



**West
Northamptonshire
Council**

NNWRR - BOUGHTON & MOULTON: TRAFFIC CALMING MEASURES.



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INTRODUCTION

- WSP was commissioned by WNC to test the impact of introducing traffic calming measures in and around the village of Boughton.
- Mitigation measures also tested.
- Using the Northamptonshire Strategic Transport Model (NSTM).
- Northampton North-West Relief Road (NWRR) impacts in and around Boughton also tested.
- Previously tested and reported on by WSP: DM and DM2, DS1-DS8.

The requirements for the mitigation was conditioned as part of the planning agreement as Condition 25, as follows.

“Prior to the new road [Northampton North-West Relief Road (NWRR)] opening the applicant shall consult with Boughton Parish Council to agree the extent and detail of a scheme of measures for ameliorating the impact of traffic from the permitted development on Boughton village. The scheme as may be agreed shall be submitted to the County Planning Authority and implemented in full prior to the new road opening.”

i. Locations.

- 1 - Boughton and Moulton Traffic Calming (Vyse Road between Harborough Road and Howard Lane).
- 2 - Harborough Road / Vyse Road.
- 3 - Harlestone Road / York Way Roundabout / New Sandy Lane.
- 4 - Harborough Road / Holly Lodge Drive junction.

ii. Future Actions.

- Manage and Monitoring 1 - New Sandy Lane / Sandy Lane / Berrywood Road roundabout.
- Manage and Monitoring 2 - Harborough Road / Brampton Lane / High Street.

NSTM MODEL

The Northamptonshire Strategic Transport Model (NSTM) included the assessment of the impact of either road closures and / or traffic calming in and around Boughton.

