

OBJECTION TO APPLCIATION REFERENCE 2024/62/91242/E

To whom it may concern,

I grew up in Thurstonland and now live in Stocksmoor with my family. I am saddened by this proposed development and have many objections; however, I would like to focus my objection on the clear issues regarding intensification of traffic on Stone Wood Lane and access to the site. The developers have attempted to underplay these issues through the Transport Assessment report of Andrew Moseley Associates. This report has numerous failings, which I will highlight in my objection.

My objection will involve a technical critique of the transport assessment. Given the technical nature of my objection, I will state my relevant qualifications and experience. I hold a First Class Honours MMath Mathematics degree from the University of Oxford and a DPhil in Statistics, also from Oxford. I am currently a Senior Lecturer in the Department of Mathematics . I have expertise on statistics and data analysis, mathematical modelling, and queuing theory, a branch of mathematics which has numerous applications to traffic management.

It was immediately obvious to me that the transport report used flawed mathematical modelling and data analysis. I have since studied in detail the transport report and have summarised below some of the failings in the report.

Context

Concerns regarding the intensification of traffic on Stone Wood Lane and its impact on highways safety are so great that in the Pre-Application Enquiry Response, Mathias Franklin writes:

“In light of the above, it is considered that Stone Wood Lane is unsuitable for any further intensification in use from the development; and it does not appear possible to deliver any significant improvements to the road within the highway boundary to address the existing deficiencies (e.g. additional passing places are likely to require third party land acquisition). As such, HDM cannot support the proposed residential development at this site.”

Regarding site access, he wrote:

“In light of the above, the proposed site access arrangements are not currently acceptable, and significant alterations and improvements to Shepley Road would appear necessary.”

The transport assessment attempts to underplay these issues related to highways safety.

Increased traffic intensification on Stone Wood Lane

General factors leading to further traffic intensification on Stone Wood Lane

*The transport report acknowledges that Stone Wood Lane is not suitable, and in fact proposes that residents of the development would take a longer alternative route to Shepley to avoid significant delays from encountering traffic on this narrow road. A survey conducted by a resident of Stocksmoor with 120 respondents showed that 85% of residents of Stocksmoor travel to Shepley via Stone Wood Lane. Residents do this due to the time saving, even though they do so at the risk of using this narrow and dangerous road. There is every reason to believe that residents of the proposed development would act in the same manner as existing residents of the hamlet. In fact, they have an even greater advantage in terms of time saving due to the location of the development.

*The report makes a basic factual error in stating that 125m of Stone Wood Lane is single-track. In fact, there are approximately 600m of Stone Wood Lane is single-track with limited passing places.

*The report offers a suggested alternative route taking in Penistone Road. This route takes in Dam Hill, which itself is a steep and narrow road which is often congested on the steep approach to the junction with Penistone Road due to cars parked on the road. This road itself is not well-suited to further traffic intensification. Incidentally, this route is 1.4 miles longer, meaning 2.8 miles longer for a return trip, which can hardly be considered sustainable from a fuel consumption point of view.

*The report gives the misleading impression that residents of Stocksmoor only use Stone Wood Lane to drive to Shepley. Whilst Shepley is a significant draw (nearest shop, nearest doctors surgery, nearest nursery, and nearest school and church together with Thurstonland), the report does not mention that Stone Wood Lane is also the quickest route South of the hamlet of Stocksmoor, with drivers passing through Shepley on route to numerous locations including the M1 South, the nearby towns and cities of Penistone, Barnsley and Sheffield, and local villages such as Denby Dale, as well as local attractions such as Cannon Hall.

*The report omits the fact that Stone Wood Lane does not have any pavement. As such, the road does not have street lighting, and is in fact not gritted in winter. When combined with the severe gradients and single-track nature of the road, vehicles are often left stranded in icy or snowy weather, leading to piles ups and chaos.

*The report does not mention the fact that the road is used by large agricultural vehicles (a farmer has fields either side of Stone Wood Lane and frequently travels between them). These vehicles are very large, cannot reverse easily and cannot do hill starts easily, and chaos can ensue when several cars meet these large agricultural vehicles.

