Cherwell assume 20% of Houses undertake Leisure Walking Trips more than 5 times a week. When looking at the site layout and the green routes provided it is thought that only 0.5% will undertake a circular walk using

\* Assumed that 0.5% of the internal cycling trips will use Sandy Lane. National Stats for Cherwell assume 6% of Houses undertake Leisure Cycling Trips once per week. When looking at the site layout and the cycling routes provided it is thought that only 0.5% will undertake a circular cycle ride using

Individual Lane Numbers according to build out

Sandy Lane Daily Count

Year	Sites	Build out	Pedestrians	Cyclists	Vehicles Average
2022	PR8	n/a	0	0	0
	East A44	n/a	0	0	0
	Yarton Home & Garden	n/a	0	0	0
	PR9	n/a	0	0	0
	<b>Total</b>		<b>6</b>	<b>94</b>	<b>2506</b>
2023	PR8	n/a	0	0	0
	East A44	n/a	0	0	0
	Yarton Home & Garden	n/a	0	0	0
	PR9	n/a	0	0	0
	<b>Total</b>		<b>6</b>	<b>94</b>	<b>2506</b>
2024	PR8	Planning	0	0	0
	East A44	Planning	0	0	0
	Yarton Home & Garden	Planning	0	0	0
	PR9	108	5	7	15
	<b>Total</b>		<b>11</b>	<b>101</b>	<b>2521</b>
2025	PR8	Build Out	0	0	0
	East A44	Build Out	0	0	0
	Yarton Home & Garden	10	5	3	5
	PR9	216	9	14	29
	<b>Total</b>		<b>20</b>	<b>111</b>	<b>2540</b>
2026	PR8	225	278	140	142
	East A44	50	6	1	8
	Yarton Home & Garden	10	5	3	5
	PR9	324	14	21	44
	<b>Total</b>		<b>309</b>	<b>259</b>	<b>2705</b>
2027	PR8	450	291	157	178
	East A44	100	12	4	16
	Yarton Home & Garden	10	5	3	5
	PR9	432	18	27	58
	<b>Total</b>		<b>332</b>	<b>285</b>	<b>2763</b>
2028	PR8	675	414	373	641
	East A44	150	18	6	24
	Yarton Home & Garden	10	5	3	5
	PR9	540	23	35	73
	<b>Total</b>		<b>466</b>	<b>511</b>	<b>3249</b>
2029	PR8	900	428	390	677
	East A44	200	24	8	32
	Yarton Home & Garden	10	5	3	5
	PR9	540	23	35	73
	<b>Total</b>		<b>486</b>	<b>530</b>	<b>3293</b>



2030	PR8	1125	442	407	712
	East A44	250	30	9	40
	Yarton Home & Garden	10	5	3	5
	PR9	540	23	35	73
	<b>Total</b>		<b>506</b>	<b>548</b>	<b>3336</b>
2031	PR8	1350	456	423	748
	East A44	300	36	12	48
	Yarton Home & Garden	10	5	3	5
	PR9	540	23	35	73
	<b>Total</b>		<b>526</b>	<b>567</b>	<b>3380</b>
2032	PR8	1575	471	440	784
	East A44	300	36	12	48
	Yarton Home & Garden	10	5	3	5
	PR9	540	23	35	73
	<b>Total</b>		<b>541</b>	<b>584</b>	<b>3416</b>
2033	PR8	1800	485	456	820
	East A44	300	36	12	48
	Yarton Home & Garden	10	5	3	5
	PR9	540	23	35	73
	<b>Total</b>		<b>555</b>	<b>600</b>	<b>3452</b>

#### Assumptions

Yarton Lane only includes internal peds and cyclists, same as Sandy Lane numbers

East A44 - Yarton Lane includes 50% peds and 50% cyclists, the rest using Sandy Lane incl the vehicles

#### Build Outs

PR8 - 2026 1 primary, 1 secondary build out

PR8 - 2028 2 primary, 1 secondary and Tech Park build out

Yarton Lane Daily Count

Year	Sites	Build out	Pedestrians	Cyclists	Vehicles Average
2022	PR8	n/a	0	0	0
	East A44	n/a	0	0	0
	Yarton Home & Garden	n/a	0	0	0
	PR9	n/a	0	0	0
	<b>Total</b>		<b>75</b>	<b>25</b>	<b>61</b>
2023	PR8	n/a	0	0	0
	East A44	n/a	0	0	0
	Yarton Home & Garden	n/a	0	0	0
	PR9	n/a	0	0	0
	<b>Total</b>		<b>75</b>	<b>25</b>	<b>61</b>
2024	PR8	Planning	0	0	0
	East A44	Planning	0	0	0
	Yarton Home & Garden	Planning	0	0	0
	PR9	108	1	1	0
	<b>Total</b>		<b>76</b>	<b>26</b>	<b>61</b>
2025	PR8	Build Out	0	0	0
	East A44	Build Out	0	0	0
	Yarton Home & Garden	10	0	0	0
	PR9	216	1	1	0
	<b>Total</b>		<b>76</b>	<b>26</b>	<b>61</b>
2026	PR8	225	5	1	0
	East A44	50	6	2	0
	Yarton Home & Garden	10	0	0	0
	PR9	324	2	2	0
	<b>Total</b>		<b>88</b>	<b>30</b>	<b>61</b>
2027	PR8	450	9	2	0
	East A44	100	12	5	0
	Yarton Home & Garden	10	0	0	0
	PR9	432	2	2	0
	<b>Total</b>		<b>98</b>	<b>34</b>	<b>61</b>
2028	PR8	675	14	3	0
	East A44	150	19	6	0
	Yarton Home & Garden	10	0	0	0
	PR9	540	3	3	0
	<b>Total</b>		<b>111</b>	<b>37</b>	<b>61</b>
2029	PR8	900	18	5	0
	East A44	200	25	8	0
	Yarton Home & Garden	10	0	0	0
	PR9	540	3	3	0
	<b>Total</b>		<b>121</b>	<b>41</b>	<b>61</b>