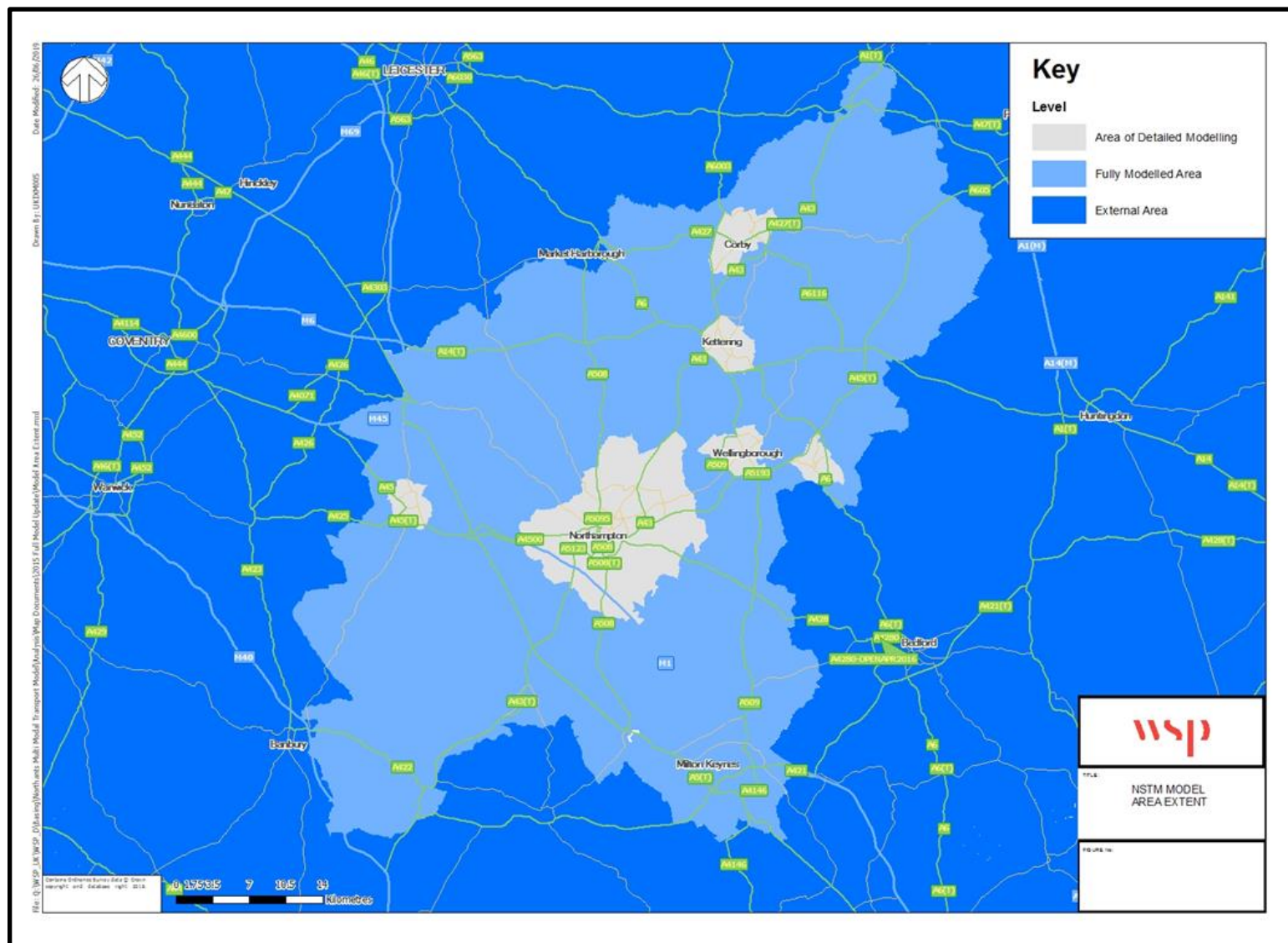
MODELLED AREA

Map 1 shows the regional scale includes a three-tier hierarchy, comprising the following.

- **Area of Detailed Modelling (ADM):** covers all roads with significant traffic volumes and all realistic route choices available to drivers, with all major junctions modelled.
- **Rest of Fully Modelled Area (RFMA):** reduced level of detail, with principal strategic routes modelled and capacity restraint through the use of speed/flow curves and strategically important junctions.
- **External Area (EA):** simplified network allowing traffic to enter the Fully Modelled Area (FMA) at the correct location, without capacity restraint. Skeletal network with approximate distances to allow demand model to capture full trip length.
- Boughton lies in the ADM area of the model.

TIME PERIODS

- AM peak hour: (07:45-09:15).
- PM peak hour: (16:45-18:15).



STUDY AREA

Map 2 shows the key areas considered in analysis.

- Brampton Lane / NWRR.
- Boughton and surrounding parallel routes, e.g. Holly Lodge Drive, Pitsford.
- Moulton and surrounding junctions, such as Round Spinney.