*The report makes a basic factual error by incorrectly stating that the bus service is hourly. This service is slow, and buses go only every 2-3 hours on Mondays-Saturdays

with no service on Sunday. The hourly train service is very unreliable, and Huddersfield Station was the British station with highest number of cancelled trains in 2023.

*The report does not mention that there is only one road leaving the hamlet with continuous pavement provision. As such, the only local amenities that can be reached on foot using pavements are the Clothiers Arms (which has very infrequent opening hours) and the Woodman Inn, which must be reached using the 10%+ gradient Birks Lane. It is not possible to walk to the nearby villages of Thurstonland, Shepley and Fulstone via pavements, and street lighting is also not available.

*Due to the above factors, residents of Stocksmoor are reliant on their cars for the vast majority of journeys. As an aside, on these grounds, this cannot be considered to be a sustainable development.

Critique of the report's assessment on the impact of the development on traffic intensification

*Section 5 of the transport assessment includes an attempt at modelling the impact of the proposed development on traffic volume of Stone Wood Lane. This modelling is deeply flawed. Here, I will demonstrate that their modelling is not credible and leads to clearly implausible figures. Later, I will provide alternative figures, based on actual local data in the hamlet, that are likely to provide much better estimates of the true impact of the proposed development on traffic intensification.

*The 'model' generates 26 two-way vehicle trips in the AM peak hour and 24 two-way vehicle trips in the PM peak hour. These numbers are generated based on the TRICS trip rate database. However, given the fact that residents of Stocksmoor are reliant on cars for the vast majority of journeys, these numbers are not representative of the characteristics of the hamlet, and are likely to underestimate the number of vehicle trips.

*The report claims that being below 30 two-way vehicle trips in peak hours that the effect is not significant. I wish to stress that their figures are likely to be underestimates, and there is also a lack of context given here since even 24 two-way vehicle trips in peak hours is significant for a site located on bad bend situated adjacent to a single-track road.

*The 'model' predicts that 4% of the traffic from the development will embark/return from their journey via Stone Wood Lane, with the remaining 96% heading to the crossroads. These figures are arrived at through an extrapolation of crossroads data that is not representative of the actual routes taken by residents of the hamlet.

*With the above figures, the model predicts that at most 1 vehicle from the development will use Stone Wood Lane during the peak AM and PM hours. This figure is simply not plausible, which is not surprising given that it is based on erroneous extrapolations of data.

*The report concedes the possibility that a larger fraction of residents may use Stone Wood Lane, and then goes on to assert that an extra 5 two-trips on Stone Wood Lane would not be significant. Again, this figure is likely to be an underestimate, but I think that this assertion is unjustified in any case. Stone Wood Lane is already on its limit at peak hours, and any further intensification is significant. The road is just about usable because the chance of encountering vehicles on the single-track sections is just about small enough; however, further intensification may tip this out of balance. The key point is that major problems occur when two vehicles meet on a single-track section and are unable to pass each other before other cars meet them, leading to long queues of cars. The probability of such events occurring rises steeply with even modest intensification of traffic on systems close to their limit, especially when the increased traffic volume is counter flow (as is the case here).

*The report does not mention the ongoing development at Shepley, which will put further stress on Stone Wood Lane. The report also does not mention the ongoing development at Lepton. This development will lead to greater traffic flow on Penistone Road and more congestion in Waterloo. As such, more drivers from villages such as Shepley may use Stone Wood Lane as part of an alternative route into Huddersfield to avoid this congestion. Further pressure could be put on Penistone Road due to the potential development at Storthes Hall, which in turn may lead to greater pressure on Stone Wood Lane due to the above-mentioned factor. Therefore, there is going to be a natural intensification of traffic on Stone Wood Lane, on a road that is considered to be on its limit.

*The issues with Stone Wood Lane are so severe that the developers have attempted to persuade residents of the development to seek alternative routes and modify their behaviour by working from home via their travel plan. Their attempts to do so are laughable, serving only to highlight the severity of the issue. Purely speculative changes in behaviour of residents are not a sound basis for making planning decisions.

