

Malton & Norton

Strategic Transport Assessment

Traffic Generation

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Alan Martin I am A Chartered Engineer, being a Member of the Institution of Civil Engineers, a Member of the Chartered Institution of Highways and Transportation and a Member of the Chartered Institute of Management. Although now retired, I was for thirty-one and a half years, the Senior Engineer of the No. 2 Area *{Eastern}* of North Yorkshire County Council from its inception in April 1974 to October 2005 and had responsibility for the design of highway improvements and the highway aspect of Development Control.

North Yorkshire County Council. Is *[inter alia]* the local highway authority for all except trunk and special roads with responsibilities for the improvement, repair, maintenance and transportation of the roads and streets within the County of North Yorkshire.

I was consulted by Councillor Paul Andrews of Malton Town Council following the publication of the statement made by Messrs. Jacobs to assist him with the comprehension of the technicalities contained therein; Having seen Councillor Andrews' original report I agreed to assist him with its up-dating to take into account the completion of the Brambling Fields interchange, but subject to this the Report seems reasonably correct.

The purpose of the STA is to determine the amount of development which Malton and Norton can accommodate in terms of new traffic generation. The analysis is however flawed in that other generation factors could have been used which would give considerably different answers.

With reference to Messrs Jacobs addendum dated October 2010 to their main report, Section 1 refers to a partial ban on traffic movement on Norton Road, permitting a westbound movement with a (busses excepted) ban on eastbound traffic. Unfortunately the diagram does not make it clear exactly how this will be accommodated. The scheme proposed readily gives the residents of Norton access to the Railway Station, Bus Station, Medical Centre, Government offices shops and car parking on Norton Road and Railway Street but does not indicate any readily available means of access to return. The Bus contra-flow system is likely to be much abused unless reinforced with a solid construction which physically prevents any 'bollard dodging'

Throughout this addendum much reference has been made to the original report. Unfortunately this has never been made available to the public to objectively assess the complete scheme; thus the Scenarios in section 2 – 7 whilst accurately calculated by computer programme based on the data fed in are somewhat inscrutable.

Section 3 of the Final Report whilst factually accurate in its assessment and traffic generation predictions does not appear to include the existing traffic on the nodes in question; and section 3.9 gives the traffic generation assumptions made. Unfortunately this appears to be at variance with other published data such as 'Employment Densities Guide' and the County, City and Borough Council's own publication 'Parking Design Guide.' Whilst some of the tenets in the latter document have been subject to downward revision to concur with Government policy the universal overall standard of private domestic residences generating on average six trips per day still holds good; thus some of the predicted generated traffic figures (without including the existing flows) appear to be on the low side. The figures taken from the parking Guide are not the maximum given but are a low and more reasonable value.

Section 13 of the report clearly shows that overloading will occur at the junctions under consideration and Section 14 gives various engineering solutions and costs less than that of any statutory undertakers works which may be considerable.

The construction of a junction with the B 1257 cannot be guaranteed as the Trunk Road A 64 does not fall within the remit of the local highway authority and its construction is contrary to the principle of limited access, high volume unobstructed traffic flow embodied in the principle of Trunk Roads. The amount of traffic likely to exist or be generated needing direct access to the Trunk Road A64 and not Malton bound is a matter of some speculation and is unlikely to provide the need for this connection.

Section 7 of Jacobs final report states that Scenario 4 includes all the areas considered in Scenario 1 plus the development sites from Groups 2 & 3; thus giving the totals in Table 4.1. From the total figures given it is possible to calculate the traffic generated and trip generation. North Yorkshire County Council's own publication - Parking Design Guide - gives an excellent and comprehensive summation of this in table 4.4. In applying this it must be argued that whilst other systems may give differing answers this has been in use in North Yorkshire the city of York and the boroughs of Scarborough and Harrogate for many years as the County standard,/Contd.

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and like all systems is only a prediction of trip generation. As not all of the developable areas will be constructed at once, another factor that cannot be totally disregarded is the national annual increase in traffic flow. Whilst this depends on many (economic and population) factors and can vary year to year its effect on existing flows and the gradual increases occasioned by future developments over a period has to be taken into account.