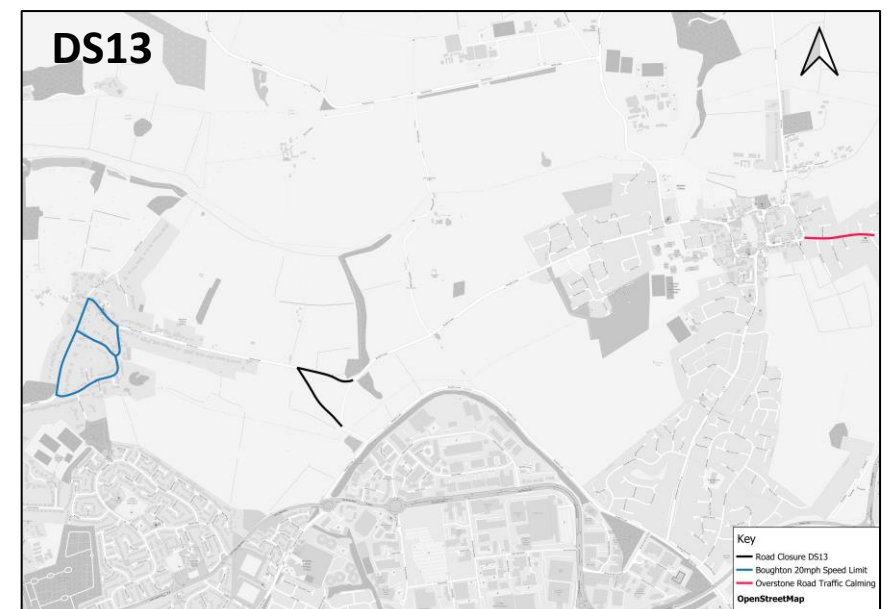
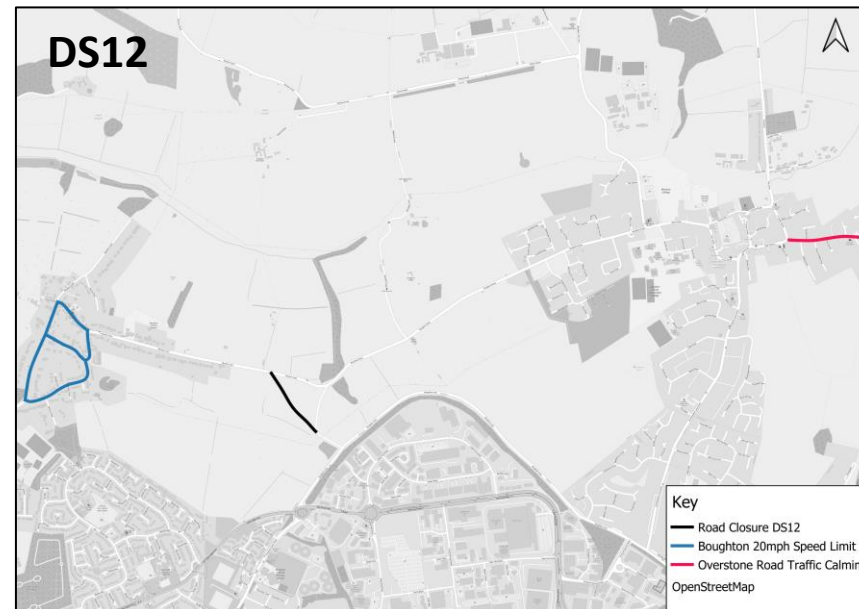
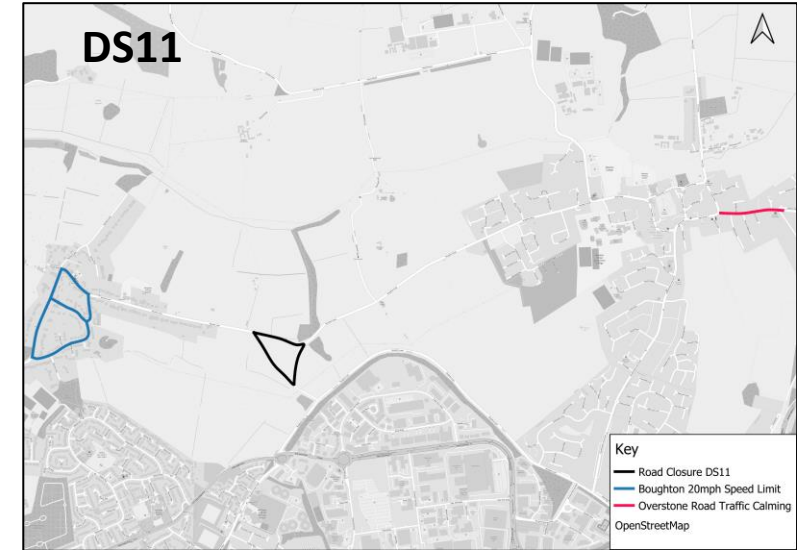
