Wokingham Borough Council

WOKINGHAM STRATEGIC TRANSPORT MODEL 4 (WSTM4)

Highway Model Forecasting Methodology

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AUGUST 2019

INTERNAL

Wokingham Borough Council

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Highway Model Forecasting Methodology

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APPENDIX A

1. INTRODUCTION

1.1.1. In 2008 WSP was appointed as the Highways and Transport Term consultant for Wokingham Borough Council (WBC). This included the use and on-going maintenance of the Wokingham Strategic Transport Model (WSTM) to support transport policies and scheme development.

1.1.2. Since this appointment WSP has completed three model updates as follows:

- WSTM2 – Update of Highway model forecast scenarios in SATURN to include details of Strategic Development Locations and mitigation measures;
- WSTM3 – Update to a 2010 model base year with the Highway model in SATURN, Public Transport model in VISUM and Variable Demand Model in DIADEM; and
- WSTM4 – Update to a 2015 base year with Highway model, Public Transport model and Variable Demand Model all developed in VISUM.

1.1.3. The base year of the WSTM4 is 2015, and models have been developed to represent an average weekday AM peak hour (08:00 - 09:00), Inter peak hour (average 10:00 – 16:00) and PM peak hour (17:00 - 18:00).

1.1.4. The model development followed the guidance provided in the Department for Transport's WebTAG (Web-based Transport Analysis Guidance), and is fully described within the following documents:

- WSTM4. Data Collection Report, February 2017;
- WSTM4. Local Model Validation Report, May 2018[1]; and
- WSTM4. Local Model Validation Report Addendum, December 2018[2].

1.1.5. The purpose of this document is to describe the methodology for developing WSTM4 forecast scenarios. This document supersedes the "WSTM4. Highway Model Forecasting Report" (July 2018), and includes updated assumptions for trip rates, committed developments, National Road Traffic Forecasts, fuel and income adjustment factors, and SDL internalisation. Since this document is intended to describe the methodology for developing forecast scenarios in general, and is not specific to a particular set of models, forecasting results, including matrix totals, link flows, delays and level of service have been omitted.

1.1.6. This document describes the approach to developing WSTM4 forecast scenarios, including the methodology for producing forecast demand matrices and networks, and any assumptions which have been made. The report is structured as follows:

- Chapter 2 discusses the forecast demand;

[1]The WSTM4. Local Model Validation Report, May 2018 provides an update to the March 2017 LMVR and describes the revalidation of the WSTM4 in VISUM 17 (highway only).

[2]The WSTM4. Local Model Validation Report Addendum, December 2018 provides an update to the March 2017 LMVR and describes the revalidation of the WSTM4 in VISUM 17 (public transport and variable demand model only).

- Chapter 3 describes the forecast networks; and
- Chapter 4 summarises the report.

1.1.7. WSTM4 forecast scenarios have been developed for 2021, 2026 and 2036. The details of the next Local Plan for the period between 2026 and 2036 are being worked on. Until these are confirmed, the assumption will be made that there are no changes in the infrastructure provision beyond 2026. The growth in travel demand between 2026 and 2036 has been taken into account through applying national traffic forecast projections accessible via DfT's NTEM (National Trip End Model).

1.1.8. The WSTM4 is a multi-modal model consisting of Highway, Public Transport and Variable Demand Models. This report focuses on the development of the highway forecast scenarios (AM and PM only), which are used to inform infrastructure scheme delivery in the borough.

1.1.9. The forecast model development will follow recommendation given in DfT's TAG Unit M4 (May 2018).

2. FORECAST DEMAND

2.1. INTRODUCTION

2.1.1. The matrices have been developed using a number of data sources, including:

- National Trip End Model (NTEM) forecasts;
- DfT fuel and income adjustments;
- National Road Traffic Forecasts;
- TRICS trip rates; and
- Information on significant developments.