Projected traffic intensification based on actual data from Stocksmoor

*Another resident in the hamlet also found the transport report to be inadequate and he also had doubts about credibility of the model in the report. The resident conducted a traffic survey in order to test the developer's model on actual local data. In what follows, I will describe the methodology and compare the numbers obtained from the traffic survey with the predictions from the model given in the transport assessment.

*The survey was run on weekdays from Thursday 13 June to Wednesday 19 June, meaning data was collected for each of the weekdays Monday through Friday. For a direct comparison with the developer's model, traffic counts were recorded in the peak AM hour of 8:00-9:00 and the peak PM hour of 17:00-18:00. During these hours, traffic flow on Stone Wood Lane was calculated by counting the number of vehicles travelling on the road to Shepley and to Stocksmoor. These figures allow for us to estimate the current traffic flow on Stone Wood Lane. In order to estimate the traffic flow from the proposed development, vehicle counts were obtained for Stocksmead, with the total number of arrivals and departures from Stocksmead counted, together with counts for

the number of vehicles from Stocksmead arriving from Stone Wood Lane and the number of vehicles departing from Stocksmead to Stone Wood Lane. Stocksmead was chosen on the basis that, being the most recent development in the hamlet, its demographics are likely to be representative of potential buyers of properties at the proposed development. The figures from Stocksmead (17 properties) were then scaled up (by multiplying by a factor of 50/17, since there would be 50 properties at the proposed development) to get an estimate of traffic flows from the proposed development, and as a means of testing the developer's model on actual traffic movements in the hamlet.

* Motorcycles (of which there were very few anyway) were not included in the counts, because they can more easily pass vehicles in the single-track sections, and thus contribute less severely to the traffic intensification problem on Stone Wood Lane.

*The raw data is given in Tables 1 and 2 (collected in the Appendix). From this data, average values over the five-day period were calculated, and these are given in Tables 1 and 2.

*Estimates for traffic flow from the proposed development were obtained by multiplying the average traffic flows from Stocksmead by the scaling factor of 50/17. Estimated figures for the total number of arrivals and departures from the proposed development in the AM and PM peak hours are reported in Table 3, whilst estimated figures for the total number journeys from the proposed development to and from Stone Wood Lane are given in Table 4.

*I will now compare these figures with those obtained by the model in the transport assessment and will use these figures to provide a more realistic account of the potential impact of traffic intensification in Stocksmoor and Stone Wood Lane resulting from the proposed development.

*The model in the transport assessment generated 26 two-way vehicle trips in the AM peak hour and 24 two-way vehicle trips in the PM peak hour. Our figures are: 34 two-way vehicle trips in the AM peak and hour and 30 two-way vehicle trips in the PM peak hour. I would like to stress that these figures are now in excess of the 30-vehicle threshold mentioned in the transport assessment, and so this impact can be considered significant, especially in the context of a site that almost immediately joins on to a single-track road. Total peak AM traffic flow on Shepley Road would increase from an average of 63.2 vehicles per hour to 97.2 vehicles per hour, for an increase of 54%. Total PM peak traffic flow on Shepley Road would increase from an average of 69 vehicles per hour to 99 vehicles per hour, for an increase of 43%. These are clearly significant increases in traffic volume.

*The model in the transport assessment predicted at most one two-way vehicle trip in the AM and PM peak hours through Stone Wood Lane to and from the development. Our figures are 7.6 two-way vehicle trips in the peak AM hour and 10.6 two-way vehicle trips in the peak PM hour. The model in the report therefore underestimated these figures by roughly a factor of 10. These figures of 7.6 and 10.6 two-way vehicle would lead to a

12.1% increase in traffic volume on Stone Wood Lane in the AM peak hour and to a 15.4% increase in traffic volume on Stone Wood Lane in the PM peak hour. For a road which is considered to be already on its limit, these figures represent very significant increases in traffic volume, especially in the light of the ongoing developments in the surrounding area which will naturally increase traffic intensification on Stone Wood Lane.

Access issues

*Access to the proposed development is via a simple T-junction on a blind bend located on Shepley Road which joins on to the narrow and steep Stone Wood Lane. I am very concerned about the possibility of frequent and potentially serious crashes on the entrance to the site.