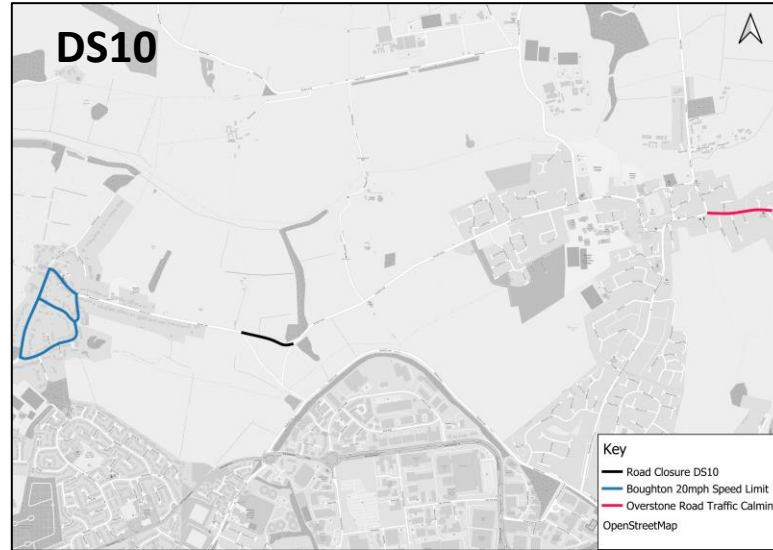
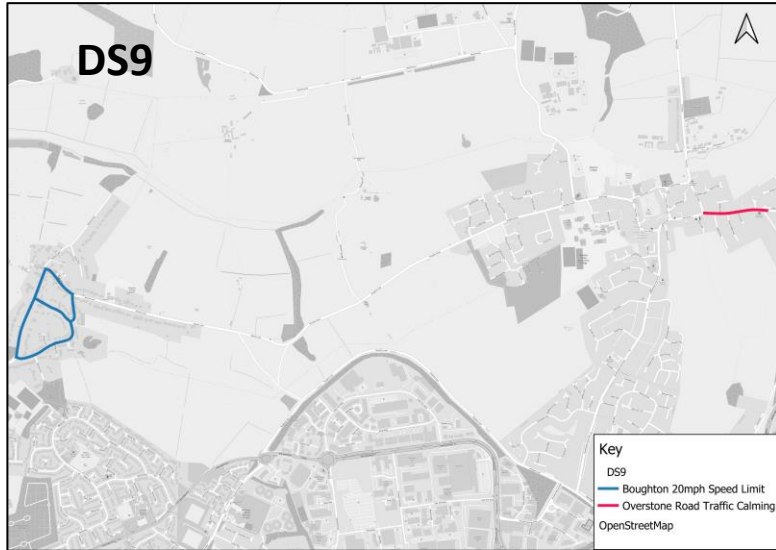
MODEL SCENARIOS