2.1.2. Figure 1 shows the process for the production of the forecast demand matrices.

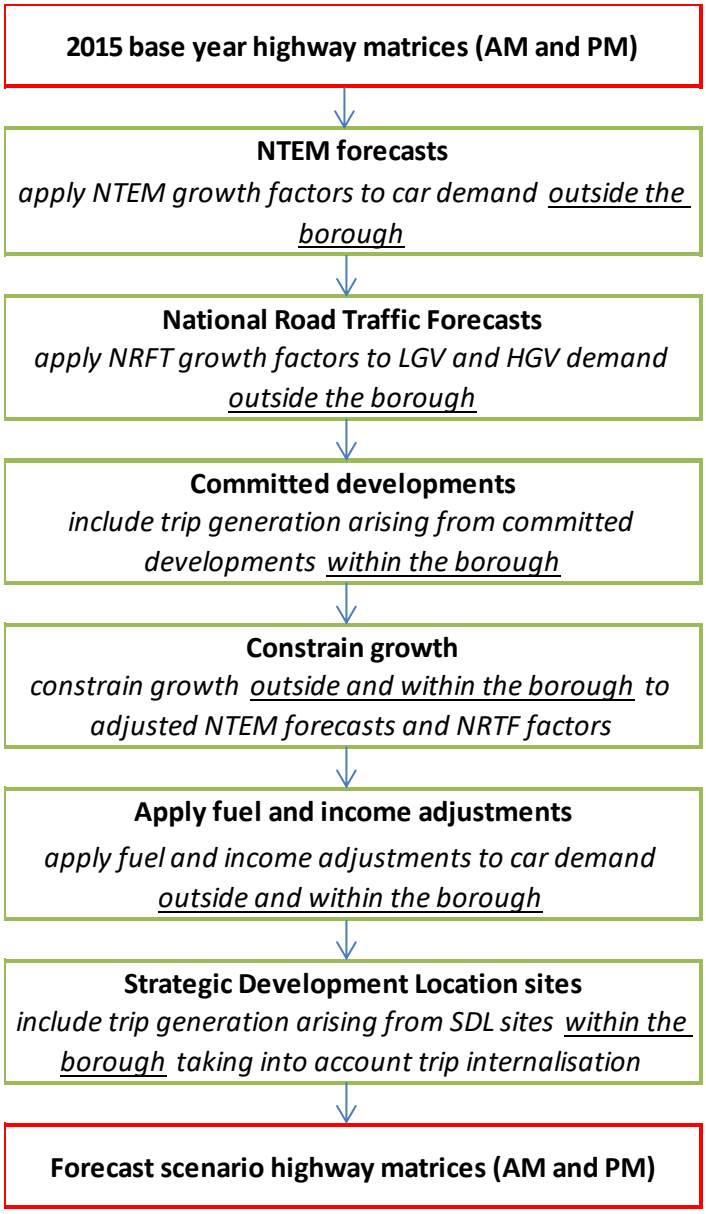

Figure 1 – Forecast matrix development process

2.2. NTEM FORECASTS

2.2.1. Planned development outside Wokingham borough has been accounted for in the model through the use of national projections.

2.2.2. Car growth has been obtained from TEMPRO version 7.2, a software tool that provides projections of growth over time based on outputs from the National Trip End Model (NTEM). NTEM takes into account changes in population, employment, car ownership and trip rates to forecast the growth in trip origins and destinations. It assumes trip costs at base year levels, and it does not allow for changes in travel times, perceived value of time, cost of fuel, and other car operating costs.

2.2.3. NTEM version 7.2 datasets were published on 1 March 2017 and were the latest available set of forecasts at the time the forecast models were completed. 2026 planning projections included within TEMPRO v7.2 for the Local Authorities adjacent to Wokingham borough are reproduced in Table 1.

Table 1 - TEMPRO v7.2 planning projections 2015 - 2026

Locality	HHs			Jobs		
	2015	2026	2015-2026 Growth	2015	2026	2015-2026 Growth
Bracknell Forest	48,010	52,734	4,724	69,399	73,841	4,442
Hart	37,821	40,026	2,205	46,583	49,331	2,748
Basingstoke and Deane	72,570	84,880	12,310	97,148	102,453	5,305
West Berkshire	65,089	72,601	7,512	101,807	108,439	6,632
Reading	66,112	75,116	9,004	103,775	110,569	6,794
South Oxfordshire	57,582	66,619	9,037	70,807	74,538	3,731
Wycombe	70,570	78,054	7,484	93,406	98,561	5,155
Windsor and Maidenhead	60,339	64,672	4,333	88,877	94,693	5,816

2.2.4. Information regarding residential and employment commitments within West Berkshire between 2016 and 2026 was obtained from West Berkshire Council and compared to TEMPRO v7.2 planning projections. The West Berkshire employment commitments were provided in terms of net floor space, so conversion factors from the “Homes and Communities Agency Employment Density Guide 3rd Edition” (November 2015) were used to calculate the number of jobs.

2.2.5. A comparison between residential and employment commitments provided by West Berkshire Council and TEMPRO v7.2 planning projections is presented in Table 2.

Table 2 - West Berkshire Council commitments and TEMPRO v7.2 planning projections 2016 - 2026

Source	Households (2016 – 2026)	Jobs (2016 – 2026)
West Berkshire Council	5,209	2,014
TEMPRO v7.2	6,853	4,662

2.2.6. TEMPRO v7.2 planning projections predict higher growth in households and jobs between 2016 and 2026 than West Berkshire Council trajectories, and therefore provide a robust basis for growth outside Wokingham borough.

2.3. NATIONAL ROAD TRAFFIC FORECASTS

Growth for Light Goods Vehicles (LGV) and Heavy Goods Vehicles (HGV) was obtained from the National Road Traffic Forecasts (NRTF) published by the DfT (September 2018). These growth rates were applied to each region depending on the WSTM4 zone locations. The regional growth factors are shown in Table 3.

Table 3 – National Road Traffic Forecast growth factors 2015 - 2026

Region	LGV Growth	HGV Growth
South East	17.42%	3.72%
North West/West Midlands	17.60%	-0.89%
East Midlands/North East/ Yorkshire & Humber	17.59%	-1.10%
East	16.13%	3.55%
London	20.63%	-1.70%
South West	15.20%	-1.47%
Wales	16.70%	-1.04%

2.4. COMMITTED DEVELOPMENT

2.4.1. NTEM forecasts do not take account of the detailed geographical location of development sites. Instead information on housing and employment committed developments, which has been provided by WBC, was used to quantify growth within the borough.

