

Planning Inspectorate NSIP ref no TR010038

A47 dualling North Tuddenham to Easton (NTE) TRAFFIC ANALYSIS

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Summary

- 1) Traffic figures presented by the Applicant from surveys in 2015 and 2019 (actual figures received from Norfolk County Council) show inconsistencies in many instances. We are told that the two agencies are co-operating very closely, and have both attended the Local Liaison Group meetings for some years, yet there appears to be little consolidation of information between them.
- 2) Predicted figures for 2025, under several scenarios, show many anomalies.
- 3) There are very many questions that have arisen regarding the content of APP-140 (Applicant's 7.1 'Case for the scheme' chapter 4). These are listed.
I request that these be answered. Some have already been asked, either before or during this examination, but answer to them have not been entirely satisfactory.
- 4) Appendix 1 shows how inaccurate the forecasting has been for the NDR, and emphasises the need to verify the accuracy of all current traffic predictions.
- 5) The forecast increase in mainline flow from 24,000 in 2015 to 39,000 in 2025 (62%) is much greater than predicted for nearby locations, and this needs to be justified.

Recommendations

- 1) The survey figures to be re-checked.
- 2) A further comprehensive survey be done, and a report produced, to include origin and destination matrices and turning counts, so that the results can be analysed and be verified to be reasonable.
- 3) A comprehensive map be produced, showing the location of traffic-count points, and a unique reference numbering system be agreed and published.

Questions arising from APP-140 Applicant's Section 7.1 Case for the Scheme Chap 4 p44-93

Q1 We have not been given a complete and consistent set of recorded traffic flows: in Figure 1, below, I have collated all the 24-hour flow figures we have for the relevant locations.

Q2 The count locations have been given several different reference numbers, for different survey dates, which makes correlation very difficult. I have asked for a correlation list, but have been refused. In the NCC 2019 matrix, location descriptions are poor; grid references are given, so I have had to look these up on an OS map to ascertain exactly where they are. Why could not a consistent unique (and preferably descriptive) reference number be used, and useful location names be given? It is particularly regrettable that the two agencies have not combined on this simple aspect.

Q3 para 4.2.4 The model is stated as having been calibrated to a 'high level of accuracy'. What does this mean? What tolerance on what values? Where are figures which could demonstrate a level of accuracy?

Q4 para 4.2.6, and Fig 4.2 In June **2015**, MCTC and ATC were taken. Where are the results? What did they show? Just those from a few key locations (e.g. Wood Lane) would help give confidence. There is no MCTC at Roundwell, nor Norwich Rd Costessey. These are crucial cross-valley routes, or alternatives to A47 to access city.

Q5 Fig 4.18 Are these 5-day AADT or 7-day AADT? Are the outputs of the NATS 2015 different from these figures?

Q6 para 4.2.7, and Fig 4.3 In May, Jun, July **2016** MCTC and ATC were done 12 hours per day. Where are figures? Again, there is no MCTC at Roundwell, nor Norwich Rd Costessey. There is one shown on Ringland Lane, Costessey, on an uninterrupted stretch of road. This makes no sense. Were ATC results taken to confirm totals from the MCTCs?

Q7 para 4.2.8 and Fig 4.4. In Oct **2019** 'Further surveys' were done. What surveys were done? Fig 4.4. shows locations (only on A47 itself). Where are figures? I have received 24-hour 5-day and 7-day AADT results from NCC, but generally excluding the locations shown on Fig 4.4.

Q8 para 4.2.9 Queue length data. These were measured at the same time as MCTC surveys (what year?) How was queue length measured? Where are the results?

Q9 para 4.2.11 The following acronyms are mentioned, with no explanation. What are they, how are they used, and where are the results?

Trip Matrices; SERTM; Mobile phone prior matrix traffic movement data; Google, Trafficmaster, Traffic signal data (NCC). I have had an explanation of only some of these, but they should all be detailed in this document.

Q10 para 4.2.13 Fig 4.5 Journey time routes are shown. I describe them below with my comments. How were these routes decided upon? Some have little to do with either the A47

dualling or the NWL (NT1, NT2) or are routes which would seldom be chosen (NT6). How were journey times measured or calculated, and where are the results? What are the conclusions ?

NT1 Light Blue Bawdeswell to Drayton via A1067.