Table 1 – Tested road closures and traffic calming measures in the Boughton area (WSP).

- **Exclusion:** Northampton Northern Orbital Road (NNOR).
- **Do Minimum 3 and 4 (DM3, DM4).**
- **Do Something 9 (DS9)** base that includes closing various sections of roads around Boughton Green.
- **Do Something 10 to 13 (DS10, DS11, DS12, and DS13).**

Scenario	Detail
2031 Do Minimum 3 (DM3) i.e. Baseline.	<ol style="list-style-type: none"> 1. <u>Exclusion.</u> <ul style="list-style-type: none"> • NWRR. 2. <u>Inclusion.</u> <ul style="list-style-type: none"> • Background growth and committed developments and infrastructure to reflect a 2031 forecast year. • Minimal mitigation schemes in and around Boughton. • Mitigation Scheme 4 only. • Calibrated flows outside Boughton Primary School to match base count data and growthed.
2031 Do Minimum 4 (DM4)	<ul style="list-style-type: none"> • DM3. • NNWRR. • Mitigation Schemes 2, 3 and 4.
2031 Do Something 9 (DS9)	<ul style="list-style-type: none"> • DM4. • Speed limit: 20 mph around Boughton. • Traffic calming introduced on Overstone Rd in Moulton.
2031 Do Something 10 (DS10)	<ul style="list-style-type: none"> • DS9. • Closure of E-W movements.
2031 Do Something 11 (DS11)	<ul style="list-style-type: none"> • DS9. • Closure of all three movements around Boughton Green.
2031 Do Something 12 (DS12)	<ul style="list-style-type: none"> • DS9. • Closure of western N-S movements.
2031 Do Something 13 (DS13)	<ul style="list-style-type: none"> • DS9. • Closure of E-W movements. • Closure of western N-S movements.

MODEL MAPPED SCENARIOS



MODEL RESULTS

Table 2 – 2031 hourly traffic flows (AM peak: 08:00 – 09:00, PM peak: 17:00 – 18:00). Flows are in PCUs.

	Scenario	A508 (Kingsthorpe)		East of Boughton (by Primary School)		West of Boughton (Vyse Road)		Through Pitsford / Holcot		East of Moulton (Overstone Rd)		West of Moulton (West St)		Holly Lodge Drive	
		NB	SB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
AM	DM3	1,152	870	245	195	544	209	40	96	273	885	382	499	725	672
	DM4	1,294	785	263	205	567	222	59	108	280	843	416	488	752	789
	DS9	1,270	881	128	128	370	82	90	63	42	49	308	242	865	811
	DS10	1,269	879	118	122	362	77	91	79	40	49	319	238	869	816
	DS11	1,280	901	10	2	419	130	158	127	28	43	350	412	824	762
	DS12	1,252	890	129	128	372	81	89	71	40	49	306	243	865	821
	DS13	1,244	936	10	2	419	130	131	91	40	49	325	237	908	838
PM	DM3	1,232	952	158	341	178	682	58	111	308	518	452	635	474	1,165
	DM4	1,236	770	158	410	180	744	82	96	273	473	502	677	570	1,275
	DS9	1,372	805	167	114	141	396	54	107	68	8	477	337	581	1,297
	DS10	1,380	822	139	91	134	394	53	115	69	8	476	336	603	1,297
	DS11	1,406	849	16	26	171	400	125	142	68	8	656	420	622	1,303
	DS12	1,373	795	168	118	140	397	53	108	68	8	473	337	579	1,299
	DS13	1,388	834	16	26	170	400	111	133	69	8	459	330	633	1,303