2030	PR8	1125	23	6	0
	East A44	250	31	10	0
	Yarton Home & Garden	10	0	0	0
	PR9	540	3	3	0
	<b>Total</b>		<b>132</b>	<b>44</b>	<b>61</b>
2031	PR8	1350	27	7	0
	East A44	300	37	13	0
	Yarton Home & Garden	10	0	0	0
	PR9	540	3	3	0
	<b>Total</b>		<b>142</b>	<b>48</b>	<b>61</b>
2032	PR8	1575	32	8	0
	East A44	300	37	13	0
	Yarton Home & Garden	10	0	0	0
	PR9	540	3	3	0
	<b>Total</b>		<b>147</b>	<b>49</b>	<b>61</b>
2033	PR8	1800	36	9	0
	East A44	300	37	13	0
	Yarton Home & Garden	10	0	0	0
	PR9	540	3	3	0
	<b>Total</b>		<b>151</b>	<b>50</b>	<b>61</b>

**External Development Generated Daily Trips via Sandy Lane & Yarnton Lane**

Year	Development Site	Pedestrians	Cycle	Vehicle
2033	PR8	449	447	820
	East A44	13	21	48
	Yarnton Home & Garden	5	3	5
	PR9	20	32	73
	<b>Total</b>	<b>487</b>	<b>502</b>	<b>945</b>

**Internal Development Generated Daily Trips via Sandy Lane & Yarnton Lane**

Year	Development Site	Pedestrians	Cycle	Vehicle
2033	PR8	72	18	0
	East A44	60	3	0
	Yarnton Home & Garden	0	0	0
	PR9	5	5	0
	<b>Total</b>	<b>137</b>	<b>26</b>	<b>0</b>

\* The trips are double counted as a circular trip including both crossings

**Background Traffic on Sandy and Yarnton Lanes**

Year	Development Site	Pedestrians	Cycle	Vehicle
2033	Sandy Lane	6	94	2506
	Yarnton Lane	75	25	61
	<b>Total</b>	<b>81</b>	<b>119</b>	<b>2567</b>

**2033 Total Development Generated Trips via Sandy Lane & Yarnton Lane (exc background trips)**

Year	Development Site	Pedestrians	Cycle	Vehicle
2033	Sandy Lane	549	506	946
	Yarnton Lane	76	25	0
	<b>Total</b>	<b>625</b>	<b>531</b>	<b>946</b>

**2033 Total Development Generated Trips via Sandy Lane & Yarnton Lane incl background trips**

Year	Development Site	Pedestrians	Cycle	Vehicle
2033	Sandy Lane	555	600	3452
	Yarnton Lane	151	50	61
	<b>Total</b>	<b>706</b>	<b>650</b>	<b>3513</b>

**2033 Total Development Generated Trips with 25% Modal Shift applied via Sandy Lane & Yarnton Lane (exc background trips)**

Year	Development Site	Pedestrians	Cycle	Vehicle
2033	Sandy Lane	628	585	710
	Yarnton Lane	76	25	0
	<b>Total</b>	<b>704</b>	<b>610</b>	<b>710</b>

**25% Modal Shift**

Year	Sandy Lane			Yarnton Lane		
	Pedestrian	Cycle	Vehicle	Pedestrian	Cycle	Vehicle
2022	6	94	2506	75	25	61
2023	6	94	2506	75	25	61
2024	53	143	2395	77	27	58
2025	105	196	2286	78	28	55
2026	444	394	2299	91	33	52
2027	498	451	2266	102	38	50
2028	683	728	2599	115	41	49
2029	738	782	2536	126	46	47
2030	784	826	2502	137	49	46
2031	808	849	2535	147	53	46
2032	826	869	2562	152	54	46
2033	843	888	2589	156	55	46

\*25% from the car by 2030

**10% Modal Shift**

Year	Sandy Lane			Yarnton Lane		
	Pedestrian	Cycle	Vehicle	Pedestrian	Cycle	Vehicle
2022	6	94	2506	75	25	61
2023	6	94	2506	75	25	61
2024	11	101	2521	76	26	61
2025	20	111	2540	76	26	61
2026	327	277	2651	88	30	60
2027	369	322	2652	99	35	59
2028	531	576	3054	112	38	57
2029	574	618	3030	123	43	56
2030	617	659	3002	134	46	55
2031	639	680	3042	144	50	55
2032	655	698	3074	149	51	55
2033	670	715	3107	153	52	55