NT2 Purple Dereham to Lyng via old A47, thence to A1067.

NT3 Green Start of Dereham by-pass via A47 to B1108 jctn on Southern By-pass.

NT4 Dark Blue From Dereham via Yaxham and E Tuddenham to Honingham Rdbt on A47 (no-one calls it the Norwich Roundabout).

NT5 Yellow Attlebridge via W Longville, Berry's La, Barnham Broom to Kimberley.

NT6 Brown B1135 at Yaxham via Kimberley to B1108 then to Southern By-pass.

Q11 p50 – Two more technical terms with no explanation: SATURN, converged assignment impacts; flows across screens; independent traffic data; integrity and profile of trip matrix.

Q12 p52 Mentions NATS 2012 for the first time, in regard to the 'development process' What does this mean? TAG criteria claim to have been achieved. What are these criteria?

Q13 p53 Applicant claims that the model gives a 'robust basis for forecasting'. What evidence is offered to substantiate this claim?

Q14 Para 4.3.9 mentions the existence of origin and destination pairs in the modelling. Why cannot this data be presented ?

COMMENT p59 Justifies inclusion of the NWL as 'near certain'. There are still several hurdles to be overcome and a 'more than likely' category could be claimed, therefore leaving it out of the base scenario and still conforming with TAG guidance. Nevertheless I realise that the applicant has conducted 'sensitivity testing' i.e. running data through the model with the NWL NOT built (DS1), which is useful. It would still be of benefit to consider the 'Do nothing' scenario, and so evaluate the effect of the 'near certain' (and other) developments.

Q15 para 4.4.6 The Do Minimum (DM) scenario does include the NWL, and it is noted that on para 4.4.6 it is stated that it would join to the A47 with Wood Lane at an at-grade roundabout. Already, the roundabouts at Honingham and Easton massively restrict flow – this will certainly do the same, more so as the NWL contributes more traffic. The type of junction must surely affect the flow of traffic on both the A47 and the NWL itself. How has this been accounted for? Were other junction options considered, such as light-controlled junctions, which could improve flow ?

Q16 p63 More technical terms unexplained; ARCADY – assessment of roundabout capacity. How are the planned roundabouts assessed using this process? What are the results?

Q17 Para 4.6.3 How is 'delay' defined and assessed? Where are the results ?

Q18 Table 4.5 (peak-hour flows) Figures are stated as 'modelled' traffic flows for base year 2015. Are these outputs from the model, or actual survey results? Each-way flows are given for the A47; why not for the side roads? These figures refer to locations described on Fig 4.19. These do not carry numbers, and do differ in places from those on Fig 4.18. Why are they different ?

Q19 Para 4.6.8 What is MCC data ? This has not been mentioned before (for weekdays in October 2019).

There follow tables of flows in the area. Diagrams illustrating are sent as separate documents.

Figure 1 AADT results and predictions for 2025 - all 2015 - 2-way values from Fig 4.18 of APP-140 2019 – figures from NCC Predicted figures from Figs 4.27 and 4.18

Location	HE location no	Ref no (NCC)	Jun 2015 Base (nearest 100) 7- or 5-day ?	Oct 2019 NCC survey 7-day AADT	Oct 2019 NCC survey 5 - day AADT	Predict 2025 DM no NTE but NWL	Predict 2025 DS0 NTE and NWL	Predict 2025 DS1 NTE but NO NWL
A47 W of Hockering	26	-	24,000	-	-	31,000	39,000	39,000
Heath Rd Hockering	2	ATC37-NDR6	900	1,480	1,632	100	200	200
The Street W, Hockering	1	-	200	-	-	600	200	200
Sandy Lane	3	A107-NDR13	600	257	293	0	300	1,700
A47 E of Sandy Lane	25	ATC49	24,000	23,581	25,964	32,000	42,000	37,000
Wood Lane	5	ATC46-NDR8-A109	2500	4,889	5,375	2100	2,300	5,400
NWL	6					18,000	20,000	n/a
Berry's Lane	22	ATC52	1,300	1,744	1,655	4,700	closed	closed
A47 (E of Berry's La)	8		24,000	-	-	22,000	34,000	36,000
Mat'sall Rd + Rd from Hon'ham	20		5,100	-	-	5,200	7,800	6,700
Taverham Rd (N of Church fm)	10	NWL6 – A110	600	412	449	0	200	1300
Blind Lane	17		800	- -	- -	800	closed	closed
Hon'ham Lane R'Ind	27	ATC38	600	405	468	Not shown	300	closed
A47 E of Taverham Rd	12		29,000	-	-	25,000	36,000	40,000
Ringland La Lwr Easton N of R Tud	13	NDR83 - A111	3900	3,922	4,299	3,900	closed	closed
A47 Easton By-pass	14	-	30,000	-	- -	27,000	36,000	40,000
The Street Easton	15	NDR79	1,800	2,303	2,538	2,300	2,700	2100