MODEL COMPARED RESULTS

Table 3 – % difference between DM4 and each DS scenario.

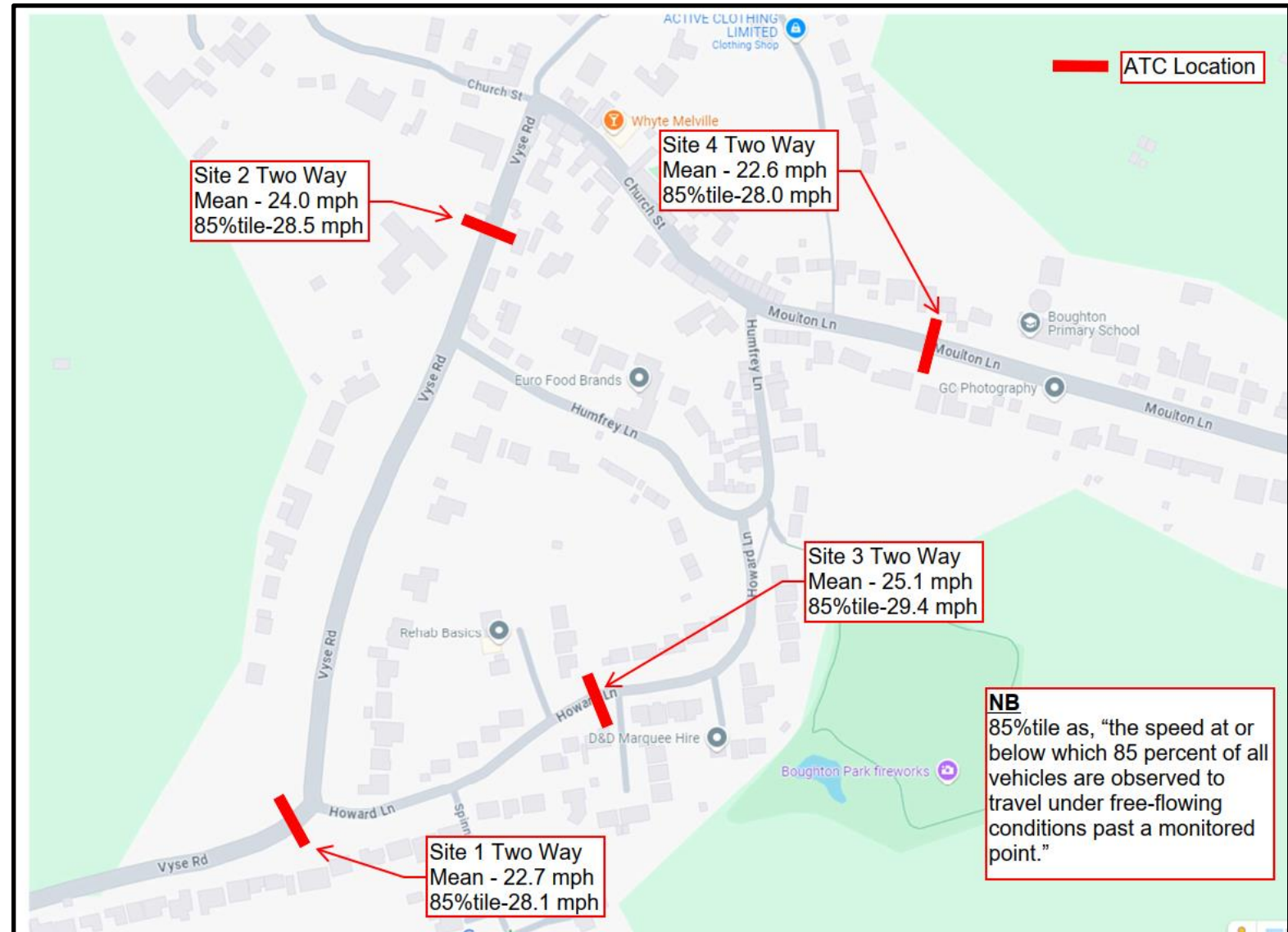
	Scenario	A508 (Kingsthorpe)		East of Boughton (by Primary School)		West of Boughton (Vyse Road)		Through Pitsford / Holcot		East of Moulton (Overstone Rd)		West of Moulton (West St)		Holly Lodge Drive	
		NB	SB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
AM	DM4 vs DS9	-2%	12%	-51%	-38%	-35%	-63%	53%	-42%	-85%	-94%	-26%	-50%	15%	3%
	DM4 vs DS10	-2%	12%	-55%	-40%	-36%	-65%	54%	-27%	-86%	-94%	-23%	-51%	16%	3%
	DM4 vs DS11	-1%	15%	-96%	-99%	-26%	-41%	168%	18%	-90%	-95%	-16%	-16%	10%	-3%
	DM4 vs DS12	-3%	13%	-51%	-38%	-34%	-64%	51%	-34%	-86%	-94%	-26%	-50%	15%	4%
	DM4 vs DS13	-4%	19%	-96%	-99%	-26%	-41%	122%	-16%	-86%	-94%	-22%	-51%	21%	6%
PM	DM4 vs DS9	11%	5%	6%	-72%	-22%	-47%	-34%	11%	-75%	-98%	-5%	-50%	2%	2%
	DM4 vs DS10	12%	7%	-12%	-78%	-26%	-47%	-35%	20%	-75%	-98%	-5%	-50%	6%	2%
	DM4 vs DS11	14%	10%	-90%	-94%	-5%	-46%	52%	48%	-75%	-98%	31%	-38%	9%	2%
	DM4 vs DS12	11%	3%	6%	-71%	-22%	-47%	-35%	13%	-75%	-98%	-6%	-50%	2%	2%
	DM4 vs DS13	12%	8%	-90%	-94%	-6%	-46%	35%	39%	-75%	-98%	-9%	-51%	11%	2%

