Response to Applicant's Doc 8.7 SRNG Pt B

Prepared on behalf of local communities by the 'Stop Northampton Gateway' Action Group.
PINS Reference: TR050006 Unique Registration ID Number: 20011012

This response is presented in the order of the Applicant's sections and uses the paragraph numbers of the Stop Roxhill Northampton Gateway document Written Response TR050006-000860, Part B.

1. The Applicant refers in the introduction to this document to responses given in Doc 8.3 REP1-022. However it is not possible to assess which responses, if any, refer to Part B or to Part A.

2. **3.3; 3.5; 3.12; 3.13 Capacity of Site Entrance**: The Applicant refers to TA Appdx 27. Para 5.1.5 shows 640 vehicles entering at AM peak. The table title refers to 2031 but the columns are headed 2021. ES TR App 12.1 – TA App 5, TN2– para 8.4 forecasts 838 entering during the AM peak hour. The two documents were prepared by different consultants. Which one is correct?
   The modelling covers traffic entering the site at peak hours but does not include the constrictions of the site layout itself and assumes the traffic continues uninterrupted at the same speed within the site. It also does not take into account the inevitable interruptions to traffic caused by pedestrians crossing the A508 in both directions when arriving and departing by bus. See our Pt B, para 3.3

3. **3.4 VISSIM modelling**: The Applicant refers us to their response to RR-742 in Doc 8.3 which includes this statement: *There can sometimes be graphical errors due to the translation from the VISSIM modelling software to the visualisation software. This can lead to some slight differences in the vehicle dimensions, which then show vehicles 'passing' through another one in the visualisation (particularly when vehicles change lanes on the same approach to a junction). However, the positions of the vehicles are taken from the modelling software where this issue does not normally occur –this does not imply collisions as suggested.*
   The final VISSIM model was reviewed and approved by Highways England.
   With reference to our first two underlinings above, these are not logical explanations. The visualisation cannot be accurate if 'some slight differences' result in vehicles apparently colliding. For a change in dimensions to result in two vehicles 'passing through another' doesn't make sense. The dimension changes would have to be considerable, such as a car changing into a lorry, to give sufficient length to cause this. The claim that 'this does not normally occur' indicates that at times it does occur. This is a critical area and the whole point of the visual system. There is too much at stake to simply accept this and put absolute trust in such a system.
   For example, during the AM peak hour 720 vehicles are forecast to access the site from the M1 which represents an average of 5 seconds per vehicle. This is a continuous stream. This includes 125 HGVs which, at an average 18 metres length and at 20 mph would take 2.64 seconds to pass across the front of a stationary car waiting to cross. That does not leave sufficient time for that car to cross.
   When a gap occurred in one lane on the roundabout there is no guarantee that a gap would appear in the other to allow both J15-bound streams to cross. The outside lane on the A508 would be worst affected.
   In that same hour 1195 vehicles destined for J15 would be arriving, on average every 3 seconds, attempting to cross this stream. To do this would clearly depend on sufficient gaps of sufficient length for 127 slow-moving lorries as well as the 1068 cars to pass through this stream. Although the roundabout would be duelled, the site access road is not and it would be the three steams merging into one that would determine the speed of the following traffic. This computation does not include the additional 135 vehicles accessing the site from the south needing to merge onto the single lane road as they enter or the impact of the controlled crossing on the north-bound carriageway being activated by arrivals by bus.

There would be an additional severe complication at times of stress due to interruptions on the M1 with traffic backing up to J15 as a result of congestion at the site access roundabout. A common sense approach indicates that the design is unsafe. If the visuals are an accurate reflection of the software then it is demonstrating a problem. If the visuals are not accurately reflecting the software, then it cannot be relied upon.
Our third underling questions whether Highway England has the expertise to judge this or is relying on what the Roxhill consultants' or PVT tell them.

4. **3.6 – 3.9 Capacity of site road network:** The Applicant's response reinforces the problems highlighted in 2 above. If the layout is 'illustrative' and can be changed, then the modelling of the flow into the site should also change. This is a crucial area, as demonstrated above. At present, the modelling of vehicles entering the site assumes they can continue uninterrupted ad infinitum. This is clearly not the case.
Re the Applicant's point 2, with an average of one vehicle every 30 seconds arriving at each unit during the peak hour, the right turn lanes would need to be long enough to cater for vehicles crossing their paths every 19 seconds destined for the exit. The first right turn is about 60m from the roundabout exit. A right turn lane here could not contain even 10 cars, which could arrive in less than 5 minutes, and would not necessarily exit the lane as quickly in view of frequency of the vehicles passing across in front of them. The next right turn is for lorries and is about 80m further on which would give a right turn lane capacity of about 3 HGVs which, on average, would arrive every 3 minutes. These figures do not include the traffic generated by the 5 daily aggregates terminal or the 12 rapid rail freight trains.
Point 3 does not appear relevant to our central argument
Re the Applicant's point 4, there has been an over-reliance on the Consultant's assessments of traffic flows on individual parts of the road system, controlled by different Authorities with different requirements. The result is traffic flows have been assessed in a bubble and no consideration given to the points we raise in 2 above. Users are aware of the problems encountered at J10 of the M40 where a redesign resulted in two major streams of traffic crossing each other which resulted in a further costly redesign which is still not entirely satisfactory.