End of table

2015 –Base In absence of 1-way counts, and turning counts, analysis can only be at a basic level, using values from Fig 4.18. Running from west to east :

- 1) There is no net gain or loss of traffic on the A47 between N Tuddenham and Wood Lane. We have no figures for the A47 between these side roads (Heath Rd and Sandy Lane) so we must assume that turning movements from each are equally-divided between 'to the W' and 'to the E' .
- 2) Either side of Wood Lane junction, the A47 flow is unaltered (24k). This is surprising, as anecdotal/observational evidence is that most traffic joining from Wood Lane turns eastwards; the turn to the west is difficult, and HGVs are advised not to do so. Similarly the turn from Berry's La eastwards is difficult, and it would be easier for traffic to join at Honingham roundabout. Even assuming a 75/25 split, west/east, 1,000 would join the A47 westwards. Therefore one would expect an minimum increase of around 1k here, rather than no change. **This needs to be investigated.**
- 3) Around 5k join the A47 at the Honingham roundabout, giving a mainline flow of 29k (24k + 5k). This is reasonable. The 'double back' turn from Mattishall Road to the A47 is seldom used.
- 4) The flow on the Easton by-pass is 30k, just 1k more than just before the roundabout. But the flow through lower Easton is 3.9k. Even if one assumes that only half of this turns E (not borne out by anecdotal evidence), there should be around 2k extra on the bypass, even without the contribution from Easton Street, which may be around 900. **Therefore around 2,500 – 3,000 vehicles are unaccounted for. This requires investigation.**

Figure 2 CHANGE in flow rates from Base (2015) to 2019 (no change in infrastructure).

Location	HE location no	Ref no (NCC)	Jun 2015 (nearest 100) 7- or 5-day ?? Base	Oct 2019 NCC survey 7-day AADT	Oct 2019 NCC survey 5 - day AADT	% change (using 5- or 7-day whichever gives least value)				
A47 W of Hockering	26	-	24,000	-	-	-				
Heath Rd Hockering	2	ATC37-NDR6	900	1,480	1,632	+ 34%				
The Street W, Hockering	1	-	200	-	-	-				
Sandy Lane	3	A107-NDR13	600	257	293	-41%				
A47 E of Sandy Lane	25	ATC49	24,000	23,581	25,964	-1.3%				
Wood Lane	5	ATC46-NDR8-A109	2500	4,889	5,375	+88%				
NWL	6		-	-	-	-				
Berry's Lane	22	ATC52	1,300	1,744	1,655	+25%				
A47 (E of Berry's La)	8		24,000	-	-	-				
Mattishall Rd + Rd from Hon'ham	20		5,100	-	-	-				
Taverham Rd (N of Church Farm)	10	NWL6 - A110	600	412	449	-10%				
Blind Lane	17		800	- -	- -	- -				
Hon'ham Lane	27	ATC38	600	405	468	-				
A47 E of Taverham Rd	12		29,000	-	- -	- -				
Ringland La Lwr Easton N of R Tud	13	NDR83 - A111	3900	3,922	4,299	+0.5%				
A47 Easton By-pass	14	- -	30,000	-	- -	- -				
The Street Easton	15	NDR79	1,800	2,303	2,538	+21%				

End of table

Fig 2 Change in flow 2015 - 2019

Observations:

1) Some of the count locations within the HE Fig 4.18 do not appear in the NATS 2019 results; notably those on the A47 mainline (except location 25).