TRAFFIC & SPEED SURVEYS

December 2024:

Results of the speed survey carried out in Boughton during w/c 11th December 2024 using Automatic Traffic Counters (ATC).

Diagram 1 shows locations and the two-way results for the average and 85th percentile speeds.



SPEED PANEL DECISION - BOUGHTON

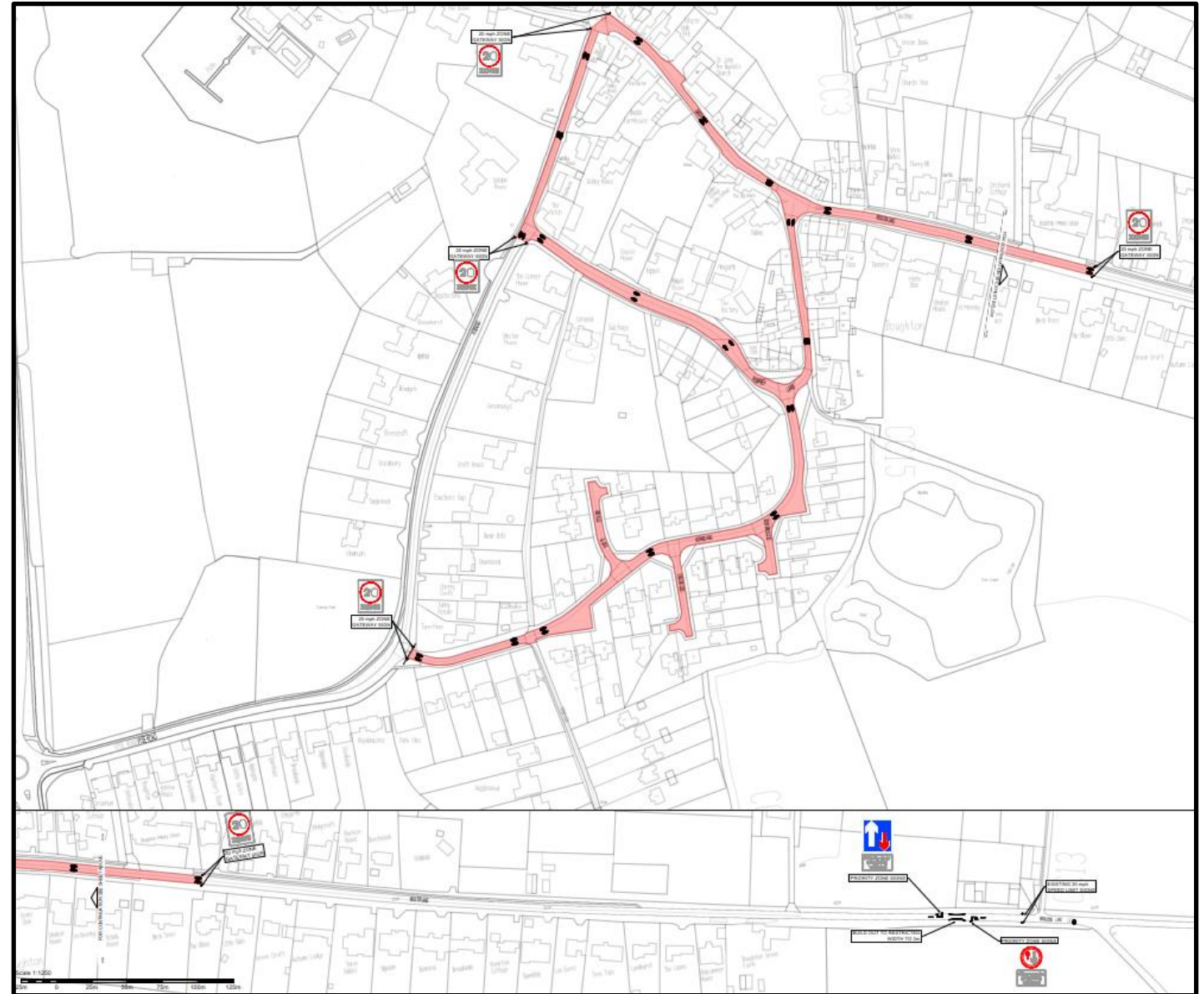
14 January 2025:

WNC's Speed Panel Review.

Agreed way forward.

- Boughton: speed 20mph limit.
- Moulton: extended area of 20mph speed.

Diagram 2 illustrates the roads that will be subject to the new speed in Boughton.