5. **4.3 & 4.4 Layout of J15:** The major problems with J15 are 3-fold:
    a. The basic layout is till confusing and **does** necessitate traffic having to change lanes to reach their destinations. The design assumes traffic will be in the correct lane to start with which, in the real world, is often not the case, especially as there would be an increased number of lanes to choose from and a very limited length of road to correct any mistakes
    b. There has been no stress testing on any of the traffic modelling. The Applicant has been able to conveniently hide behind the fact that this is not required. Experience of the problems on the road network in the vicinity associated with the M1 stoppages (see our Pt B, para 3.9, 3.14 and 4.7) suggest this is a serious omission by both Highways Authorities.
    c. The access onto J15 from Grange Park - an issue that was raised in ES TR App 12.1 – TA App 10.

6. **4.6 Aggregates traffic:**
    a. The aggregates facility was a late addition to the proposals and not properly consulted on and not included in the original traffic modelling. The number and capacity of warehouse units has not changed and the traffic generated by them are not necessarily reliant on the number of trains. There is no obligation for all goods handled by the warehouse units to be rail-derived or destined. Therefore the aggregates traffic will be additional to the forecasts for the pre-aggregates traffic volumes. In addition, the destination and origins of the aggregates traffic will be different from the warehouse units traffic as it serves a specialised market. This will

increase traffic, especially HGVs, and affect all the traffic modelling to date. The modelling as presented is therefore understated.

b. There is no evidence that this change has been agreed by either of the Highways authorities.

c. The Applicant's statement is the first admission of their intention to include the 5 aggregates terminal trains in the 16 trains per day and appears to confirm the Applicant intends the aggregates trains should form part of the minimum 4 trains per day required by the NPSNN. It is an existing facility being transferred up the same line so would result in no modal shift and so should be discounted.

7. **5.2 Watering Lane:** The points we were making about traffic lights at Watering Lane were 2-fold:

a. The first is one of pollution. If traffic is stopped arbitrarily, which is what traffic lights do, then pollution increases. If traffic can filter in, then this minimises pollution. This is especially true at times of light traffic. No traffic lights are required on slip roads on motorways, so that one is proposed here reinforces our second point below. This country seems to want to control traffic with traffic lights instead of leaving traffic to sort itself as happens increasingly in a number northern European countries and becomes evident when traffic lights fail.

b. The second point is the sheer volume of traffic the proposed site would inflict on an already overloaded road system. Around 40% of the site-generated traffic is forecast to use the A45. This is an enormous disbenefit.

8. **5.3 A45 speed limit:** The Applicant has not responded to the point we made: the reduction in speed limit increases journey times and hence frustration and the temptation to ignore the limits. The cause is as stated in 6b above – sheer volume of traffic. It is not clear why 50 mph was proposed rather than 60.

9. **6.5. 6.6 & 6.8 Knock Lane – Stoke Rd**: There are 3 existing blind bends on Knock Lane, one of which is at the Stoke Rd end and consists of a shallow curve combined with a hump that together create a blind corner. No alterations have been proposed for this. The Applicant has chosen to respond on only two corners. The Applicant has also not responded on the other limitations on Knock Lane: the width, condition and high verges.

10. **6.7 Knock Lane/Blisworth Rd:** Doc 5.2 – ES TR App 12.1 paras 10.11 and 10.12 show differences of 9 – 13% between observed and modelled traffic flows. 10.13 explains that the studied area (A45 at Peak hour) resulted in observed traffic not arriving at destination as modelled by the NSTM2. It appears that it was agreed between the two consultants to ignore this difference and use the NSTM2 output figures. This is another instance of unreliable outputs. One would expect the NSTM2 to reflect actual conditions, but this doesn't appear to be the case.

The Applicant goes on to state that inherent differences can occur between modelled and observed data and quotes the GEH formula. Using this for the SRNG observed and ADC modelled figures, this produces a GEH of 9.25. This is very close to the upper of limit of 10 above which the match between the observed and modelled flow are classified as poor. In this case the modelled figures are 14 years later and between 62 and 75% less than the observed. The GEH formula does not cover such a situation, but if it did the GEH would doubtless be well above 10. This is another case of unreliable forecasting.

The Applicant then refers to section 9.4. This includes a strange statement at 9.4.2: *Of the 202 ATC/TRADS counts in the local study area, 24 counts were used to validate the model, whilst the vast majority (the other 178 counts) were used to calibrate the model.* So what was used to calibrate the model?