2.4.2. The committed developments in Wokingham borough between 2015 and 2026 are broken down by development classification in Table 4, and are displayed graphically in Figure 2.

Table 4 - Housing and employment committed developments 2015 - 2026

	Committed Development
Housing (dwellings)	2,686
Employment (m²)	29,621

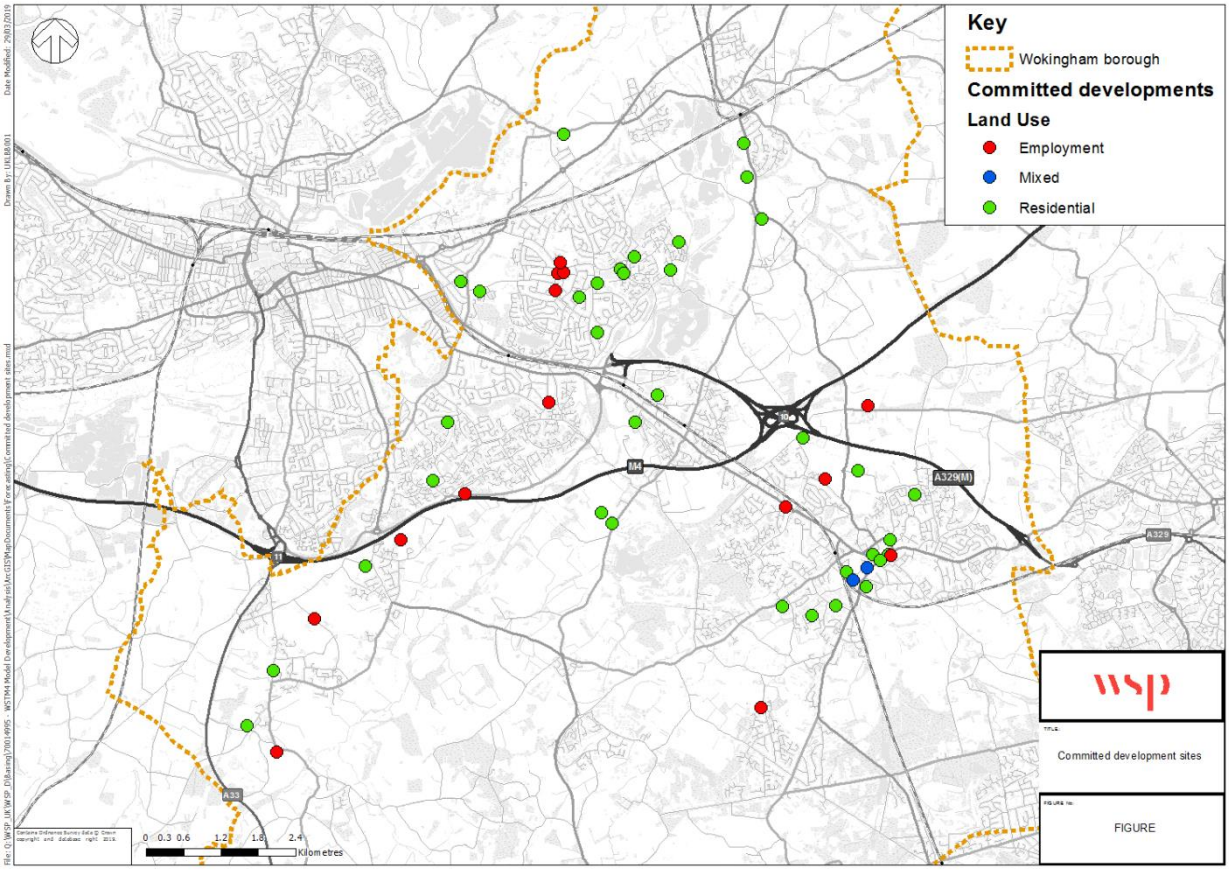

Figure 2 – Housing and employment committed developments 2015 – 2026

2.4.3. The full list of committed developments in Wokingham borough is provided in Appendix A. Negative values for the development quantum indicate a change in land use. For example, part of 6 Library Parade in Woodley is being redeveloped from a Gymnasium (use Class D2) to office space (use class B1).

2.4.4. It has been assumed that all the committed developments will be completed by 2021, the first forecast year.

2.4.5. To calculate the trip generation arising from the committed developments within Wokingham borough, trip rates were applied to the development quantum for each site.

2.4.6. The trip rates have been determined from a selection of representative sites in the TRICS trip generation database. TRICS is the UK and Ireland's national system of trip generation analysis, containing over 7,150 directional transport surveys at over 110 types of development. Sites were generally selected based on the following criteria:

- Regions: South East (excluding Greater London), South West, East Anglia;
- Dates: since June 2013;
- Survey days: Monday, Tuesday, Wednesday, Thursday;
- Survey types: manual count, directional ATC count; and
- Locations: edge of town centre, suburban area, edge of town.