2) Fig 4.18 figures are not defined as 5-day or 7-day AADT (Annual Average Daily Traffic)

2) Compared with the 2015 values quoted by HE, the 2019 values in the NATS 2019 survey show a change of between **-41% to + 88%** (all but one figure are from side roads). Statistical manipulation can possibly be used to show this as an average of 3.3%, but these result SURELY cannot be taken as indicating an ACROSS THE BOARD general change of 3.3% (as quoted in Applicant's Common Response E, REP1-013). The single figure we have for A47 shows 1.3% change, much nearer the HE's stated 3.3%. The differences between the values are so massive, that this surely indicates that **an urgent review of the figures**, both from 2015 and 2019, is needed. As these are 6 and 2 years old respectively, an **updated survey** is surely necessary anyway.

Figure 3 Predictions for 2025 - Change from BASE (2015) figures to DS0 (All A47 schemes + NWL)

Location	HE location no	Ref no (NCC)	Jun 2015 base (nearest 100) 7- or 5-day ?	Predict 2025 DS0 NTE and NWL	Actual change		
A47 W of Hockering	26	-	24,000	39,000	+15,000		
Heath Rd Hockering	2	ATC37-NDR6	900	200	-800		
The Street W, Hockering	1	-	200	200	-700		
Sandy Lane	3	A107-NDR13	600	300	-500		
A47 E of Sandy Lane	25	ATC49	24,000	42,000	+18,000	-	
Wood Lane	5	ATC46-NDR8-A109	2500	2,300	-200		
NWL	6			20,000	+20,000		
Berry's Lane	22	ATC52	1,300	closed	Closed n/a		
A47 (E of Berry's La)	8		24,000	34,0000	+10,000		
Mattishall Rd +Rd from Hon'ham	20		5,100	7,800	+2,700		
Taverham Rd (N of Church Farm)	10	NWL6 - A110	600	200	-400		
Blind Lane	17		800	closed	Closed n/a	-	
Hon'ham Lane	27	ATC38	600	300	-300	-	
A47 E of Taverham Rd	12		29,000	36,000	-	-	
Ringland La Lwr Easton N of R Tud	13	NDR83 - A111	3900	closed	Closed n/a		
A47 Easton By-pass	14		30,000	36,000	+6,000	-	
The Street Easton	15	NDR79	1,800	2,700	+900		

End of table

Figure 3 Base 2015 – DS0 2025 - Observations:

- 1) In the DS0 figures, past Hockering, flow increases from 39k to 42k, at points 25 and 26, yet there are no junctions between these points. **This needs to be investigated.**
- 2) At the next junction, Wood Lane, the mainline drops by 8k. One can assume that a large portion of the 2,300 on Wood Lane will all turn E (if they were going W, from NW of A1067, they would probably have gone through Lyng). Similarly a large portion of the NWL traffic is likely to be heading W, say 75% (15k), and 5k head E, giving a net loss of 10k -2k (from Wood Lane) = 8k. Therefore this looks reasonable, but **it would be good to have other figures to confirm this, especially estimated turning counts, but we are given none.**
- 3) The predicted figures for Wood Lane show only a very slight reduction (200). This **will not achieve the relief from traffic** on that route, (which includes that through Weston L) which is one main reason for building the NWL.
- 4) At the Taverham Rd junction, no access to the FOOD HUB is shown, Blind lane is closed, so the only movements are those on Taverham Road (negligible, at 200) and those from Mattishall Rd and Easton Street. Without turning figures, it is difficult to predict, but if we assume that 10% of the Mattishall Road would turn W (to access Wood La jctn for points N), and 20% of the Easton traffic would turn E (thus avoiding the Longwater jctn), and little traffic between those two arms, then those figures would be reasonably close to those predicted. NOTE that on para 4.3.25 describes and Fig 4.12 shows that an access road to the Food Hub is shown from the ON slip from Easton to A47. **I can see no other reference to this in the proposal.**
- 5) An important question is whether such a large junction at Taverham Road, or a junction at all, is needed for such low figures. If a good link to Berry's Lane were made at Wood Lane junction, all the traffic predicted for Mattishall Road (7800) could join there, although upgrade of Berry's Lane and its bridge would be needed. But it is not at all clear where this 7.8k traffic (2700 extra) is generated; if it is near to Dereham, much traffic would find it beneficial to join at the two junctions in Dereham (except the junction in Dereham can be very congested) and use the dualled A47 for its whole length, rather than the very sub-standard road through Mattishall, so the 7800 figures is an over-estimate. **Origin and destination data needed to clarify.**
- 6) At Hockering, and Sandy Lane, the flow is reduced dramatically (by c1200). But for Wood Lane, the reduction is very slight. One assumes the 1200 (700 +500) vehicles taken from these routes (plus any growth in the ten years) is all handled by the NWL, i.e. that traffic coming from north-west, e.g. Fakenham area, must mostly be assumed to go the considerable extra distance to join the NWL east of Attlebridge (not the B1535, as Wood Lane traffic does not increase.). **This does seem unlikely and needs to be backed up by evidence.**