*Likely potential collisions may involve cars travelling northbound up Stone Wood Lane crashing into a car exiting the development or crashing into a car waiting (possibly queuing) to enter the site, as well the possibility of a rear shunt in which a vehicle is attempting to turn right into the development and is then shunted from the rear from a driver who is unaware that the lead driver will suddenly slow and turn into the site. The poor visibility, location on a bend, simple T-junction configuration, the fact that Stone Wood Lane has the national speed limit, and the severe gradient of Stone Wood Lane combine together for significant risks of frequent and potentially very serious collisions.

*Visibility splays are provided in the report, although I do not think that they capture the above dynamics and are not representative of the speeds that may be involved in collisions. Collisions, particularly serious ones, are most likely to involve vehicles travelling at speeds well in advance of the 85th percentile speeds. Indeed, within just the last 12 months there have been 4 crashes in the hamlet on the nearby Fulstone Road/Cross Roads; all crashes involved drivers travelling at speeds well in excess of the 30mph speed limit. I have on several occasions encountered drivers on Stone Wood Lane travelling very fast and showing no respect for the road, and when such drivers approach the bend on which the proposed development is located there is a recipe for disaster.

*The report does not appear to include analysis for large agricultural vehicles. Farm vehicles use Stone Wood Lane, often daily, and these vehicles are very large and travel at surprisingly fast speeds. A collision involving these large vehicles could be very serious.

*The report also does not make reference to the fact that vehicles are often parked on both sides of Shepley Road, which means that vehicles travelling southbound down Stone Wood Lane often arrive at the corner on which the site entrance is located outside their lane. This is another factor that may increase the likelihood of collisions which is not captured in the analysis given in the report.

Conclusion

The Pre-Application Enquiry Response highlighted the serious issues relating to highways safety in terms of intensification of traffic on Stone Wood Lane and the site access and road safety. In response, the developers presented a Transport Assessment report. This objection has shown that the report contains basic factual errors, omissions of relevant information, and has used flawed mathematical modelling and data analysis to arrive at implausible figures. As such, the transport assessment should carry little weight. In response to the implausible figures given in the report, this objection has provided figures based on actual traffic counts in Stocksmoor that give a more accurate picture of the likely impact of the development on the local highways, demonstrating that this impact would indeed be significant. In summary, I believe that this proposed development poses an unacceptable risk to highways safety, and I therefore object to this development in the strongest terms.

Appendix: Data from the traffic survey

	Stone Wood Lane (SWL)		Stocksmead Total		Stocksmead via SWL	
	To Stocksmoor	To Shepley	Arrivals	Departures	Arrivals	Departures
Mon	37	31	2	6	0	0
Tues	40	25	5	8	1	2
Wed	45	22	4	9	2	2
Thur	37	24	3	9	1	1
Fri	32	22	4	8	2	2
Average	38.4	24.8	3.6	8	1.2	1.4

Table 1: Raw traffic count data in the AM peak hour (08:00-09:00)

	Stone Wood Lane (SWL)		Stocksmead Total		Stocksmead via SWL	
	To Stocksmoor	To Shepley	Arrivals	Departures	Arrivals	Departures
Mon	37	47	7	5	2	2
Tues	22	50	4	4	1	2
Wed	31	42	2	2	1	1
Thur	26	46	8	5	3	3
Fri	20	24	7	6	3	0
Average	27.2	41.8	5.6	4.6	2	1.6

Table 2: Raw traffic count data in the PM peak hour (17:00-18:00)

	AM Peak Hour (08:00-09:00)			PM Peak Hour (17:00-18:00)		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Trip Rate	0.177	0.392	0.569	0.275	0.225	0.500
Trips	10.6	23.5	34.1	16.5	13.5	30

Table 3: Projected traffic flows for the proposed development (50 properties), based on scaling up the raw data for Stocksmead (17 properties)

	AM Peak Hour (08:00-09:00)			PM Peak Hour (17:00-18:00)		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Trip Rate	0.058	0.068	0.126	0.098	0.078	0.176
Trips	3.5	4.1	7.6	5.9	4.7	10.6

Table 4: Projected traffic flows for the proposed development (50 properties) that involve journeys via Stone Wood Lane, based on scaling up the raw data for Stocksmead (17 properties)