2.4.7. In instances where this did not generate a suitable range of sites, one or more of the above criteria was relaxed. For example, in the last five years no cinema sites were surveyed on the above weekdays, so survey data from a Friday was used.

2.4.8. The car and LGV trips rates for each land use class are provided in Table 5, and the HGV trip rates for each land use class are provided in Table 6. The number of sites used to calculate the trip rates for each development type are also shown.

Table 5 – Car and LGV trip rates, vehicles

	Development Type	Number of Sites	AM Peak Hour (0800-0900)			Av. Inter Peak Hour (1000-1600)			PM Peak Hour (1700-1800)		
			Arrival	Departure	Total	Arrival	Departure	Total	Arrival	Departure	Total
1	Food Retail (A1) per 100sqm	1	2.64	2.14	4.77	6.33	6.09	12.43	6.23	6.89	13.11
2	Non Food Retail (A1) per 100sqm	3	0.20	0.04	0.25	2.56	2.51	5.07	1.57	1.62	3.19
3	Financial and Profesional Services (A2) per 100sqm	10	2.20	0.19	2.39	0.42	0.57	0.99	0.23	1.98	2.22
4	Restaurant & Café (A3) per 100sqm	2	0.00	0.00	0.00	1.68	1.51	3.20	2.68	0.83	3.51
5	Business (B1) per 100sqm	5	1.53	0.16	1.69	0.30	0.33	0.64	0.17	1.30	1.46
6	General Industry (B2) per 100sqm	6	0.51	0.19	0.70	0.22	0.24	0.46	0.10	0.49	0.59
7	Storage or Distribution (B8) per 100sqm	3	0.07	0.06	0.13	0.09	0.10	0.19	0.04	0.09	0.14
8	Hotels (C1) per bed	4	0.33	0.91	1.24	0.27	0.30	0.57	0.59	0.28	0.86
9	Dwelling Houses (C3) per unit	13	0.17	0.41	0.58	0.18	0.18	0.36	0.36	0.16	0.51
10	Dwelling Flats (C3) per unit	8	0.06	0.18	0.25	0.11	0.11	0.22	0.19	0.10	0.29
11	Non-Residential Institutions (D1) per 100sqm	5	6.75	3.60	10.36	5.22	5.26	10.48	3.47	4.64	8.11
12	Primary School (D1) per pupil	2	0.70	0.58	1.28	0.10	0.10	0.20	0.04	0.08	0.11
13	Secondary School (D1) per pupil	4	0.11	0.08	0.19	0.02	0.03	0.05	0.02	0.03	0.05
14	Leisure Centre (D2) per 100sqm	3	0.25	0.27	0.52	0.35	0.31	0.66	1.01	0.70	1.71
15	Cinema (D2) per 100sqm	2	0.00	0.00	0.00	1.11	0.77	1.89	1.10	1.04	2.14
16	Sports Hub (D2) per pitch	1	1.30	0.70	2.00	0.58	0.62	1.20	2.30	0.80	3.10

Table 6 – HGV trip rates, vehicles

	Development Type	Number of Sites	AM Peak Hour (0800-0900)			Av. Inter Peak Hour (1000-1600)			PM Peak Hour (1700-1800)		
			Arrival	Departure	Total	Arrival	Departure	Total	Arrival	Departure	Total
1	Food Retail (A1) per 100sqm	1	0.02	0.06	0.08	0.04	0.03	0.06	0.01	0.02	0.03
2	Non Food Retail (A1) per 100sqm	3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	Financial and Profesional Services (A2) per 100sqm	10	0.01	0.01	0.01	0.00	0.03	0.03	0.00	0.00	0.00
4	Restaurant & Café (A3) per 100sqm	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Business (B1) per 100sqm	5	0.02	0.01	0.03	0.01	0.03	0.04	0.00	0.00	0.01
6	General Industry (B2) per 100sqm	6	0.02	0.01	0.03	0.02	0.03	0.04	0.01	0.01	0.01
7	Storage or Distribution (B8) per 100sqm	3	0.01	0.01	0.03	0.02	0.03	0.05	0.02	0.01	0.03
8	Hotels (C1) per bed	4	0.01	0.01	0.02	0.01	0.01	0.02	0.00	0.00	0.00
9	Dwelling Houses (C3) per unit	13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	Dwelling Flats (C3) per unit	8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	Non-Residential Institutions (D1) per 100sqm	5	0.00	0.00	0.00	0.02	0.02	0.05	0.00	0.00	0.00
12	Primary School (D1) per pupil	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	Secondary School (D1) per pupil	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	Leisure Centre (D2) per 100sqm	3	0.01	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00
15	Cinema (D2) per 100sqm	2	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
16	Sports Hub (D2) per pitch	1	0.10	0.10	0.20	0.00	0.00	0.00	0.00	0.00	0.00

2.4.9. The resulting car and LGV trip generation was divided between the four user classes (car commute, car business, car other, LGV) using the proportions from the base year matrix totals, which are shown in Table 7 below.