Figure 4 Predictions for 2025 Change from Base figures to DS1 (All A47 schemes but NO NWL)

i.e. estimation of effect of introducing ALL local schemes *except* NWL

Location	HE location no	Ref no (NCC)	Jun 2015 base (nearest 100) 7- or 5-day ?	Predict 2025 DS1 NTE but NO NWL	change	Oct 2019 NCC survey 5 - day AADT	Predict 2025 DS1 NTE but NO NWL	Change
A47 W of Hockering	26	-	24,000	39,000	+15,000	-	39,000	-
Heath Rd Hockering	2	ATC37-NDR6	900	200	-800	1,632	200	-1400
The Street W Hockering	1	-	200	200	-700	-	200	-
Sandy Lane	3	A107-NDR13	600	1,700	+900	293	1,700	+1400
A47 E of Sandy Lane	25	ATC49	24,000	37,000	+13,000	25,964	37,000	-
Wood Lane	5	ATC46-NDR8-A109	2500	5,400	+2,900	5,375	5,400	0
NWL	6			n/a	-	-	n/a	-
Berry's Lane	22	ATC52	1,300	closed	-	1,655	closed	closed
A47 (E of Berry's La)	8		24,000	36,000	+12,000	-	36,000	-
Matt'll Rd + Rd from Hon'ham	20	-	5,100	6,700	+1600	-	6,700	-
Taverham Rd (N of Church Farm)	10	NWL6 - A110	600	1300	+700	449	1300	+850
Blind Lane	17		800	closed	n/a	- -	closed	-
Hon'ham Lane	27	ATC38	600	closed	n/a	468	closed	-
A47 E of Taverham Rd	12	-	29,000	40,000	+11,000	- -	40,000	-
Ringland La Lwr Easton N of R Tud	13	NDR83 - A111	3900	closed	n/a	4,299	closed	-4300
A47 Easton By-pass	14	- -	30,000	40,000	+10,000	- -	40,000	-
The Street Easton	15	NDR79	1,800	2100	+300	2,538	2100	

End of table

Figure 4 Observations:

1) Closing Ringland Lane at Lwr Easton and Honingham Lane displaces 3900 (2015 figure) from crossing the Wensum valley area. (4300 using 2019 5-day figure). By 2025, the changes predicted elsewhere are as follows:

	2015	2025pred'n	change (from 2015)	change (from 2019 5-day)
Hockering	1000	200	- 800	-1400
Sandy Lane	800	1700	+900	+1400
Wood Lane	3600	5400	+2900	0
Taverham Rd	600	1300	+700	+850
Lwr Easton	3900	0	-3900	-4300
TOTAL	8800	8600	-200	-3450

Thus the total vehicles travelling across the area (from the west up to, but excluding Longwater Lane) is predicted to *decrease* over ten years, whereas the overall traffic is predicted to increase. Either the traffic is predicted to use other routes, not covered by the model (or not reported in the submission) or **there is a large error in the model. This needs to be investigated.**

Using the 2019 5-day figures, similar observations must be made, but with greater numbers. Sandy Lane effectively takes 1400 vehicles away from Hockering, Wood Lane takes no increase (**yet it is clearly not at capacity at present, 2021, and is much the best route**), and Taverham Road takes an extra 850 vehicles (almost double). Of the 4300 vehicles which are now stopped from using Lower Easton, 3450 must find other routes, which must be nearer the city. Where will those be ? This question has been asked continually at LLG meetings, with no clear answer. One certainty is that **other villages and communities will suffer massive increase in traffic.**

This does not make sense and needs to be investigated.

