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To: [Local Plan](#)
Subject: Local Plan Objections - Unsound Plan
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Air quality modelling

1) The Local plan is under pinned by results of air quality modelling. The modelling is set out in evidence base document "Warrington Borough Council Local Plan Air Quality Modelling, Executive Summary and Technical Report, Warrington Borough Council, Project number: 60571554, Final, October 2018"

Details of what is described as model verification are set out in Table 6 of this document. However what is shown is not verification but actually model calibration. During model calibration parameters (such as in this case 'Road NOX Factor') are adjusted in order to match model predictions to observed data. Model verification would actually consist of comparing model predictions to a separate observed data set (say for a different time period, or another set of monitoring sites) using the same value for the model parameter. Therefore the air quality report is mis-leading in that it over states the quality procedures applied to check that the model is able to accurately represent reality.

Model verification after calibration is standard practice adopted during quality assuring any mathematical modelling used for predictions. The lack of air quality model verification on a second dataset undermines the quality of the model results, in this case the predictions of future air quality for the Local Plan development plan scenarios, thus undermining the air quality evidence base for the plan thereby rendering the Plan unsound.

Therefore the local plan that is under pinned by results of this air quality model is not sound.

2) In Table 6 the calibration parameter ('Road NOX Factor') is shown to vary widely with monitoring site. However a single value of 'Road NOX Factor' is used to calibrate the model. This is an 'Overall Road NOX Factor' of 2.5443, however factors as high as 4.8659 are seen at specific sites (DT16). Given the large range in NOX factors sensitivity testing of the impact of the local plan on air quality should have been undertaken by additional model scenarios that use the full range of NOX factors, including the higher value. Sensitivity testing then derives a the minimum and maximum possible impact of the Local Plan on air quality. Sensitivity testing using a range of values to define the range of an impact is standard practice in environmental modelling.

Therefore even the calibrated model (ignoring the failure to verify the model set out in point 1), when applied to the same data set used to calibrate it will underestimate NOx by nearly 100% in some locations. The model and its predictions of the Plans impacts on future air quality at these sites are not robust.

Therefore, the local plan, that is under pinned by results of this air quality modelling, is not sound.

Cycle infrastructure

3) The local plan states that the impact of increased traffic resulting from the proposed developments will be mitigated partially by a shift from use of private motor cars to cycling for some journeys, and that the increase in use of cycles will be achieved by improvements in cycle infrastructure as set out in the draft local transport plan (LTP) document.

The evidence base for the Draft LTP document includes a Draft Local Cycling and Walking Infrastructure Plan. Figure 13, 'Our existing network' of the Draft LTP is misleading because:

- the cycle routes shown are not a network, they are a partially connected set of paths
- many of these paths are of poor design
- many these paths are poorly maintained
- Some routes shown as cycle paths are in fact shared use paths, with pedestrians and horse riders.

Elsewhere the Draft LTP states “within Warrington Town Centre alone there are over 350 publicly available cycle parking areas spread across the two rail stations, retail facilities and the general public realm.” By areas I presume what is meant are individual cycle parking spaces. I believe a large proportion of these parking spaces are at Central Station but these are allocated on the platform, thus use is restricted to rail ticket holders and they are not available to the general public.

The above are just a few points to illustrate that the extent and quality of existing cycle infrastructure in the Borough has been overstated in the Draft LTP and highlights the underperformance of the Council’s previous attempts to encourage cycling, throwing the ability of the Council to provide more and improved cycle infrastructure in the future into doubt.

The inaccuracies in the cycling infrastructure referred to in the Draft LTP undermine the integrity of the LTP and render the local development plan that is underpinned by a modal shift in transport from private motor vehicles to cycling unsound.

4. Estimate of land required for employment.

The Plan states the need to support Warrington’s ongoing economic success by providing 362 Hectares of employment land between 2017 and 2037. The method used to calculate this figure is unsound because this is based on a required provision rate of 13.88 ha/pa based using the last 22 years of data that includes the land take-up required for the Omega development. Excluding the Omega development, by considering the previous 21 years, the required land update rate reduces considerably to 8.36 ha/pa.

The Omega development is an abnormally large development for Warrington Borough, therefore its inclusion by using the previous 22 years to calculate the required land uptake biases the required land uptake.

The land update rate has also been estimated on jobs growth that gives a maximum land SHORTFALL of 89.29 ha, a much lower land requirement than that derived from project historic land uptake rate that includes Omega.

The plan has selected the highest land uptake rate without any analysis of the bias incurred by including Omega or justification for its selection over the estimate from jobs growth.

Including such an atypical development as Omega in the land uptake calculation renders the Plans required land uptake unsound.