Table 7 – Car and LGV proportions

Time Period	Car Commuting	Car Business	Car Other	LGV
AM peak	66%	7%	17%	10%
Inter-peak	28%	8%	46%	18%
PM peak	43%	7%	39%	11%

2.4.10. The trip generation arising from the committed developments was used to calculate the growth forecast for each existing base year zone.

2.4.11. A number of committed developments which exceed a certain threshold (150 dwellings) were modelled explicitly. The explicitly modelled committed developments are listed in Table 8 below.

Table 8 – Explicitly modelled committed developments

Development	Size
Hatch Farm Dairies, Winnersh	433 dwellings
Sandford Farm, Woodley	468 dwellings

2.4.12. Mixed use developments at Elms Field and The Paddocks and Carnival Pool were also modelled explicitly due to their strategic position.

2.4.13. The distribution for the explicitly modelled committed developments was based on the distribution of existing neighbouring zones with similar land uses.

2.5. CONSTRAIN GROWTH

2.5.1. The overall growth outside and within Wokingham borough was then constrained to NTEM forecasts and NRTF factors. The 'Alternative Planning Assumptions' facility within TEMPRO was used to ensure forecasts were consistent with Wokingham trajectories.

2.6. FUEL AND INCOME ADJUSTMENTS

2.6.1. To account for the effect of changes in fuel and income on car trips, fuel and income adjustments were applied using the DfT's TAG Databook, June 2018 release v1.10.1, the latest version available at the time of model development. The factors are shown in Table 9. The resultant growth is presented in Table 10.

Table 9 - Fuel and income adjustment factors

Adjustment	2015	2021	2026	2036
Fuel	1.053	1.086	1.092	1.098
Income	1.012	1.019	1.027	1.052

Table 10 – Growth arising from the application of Fuel and income adjustment factors

Growth	2015/21	2015/26	2015/36
Fuel	3.1%	3.6%	4.2%
Income	0.8%	1.5%	3.9%
Combined	3.9%	5.2%	8.3%

2.7. SDL DEVELOPMENT

2.7.1. In addition to the committed developments within the borough, the demand arising from the Strategic Development Location sites (Arborfield Garrison, North Wokingham, South Wokingham, South of the M4) was considered. The SDLs are shown in Figure 3.

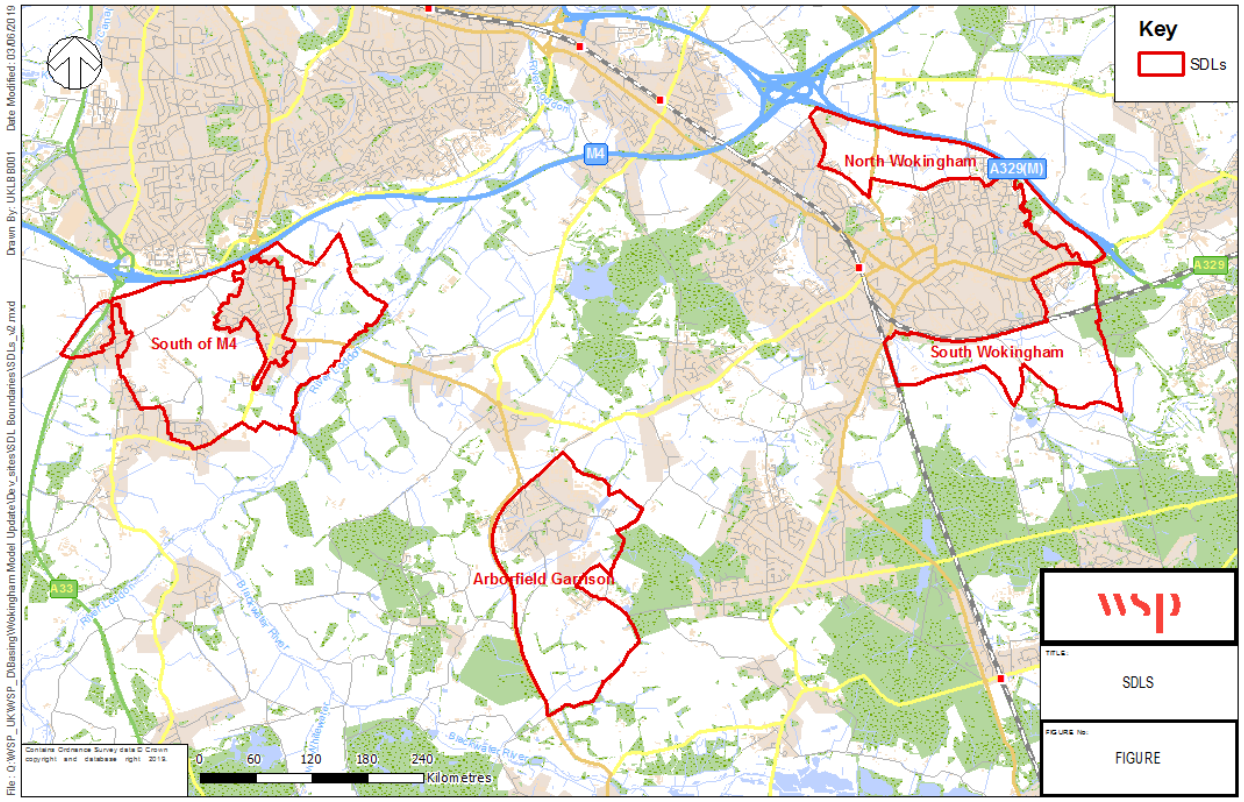

Figure 3 – Strategic Development Locations

2.7.2. The location and size of the individual SDL sites is continuously updated, and the model included the latest assumptions available at the time.