Figure 5 Predictions for 2025 - Change from DS1 (All A47 schemes but no NWL) to DS0 (all A47 schemes including NWL) i.e. the effect of adding NWL, (everything else done)

Location	HE location no	Ref no (NCC)	Predict 2025 DS1 NTE but NO NWL	Predict 2025 DS0 NTE and NWL	Change – ADD NWL		
A47 W of Hockering	26	-	39,000	39,000	0		
Heath Rd Hockering	2	ATC37-NDR6	200	200	0		
The Street W, Hockering	1	-	200	200	0		
Sandy Lane	3	A107-NDR13	1,700	300	-1,400		
A47 E of Sandy Lane	25	ACT49	37,000	42,000	+5,000		
Wood Lane	5	ATC46-NDR8-A109	5,400	2,300	-3,100		
NWL	6		n/a	20,000	n/a		
Berry's Lane	22	ATC52	closed	closed	n/a		
A47 (E of Berry's La)	8		36,000	34,000	-2,000		
Mattishall Rd + Rd from Hon'ham	20		6,700	7,800	+1100		
Taverham Rd (N of Church Farm)	10	NWL6 – A110	1300	200	-900		
Blind Lane	17		closed	closed	n/a	-	
Hon'ham Lane	27	ATC38	closed	300	(+300)	-	
A47 E of Taverham Rd	12		40,000	36,000	-4,000	-	
Ringland La Lwr Easton N of R Tud	13	NDR83 - A111	closed	closed	n/a		
A47 Easton Bypass	14	-	40,000	36,000	-4,000	-	
The Street Easton	15	NDR79	2100	2,700	+600		

End of table

Figure 5 Observations:

It is appreciated that the introduction of the NWL may increase traffic overall by a certain amount, although the A47 is NOT predicted to take any more traffic W of Hockering.

- 1) The addition of the NWL has encouraged 1400 vehicles to divert from using Sandy Lane, but **none** from Hockering. **This must be justified.**
- 2) 5000 vehicles have appeared on the A47 after Sandy lane, though there are no junctions between Wood Lane and Fox Lane. **This does not make sense.**
- 3) 2000 are taken from the A47 E of Wood La/Berry's La, presumably a swap to the more attractive NWL. But if their destination was north of Norwich, what was their previous route? The only other possible way would be via Longwater Lane and Costessey and Drayton, much less attractive than Wood Lane and Lenwade. This seems very unlikely and **needs to be checked.**
- 4) An extra 1100 have appeared on Mattishall Road. It is difficult to see where their previous route would have been, for the introduction of the NWL to be an attraction to use Mattishall Road. Even were they to have used the Taverham Road to cross the valley, they still would have to use Mattishall Road.
- 5) 4000 fewer travel on the A47 E of Taverham Rd than with NO NWL, but 2000 more than E of Berry's Lane. Few are shown joining at Taverham Road, so they must come from Mattishall Rd (7800), less those joining from Easton (which are 2700 in total and surely not all going W) giving around 5000 extra. **This needs to be explained.**

Figure 6 Predictions for 2025 - Change from DM (All A47 schemes except NTE but incl NWL) to DS0 (ALL schemes incl NWL)

NB It is understood the NWL is assumed to A47 via an at-grade roundabout.

i.e. Effect of adding the A47NTE scheme – NWL in place.

Location	HE location no	Ref no (NCC)	Predict 2025 DM no NTE but NWL	Predict 2025 DS0 NTE and NWL			
A47 W of Hockering	26	-	31,000	39,000			
Heath Rd Hockering	2	ATC37-NDR6	100	200			
The Street W, Hockering	1		600	200			
Sandy Lane	3	A107	0	300			
A47 E of Sandy Lane	25	-	32,000	42,000	-	-	
Wood Lane	5	ATC46-NDR8-A109	2100	2,300			
NWL	6		18,000	20,000			
Berry's Lane	22	ATC52	4,700	closed			
A47 (E of Berry's La)	8		22,000	34,000			
Mattishall Rd +Rd from Hon'ham	20		5,200	7,800			
Taverham Rd (N of Church Farm	10	NWL6 – A110	0	200			
Blind Lane	17		800	closed	-	-	
Hon'ham Lane	27	ATC38	Not shown	300	-	-	
A47 E of Taverham Rd	12		25,000	36,000	-	-	
Ringland La Lwr Easton N of R Tud	13	NDR83 - A111	3,900	closed			
A47 Easton Bypass	14	-	27,000	36,000	-	-	
The Street Easton	15	NDR79	2,300	2,700			