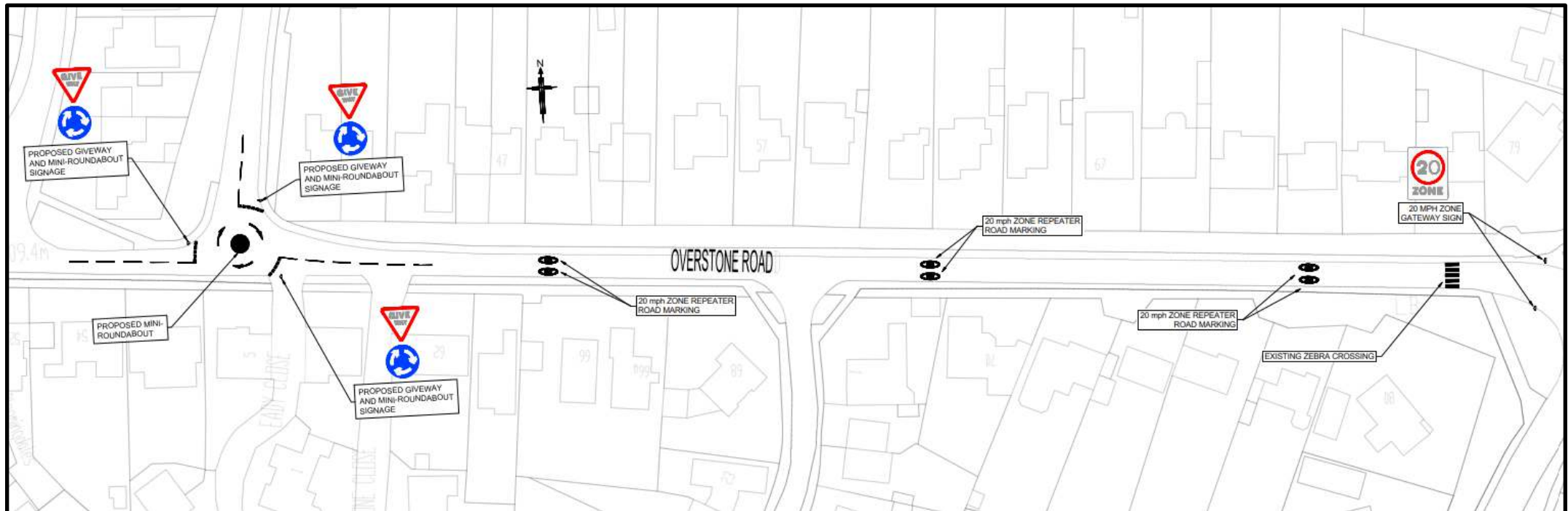


SPEED PANEL DECISION - MOULTON

Diagram 3 indicates the new extents of the existing speed at 20mph further East along Overstone Road up to the junction with Park View.

These proposals include a new mini roundabout at the junction of Overstone Road / Sandy Hill Lane.

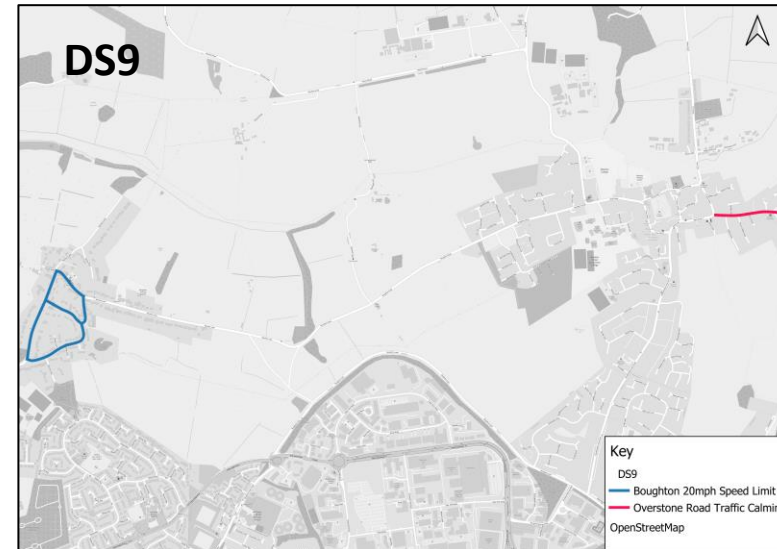
These complement the recently installed Zebra Crossing at the eastern end of Overstone Road.



RECOMMENDATION

Implement Option DS9.

- Re-routed flows away from Boughton village, and towards the A5076 and Round Spinney junction.
- **Before NNWRR:** Round Spinney junction is already over-capacity at certain places.
- **After NNWRR:** Increased traffic.
- **Benefit:** No additional road closures.
- **Positive impact:** Amelioration of NNWRR in Boughton.
- **Speed:** 20mph.



ALTERNATIVE OPTIONS

i. DS11.

- Re-routed flows away from Boughton village, and towards the A5076 and Round Spinney junction.
- **Before NNWRR:** Round Spinney junction is already over-capacity at certain places.
- **After NNWRR:** capacity issues may worsen.
- **No benefit:** Road closures do not significantly reduce the flows through Boughton, and similarly through the surrounding villages.
- **Impact on network:** similar, comparable, and minimal.
- **Negative impact:** Vyse Road / Howard Lane priority junction (Boughton).

ii. DS10, DS12 and DS13.

- Re-routed flows away from Boughton village, and towards the A5076 and Round Spinney junction.
- **Before NNWRR:** Round Spinney junction is already over-capacity at certain places.
- **After NNWRR:** capacity issues may worsen on entire network.
- **No benefit:** Road closures do not significantly reduce the flows through Boughton, and similarly through the surrounding villages.
- **Impact on network:** similar, comparable, and minimal.
- **Negative impact:** Vyse Road / Howard Lane priority junction (Boughton) which will cause delays.

ACTIONS

12 February 2025

- Presentation before Boughton Parish Councillors.

February – April 2025

- Preliminary design.
- Preparation of information of legal consultation for proposed Traffic Regulation Orders.

May 2025 – June 2025

- Legal consultation for proposed Traffic Regulation Orders.
- Share outcome of consultation.

Summer 2025

- Detailed design for construction.

Autumn / Winter 2025

- Implementation of TROs.
- Construction.