2.7.3. The SDL sites were modelled explicitly. The trip rates shown in Table 5 and Table 6 were used to calculate the trip generation for each site, and the proportions shown in Table 7 were used to split the car and LGV trip generation into the separate user classes.

2.7.4. The distribution for SDL sites was generally based on the distribution of existing neighbouring zones with similar land uses.

2.7.5. The provision of schools, commercial centres and leisure facilities within the SDLs will lead to some internalisation of trips. It was assumed that the schools in each SDL will attract 39% of all education trips from that SDL. This is consistent with the internal/ external split of education trips calculated in the Arborfield Garrison SDL Transport Assessment (September 2014).

2.7.6. It was assumed that commercial and leisure developments within SDLs will attract 5% of trips from that SDL. Although the Arborfield Garrison SDL Transport Assessment (September 2014) assumes 20% of leisure trips will be internal, it was agreed with WBC that a lower percentage should be used to ensure a worst-case scenario was assessed.

2.7.7. 2011 Census Journey to Work data for the employment area nearest to Thames Valley Science Park, which includes the Amec Foster Wheeler site, indicates that 1% of trips are from neighbouring areas. Since there are few major employment sites being proposed in the SDLs, and to ensure a worst-case scenario was assessed, no internalisation of trips was assumed for employment sites.

2.7.8. Unlike the WSTM3 forecast scenarios, no allowance was made for reduced demand due to ‘Smarter Choices’ and ‘Demand Management’ policies. This is to ensure that a worst-case scenario was assessed.

3. FORECAST NETWORK

3.1. COMMITTED SCHEMES

3.1.1. The following committed network improvement schemes were included in the forecast scenarios:

- M4 Smart Motorway (junctions 3 – 12):
  "This scheme will use the latest technology to improve journeys by monitoring traffic flow and setting speed limits accordingly. This helps to keep traffic moving smoothly, instead of continually stopping and starting. Information about road conditions and speed limits will be displayed to drivers on electronic road signs. The proposal also involves converting the hard shoulder permanently to a traffic lane. This will create much needed extra capacity necessary to support economic growth. The conversion of the hard shoulder will be continuous through junctions unless there is an operational reason not to do so. It is proposed that the new lane created from the hard shoulder would continue through junctions 4, 5, 6, 7, 8/9 and 11. It is not proposed for junctions 3 and 12 or at junctions 4b and 10, as these are motorway to motorway links. To enable the provision of a smart motorway along the whole length of the proposed scheme, it will be necessary to widen or replace a number of bridges where there is currently no hard shoulder."
  (Source: Highways England https://highwaysengland.co.uk/projects/m4-junctions-3-12-smart-motorway/)

- Elms Road Link Road:
  "Provision of a new road to link Wellington Road and Shute End, as part of the regeneration of Wokingham Town Centre."
  (Source: Wokingham Borough Council
  http://planning.wokingham.gov.uk/FastWebPL/detail.asp?AltRef=153125&ApplicationNumber=&AddressPrefix=&Postcode=&KeywordSearch=elms+road&Submit=Search)

- Winnersh Relief Road Phase 1:
  A Link road including new junctions with King Street Lane and Lower Earley Way
  (Source: Wokingham Borough Council
  http://planning.wokingham.gov.uk/FastWebPL/detail.asp?AltRef=060468&ApplicationNumber=&AddressPrefix=&Postcode=&KeywordSearch=winnersh+relief+road&Submit=Search)

- Winnersh Relief Road Phase 2:
  A link road connecting B3030 King Street Lane / Winnersh Relief Road Phase 1 to the A329 Reading Road
  (Source: Wokingham Borough Council
  https://planning.wokingham.gov.uk/FastWebPL/detail.asp?AltRef=180760&ApplicationNumber=&AddressPrefix=&Postcode=&KeywordSearch=winnersh+relief+road&Submit=Search)

3.2. SDL SCHEMES

3.2.1. A number of planned infrastructure improvements to support SDL growth were also accounted for in the forecast scenarios, including the following key schemes:

- Arborfield Cross Relief Road (ACRR);

- North Wokingham Distributor Road (NWDR);
- South Wokingham Distributor Road (SWDR); and
- Shinfield Eastern Relief Road (SERR).

3.2.2. These improvements are continuously updated, and the model included the latest assumptions available at the time.

3.2.3. A number of signalised junctions will be introduced as part of the highway improvement schemes. In the instances where these signalised junctions have been assessed in LinSig, the LinSig signal timings were adopted in the WSTM4. In all other cases assumptions were made for the cycle time and phasing, and the green time allocated to each movement was optimised within VISUM.