The WSP model used 2015 as the base year so some increase 2 years later would not be unexpected, although we find 84% difference in the PM peak hours surprising. The dates for

the 2-week count are not stated nor whether the figures are averaged over weekends as well, which ours are not.
This again illustrates the danger of relying too heavily on such systems. We have applied common sense to the NTSM2 output information presented which is, of course, also dependent on the validity of the input information. There are several references to the NSTM2 coding having to be revised which begs the question of how many more errors remain undetected.
The addition of the total forecast 2031 D1 traffic for AM & PM along Knock Lane is 198 into Blisworth & 73 into Roade, the difference of 125 looks unrealistic as it represents 89 travelling into Blisworth in the morning but only 23 coming back in the evening and 50 travelling into Roade in the morning but 109 returning in the evening. This forecast was run after modifications to the NSTM2 figures which were only for HGV traffic through Roade and a minor correction (less than 10 vehicles each way) on Knock Lane for J1c (ES TR 12.1 – TA App 41 NSTM2 Corrections paras 8.26 - 32). This does not explain the substantial differences we have noted.
For 2031 J1d with the whole development these figures jump by 60% to 318 into Blisworth during the AM peak and 105 returning in the evening and 47 to Roade in the morning and 151 returning in the evening. This represents a huge impact on such a narrow, rural road.
In the same App the data for Courteenhall Rd also appears to forecast some inexplicable traffic movements. The D1 Reference case shows actual flow plots for AM peak traffic at JCT 5 on the 24th page at the eastern end of Courteenhall Rd. The figures 80 and 31 are shown for the Thorpewood Farm Office complex (illustrated on the wrong side of the road) but does not identify which figure refers to whether the vehicles are entering or leaving. Even the lower figure appears high for vehicles leaving an office complex between 8 and 9 in the morning that normally works to conventional peak hours. If both were entering this would be shown as a single figure.
An even more incredulous situation appears to be the case at the Prospect Court office complex on this road just outside Blisworth which appear to have 263 vehicles entering and 192 leaving during the AM peak hour. This complex consists of converted farm outbuildings with some additions. It would be unable to accommodate so many vehicles and the number leaving seems extraordinarily high for that time of day. The car park contains on average between 40 and 50 cars on any one day. These figures appear to be little better than a wild guess.
In ES TR App 12.1 - TA App 13 – TN8 on the 31st page are shown a different set of figures along Courteenhall Rd for the same scenario 2031 D1. In this case the Thorpewood figures are not shown. In addition, 177 vehicles are shown to travel eastwards towards the A508 and 386 in the opposite direction. App 43 above shows 217 and 347 respectively for the same stretch. As App 43 was run following the correction of a software error in the NSTM2 for HGV journey's only through Roade, the differences of 100 and 39 cannot be explained by this.

Doc 5.2 – ES TR App 12.1 Transport Assessment, p2, is surprisingly assertive: *Development of a SRFI at Northampton Gateway, once fully operational, would remove over 92 million HGV miles per year from the highway network.* As ADC has no idea who will be the tenants or the industry they would serve or how much rail would be utilised, this statement is purely speculative and applies 'artist's licence' to paint the best possible picture.

11. **6.9 NSTM2 Interpretation:** The Applicant does not answer the question. The details of the route the missing traffic currently takes is not supported by any indication of where it would go as a result of the diversions at the Courteenhall Rd junction.

12. **6.10 NSTM2 Interpretation**: The Applicant's explanation is not totally convincing. Traffic may switch from Stoke Rd to Knock Lane in the mornings, but the evening is likely to be quicker via Stoke Rd.

At J10 in TA App 13 Appendix C, why would 108 vehicles turn right during the PM peak hour at the Knock Lane roundabout to access Roade when they could more easily turn right at the southern A508 roundabout J8? This appears to be another case of computer modelling not mimicking human logic.

13. **7.9 Rookery Lane:** Noted, although we still consider that the proposed ghost island at this junction and road straightening is more likely to result in increased speeding.

14. **7.11 – 7.13, Scoping Opinion:** The Applicant still does not justify ignoring the requests of two Councils which were included in the Scoping Opinion; our Pt B section 8.2 refers. For instance, Milton Keynes is only 15 miles from Northampton with a significant interchange of commuter traffic whereas Corby, which is further away and significantly smaller, is modelled in detail. None of the Applicant's responses change our conclusions. They do also highlight weaknesses in the planning regime, notably requirements for stress testing the main roads in this possibly unique situation.

15. **Conclusions:** There are a number of instances of unreliable or dubious forecasting and coding changes in the NSTM2 which we, as local people with knowledge of the road systems and impact of stress in the area, are able to recognise. A major concern is the apparent oversight of the traffic consultants to include the internal layout of the site in their traffic flows, and the impression that Roxhill are content to rely on the Highway Authorities willingness to accept this and the apparent unreliability of the VISSIM modelling.
    The implications of doubling the traffic on the A508 adjacent to J15 are extremely concerning with the prospect of congestion and gridlock at AM peak hours, especially at times of stress; the inevitable increase in pollution in existing AQMA areas, and driver frustration.
    We consider that there are sufficient imponderables and unreliable projections which would lead to unintended consequences at least to require an independent review by an organisation approved by PINS.