End of table

Figure 6 Observations:

- 1) The scheme increases mainline traffic W of Hockering by 25%. This is difficult to believe. Where will it have come from? **Where is the justification for this large increase?**
- 2) By not building the scheme, traffic in Hockering Heath Road will halve, but that in the Street will rise by 400, i.e. 300%. One must assume that this is because congestion on the mainline A47 will (from 24k in 2015) will encourage vehicles to 'rat-run' through the village. **Is this correct?**
- 3) Without the scheme, flow is predicted to increase past Hockering by 1000. Yet Hockering would carry only 100 and Sandy Lane NONE (incredibly). **Not clear where this extra 900 is arriving from.**
- 4) Without the scheme, Taverham Road would have NO traffic, whereas with the scheme is would have 200. **This makes no sense.**

See also separate charts illustrating flows under various scenarios.

APPENDIX 1 Prediction of traffic counts following the building of the Norwich Northern Distributor Road (NDR) – completed April 2018. *See table on next page.*

May 2018 Automatic Traffic counts (ATC) 5-weekday average over 24 hours. (from NCC)

One-way figures from individual ATC spreadsheets.

Predicted values from histograms presented at LLG sub-group 20 Sept 2018

^ Other sources give 1902 for May 2018

*NB **GEH factor** (Geoffrey Havers) is difference between actual and predicted values, divided by the square root of their average.

It is a measure of how accurate the forecast was, allowing greater differences for small flows.

Statement from NCC specialist: GEH should ideally be under 5. **Between 5 and 10 requires investigation.**

Note that most above are above 10. The range is **+53 to -59.**

R D Hawker 4 March 2019 Updated 19 Feb 2021 & 23 Nov 2021

N W L A T C N o	NDR ATC no	Location	Parish	Actual Combi ned May 18 C	Predic t in 2017 D	Predict with Low growth 2017 Sensitivit y report E	% abo ve pre dict ed D& C	*GEH factor using D&C	*GEH factor using E & C
1	ATC15	C198 The Common	Lyng	2140	-----				
2	A106	C173 Weston H Rd	Weston L	5054	3500		44	+24	-
4		C167 Hon'hm Rd	Weston L	3360	3000		12	+6	-
6		C173 Heath Rd	Hockering	1901	1300		46	+15	-
7		C198 Lyng Rd	N Tudd'm	2881	----				-
8	A109	C167 Wood La	Honingham	5954	2500		138	+53	-
9		C493 Stone Rd	Hockering	1163	----				-
10		C173 Heath Rd	Hockering	2424^	1300		?	?	-
14		C245 The Street	Felthorpe	5224	3000		74	+35	-
40		A1067 Drayton Rd	Hellesdon		----				
42	A21	C282 School Rd	Drayton	11729	9400	9000	24	+23	+27
43		C480 Low Road	Drayton	4241?	4000?		?	?	
54	A79	NDR A1067 – Fir Cov	Attlebridge	7669	12300	11500	-37	-46	-39
55		NDR Fir Cov – Reeph Rd	Taverham	11311	14200	13300	-20	-26	-18
56	A91	NDR Rph - Drytn Slip	Horsford	11646	19000	17500	-38	-59	-48
57	A66	NDR Drytn Slip - Crom	Horsford	21052	22300	21000	-5	-11	+0.35
58		NDR <i>not available</i>	Horsh St F		----				
66		B1150 NWlshn Rd	Crostwick	16742	16600		0.1	+1.1	-
68	A31	C172 Ringland Rd	Taverham	4926	3500	3200	40	+22	+27
69		C461 Taverham La	Costessey	7323	4700		55		
70		C162 Costessey La	Drayton	4698	-----				
73		C262 Taverham Rd	Felthorpe	4779	-----				
74		U57169 Brands La	Felthorpe	480	----				
76		C171 West End	Costessey	7732	----				
77		C171 T'nho Rd	Costessey	5012	-----				
78		C162 L'gwater La	Costessey	11386	-----				
79		C574 Dereham Rd	Easton	2789	-----				
83	A111	U78219 Rglnd,Ch Rd	Easton	4594	3000	2700	53	+32	+31
86		A1067 F'ham Rd N of Lenwade	Gt W'chghm	13785	12000		14		
	A105	Marl Hill							

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