4. SUMMARY

4.1.1. In 2008 WSP was appointed as the Highways and Transport Term consultant for Wokingham Borough Council (WBC). This included the use and on-going maintenance of the Wokingham Strategic Transport Model (WSTM) to support transport policies and scheme development.

4.1.2. Since this appointment WSP has completed three model updates as follows:

- WSTM2 – Update of Highway model forecast scenarios in SATURN to include details of Strategic Development Locations and mitigation measures;
- WSTM3 – Update to a 2010 model base year with the Highway model in SATURN, Public Transport model in VISUM and Variable Demand Model in DIADEM; and
- WSTM4 – Update to a 2015 base year with Highway model, Public Transport model and Variable Demand Model all developed in VISUM.

4.1.3. The approach to developing WSTM4 forecast scenarios is consistent with the DfT's TAG guidance for developing traffic model forecasts.

4.1.4. NTEM version 7.2 datasets and National Road Traffic Forecasts were used to calculate car and LGV/ HGV growth outside of Wokingham borough. TRICS trip rates were used to calculate the trip generation for committed developments within the borough.

4.1.5. Growth outside and within the borough was then constrained to TEMPRO forecasts and National Road Traffic Forecasts, and fuel and income adjustment factors were applied.

4.1.6. TRICS trip rates were used to calculate the trip generation arising from SDL development within the borough. The trip distribution for SDL sites was generally be based on the trip distribution of neighbouring sites with similar land uses. The trip distribution was then adjusted to account for trip internalisation within SLDs.

4.1.7. The forecast networks include committed infrastructure schemes inside and outside the borough such as M4 Smart Motorway and Elms Road Link Road. A number of planned infrastructure improvements to support SDL growth, for example ACRR, NWDR, SWDR and SERR are also included.

4.1.8. The WSTM4 forecast scenarios will provide a common basis for the assessment of highway infrastructure schemes and development in the borough.

Appendix A

COMMITTED DEVELOPMENTS

Address	Land Use	Class	Unit	Size	Explicitly Modelled?
Norton Road, Wokingham	Residential	C3, Dwelling	Dwellings	9	×
7-9 Wiltshire Road,	Residential	C3, Dwelling	Dwellings	31	×
43 Crockhamwell Road, Woodley,	Employment	A2	sqm	88	×
Lambs Farm Business Park Basingstoke Road Swallowfield Berkshire	Employment	B1	sqm	225	×
Lambs Farm Business Park Basingstoke Road Swallowfield Berkshire	Employment	B8	sqm	225	×
7 Headley Road Woodley	Employment	A2	sqm	-246	×
78 Meadow Road Earley	Employment	B1	sqm	-55	×
6 First Floor Library Parade Crockhamwell Road	Employment	D2, Leisure Centre	sqm	-100	×
6 First Floor Library Parade Crockhamwell Road	Employment	B1	sqm	100	×
Unit N Basingstoke Road Spencers Wood Reading Berkshire	Employment	B1	sqm	70	×
Unit N Basingstoke Road Spencers Wood Reading Berkshire	Employment	B8	sqm	70	×
Land r/o 328 - 348 Barkham Rd, Barkham Hill,	Residential	C3, Dwelling	Dwellings	10	×
51 Peach Street Wokingham Berkshire	Employment	C3, Dwelling	Dwellings	4	×
Cyber House 2, Molly Millars Lane, Wokingham	Residential	C3, Dwelling	Dwellings	65	×
134-146 London Road Twyford	Residential	C3, Dwelling	Dwellings	31	×
Rosa Building, Mulberry Business Park, Wokingham	Residential	C3, Dwelling	Dwellings	33	×
Ilex House, Fishponds Road, Wokingham	Residential	C3, Dwelling	Dwellings	45	×
Hewden Plant Hire Old Forest Road Wokingham	Residential	C3, Dwelling	Dwellings	43	×
Crown House Toutley Industrial Estate, Wokingham	Residential	C3, Dwelling	Dwellings	22	×
Kronos House Finchampstead Road Wokingham	Residential	C3, Dwelling	Dwellings	31	×
Mays Farm Hyde End Road Shinfield	Employment	B8	sqm	217	×
15-27 High Street, Wargrave,	Residential	C3, Dwelling	Dwellings	10	×
7-9 Shute End Wokingham	Residential	C3, Dwelling	Dwellings	10	×
12 Oaklands Business Centre, Oaklands Park Wokingham	Residential	C3, Dwelling	Dwellings	18	×
Loddon Vale House, Hurricane Way, Woodley	Residential	C3, Dwelling	Dwellings	10	×
498 Reading Road Winnersh Berkshire	Residential	C3, Dwelling	Dwellings	8	×
Baileys House Central Walk Wokingham	Residential	C3, Dwelling	Dwellings	8	×
81-109 Crockhamwell Road Woodley	Residential	C3, Dwelling	Dwellings	8	×
Quoin House Fishponds Road	Residential	C3, Dwelling	Dwellings	23	×
Valley Nurseries Whistley Green Hurst	Residential	C3, Dwelling	Dwellings	16	×