Table 4.4 and section 4.5 {appendices} of the Parking Design Guide gives the following factors:-
Residential 109.1 trips/hectare over a 12 hour period or 637.7 trips/100 households which equates to the universal accepted figure of 6 trips per dwelling per day.

Industrial 343.4 trips per hectare or 10.1 trips per 100 m² Gross Floor Area.

Retail (Non supermarket) 41.1 weekday trips per 100 m² GFA with an 18.1% increase on Saturdays. Supermarkets generate 115.2trips per 100 m² GFA with a 7.2% increase on Saturdays.

Education No information available other than basic parking space requirements. However there is a growth of school- run commuting and parking taking pupils to and from school.

Leisure No information available other than basic parking space requirements

Table 3.1 of the STA purports to list all new development which is either planned or under consideration which is assumed to be likely to take place and is summarised in Table 3.2. However Tables 3.1 and 3.2 do not appear to co-relate as shown:-

Table 3.1 (summarised) **Retail** $15,000 \times 0.411 + 6709 \times 1.152 + 2.4 \times 0.411 \times 10000 = 23,758$

Residential $682 \times 6 + 4.6 \times 109.1 = 4594$

Employment $[56534 \times 3 \times 10,1/100] + [6.35 \times 343.4] = 19,308$

Education allow **250**

TOTAL (trips) **47,910**

The total trip movement generated by the development listed in Table 3.2 (That already approved, or under consideration) is:-

Retail $27\text{ha} \times 41.1/100 \times 10000 = 110,970$

Residential $667. \times 6 + 4.6 \times 109.1 = 4,504$

Employment $41 \times 343.4 = 14,079$

Education allow 250

TOTAL **129,803 trips**

Difference

-81.902 trips

Table 3-3 is a summation of table 3-2 and covers twelve sites between the Trunk Road A64 and the river Derwent. Traffic generation of this development is predicted to be:-

| | | | |
|--------------|--------------|---|----------------------|
| Residential | 1907 x 6 | = | 11,442 |
| Employment | 2.71 x 343.4 | = | 931 |
| Leisure | allow | | 500 |
| TOTAL | | | <u>12,873</u> |

For comparison Table 4A on page 87 of the STA gives:-

| | | | |
|--------------|-------------------------|---|-----------------------|
| Retail | 27ha x 41.1/100 x 10000 | = | 111,780 |
| Residential | 2165 x.6 | = | 12,990 |
| Education | allow | | 250 |
| Employment | 44 ha x 343.4 | = | 15,110 |
| Leisure | allow | | 500 |
| TOTAL | | | <u>140,630</u> |

For comparison purposes taking table 7-1 scenario 4 which includes the whole of Scenario 1 development plus that from Scenarios 2 and 3 :-

| | | | |
|---------------------|-------------------------|---|-----------------------|
| Retail | 27ha x 41.1/100 x 10000 | = | 110,970 |
| Residential | 3665 x 6 + 4.6 x 109.1 | = | 22,492 |
| Employment | 44 x 343.4 | = | 15,110 |
| Education | allow | | 250 |
| Leisure | allow | | 500 |
| <u>TOTAL</u> | | | <u>149,322</u> |

| | | |
|--------------------|------------------|------------------|
| DIFFERENCES | (Over table 3-1) | + <u>19,519</u> |
| | (Over table 3.3) | + <u>136,449</u> |

Whilst it has been shown that key junctions can be 'tweaked' to give some increase traffic flow and capacity, nothing like the increases to be generated by present approvals and considerations can be accommodated by the existing road system without either the extensive demolition and rebuilding of major parts of the town or the comprehensive development of undeveloped areas to provide for the desire lines of the traffic movement generated.

The comprehensive development of the Woolgrowers site albeit necessitating the bridging of the railway and river would enable a through link through to Welham Road to be provided thus enabling the South Western segment of a southern ring road to be provided.

The report wisely does not state or speculate on the practicality of the necessary infra-structure works necessary and from the above clearly demonstrates a wide variation in the predictability of the generation of traffic.