151 Land South Of Nash Grove Lane Finchampstead	Employment	B8	sqm	-206	×
Eustace Crescent (now Phoenix Ave), Wokingham	Residential	C3, Dwelling	Dwellings	68	×
Former Fosters Home for the Elderly, Fosters Lane, Woodley	Residential	C3, Dwelling	Dwellings	34	×
Baileys House, Central Walk, Wokingham	Residential	C3, Dwelling	Dwellings	10	×
Sutton Court, Culver Lane, Earley	Residential	C3, Dwelling	Dwellings	-70	×
CCC site, Sandford Farm, Perimeter Rd, Woodley	Residential	C3, Dwelling	Dwellings	73	×
Cantley Lodge Hotel & Johnson House, Wellington Rd, Wokingham	Residential	C3, Dwelling	Dwellings	32	×
Land rear of 40 Arbor Lane, Winnersh	Residential	C3, Dwelling	Dwellings	28	×
The Corner Garage 136 Reading Road Wokingham	Employment	B2	sqm	50	×
UoR Bulmershe Campus, Woodlands Ave, (phase 2)	Residential	C3, Dwelling	Dwellings	239	×
74-80 Peach St, Wokingham	Residential	C3, Dwelling	Dwellings	36	×
Viscount Way, Woodley	Residential	C3, Dwelling	Dwellings	68	×
Former Bearwood Golf Course, Mole Rd, Sindlesham	Residential	C3, Dwelling	Dwellings	18	×
58 Hurst Road Twyford Reading RG10 0AN	Residential	C3, Dwelling	Dwellings	11	×
Land at Market Place, Peach St & Rose St, Wokingham	Residential	C3, Dwelling	Dwellings	21	×
Harp Farm Forest Road Wokingham	Employment	B8	sqm	565	×
3 Danehill Lower Earley Reading	Employment	B1	sqm	-283	×
3 Danehill Lower Earley Reading	Employment	B2	sqm	283	×
81 Crockhamwell Road, Woodley,	Employment	D2, Leisure Centre	sqm	-724	×
Land adj. The Square, Chalfont Way, Lower Earley	Residential	C3, Dwelling	Dwellings	20	×
Thames Valley Science and Innovation Park	Employment	B1, TVSP	sqm	16096	×
UoR Bulmershe Campus, Woodlands Ave, (phase 1)	Residential	C3, Dwelling	Dwellings	34	×
Land at junction of Headley Road East & Spitfire Way, Woodley	Residential	C3, Dwelling	Dwellings	93	×
Courtyard Offices, Sandford Farm, Perimeter Rd, Woodley	Residential	C3, Dwelling	Dwellings	27	×
Part of Former Linpac Site, Headley Rd East, Woodley	Residential	C3, Dwelling	Dwellings	30	×
Folly Court, Blagrove Lane, Wokingham	Residential	C3, Dwelling	Dwellings	100	×
Land off Mohawk Way, Woodley	Residential	C3, Dwelling	Dwellings	16	×
Land west of Beech Hill Road, Spencers Wood	Residential	C3, Dwelling	Dwellings	120	×
Marlborough House, Basingstoke Rd, Spencers Wood	Residential	C3, Dwelling	Dwellings	15	×
UoR - Sibly Hall, Redhatch Drive, Earley	Residential	C3, Dwelling	Dwellings	89	×
Sonning Farm, Sonning	Residential	C3, Dwelling	Dwellings	25	×

Land west of Hurst Rd, Twyford	Residential	C3, Dwelling	Dwellings	8	×
Wheatsheaf Close, Sindlesham	Residential	C3, Dwelling	Dwellings	24	×
Elms Field & The Paddocks, Elms Rd, Wokingham	Mixed	A1	sqm	1631	✓
Elms Field & The Paddocks, Elms Rd, Wokingham	Mixed	A1-A5	sqm	1735	✓
Elms Field & The Paddocks, Elms Rd, Wokingham	Mixed	A1-A5	sqm	548	✓
Elms Field & The Paddocks, Elms Rd, Wokingham	Mixed	A1-A5	sqm	365	✓
Elms Field & The Paddocks, Elms Rd, Wokingham	Mixed	C1	bed	95	✓
Elms Field & The Paddocks, Elms Rd, Wokingham	Mixed	C3, Flats	Dwellings	90	✓
Elms Field & The Paddocks, Elms Rd, Wokingham	Mixed	C3, Houses	Dwellings	36	✓
Elms Field & The Paddocks, Elms Rd, Wokingham	Mixed	D2	sqm	1160	✓
Carnival Pool, Wellington Rd, Wokingham	Mixed	D1	sqm	1750	✓
Carnival Pool, Wellington Rd, Wokingham	Mixed	D2	sqm	1750	✓
Carnival Pool, Wellington Rd, Wokingham	Mixed	A3	sqm	450	✓
Carnival Pool, Wellington Rd, Wokingham	Mixed	C3, Flats	Dwellings	55	✓
Hatch Farm Dairies, Winnersh	Residential	C3	Dwellings	433	✓
Sandford Farm, Woodley	Residential	C3	Dwellings	468	✓

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