

Evidence ET-4:

The Impact of Overloading Charlotte Avenue: – Is It Severe?

*This document has been prepared by Elmsbrook Traffic and Parking Group (ETPG), May 2023
for the Appeal regarding*

LAND AT ELMSBROOK, BICESTER: PROPOSED RESIDENTIAL DEVELOPMENT

Planning Inspectorate Ref.No. APP/C3105/W/23/3315849

Cherwell District Council Application No. 21/01630/OUT

Cherwell District Council Appeal No. 23/00062/NON

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Executive Summary

- A. D. M. Mason Consulting is a highly experienced highways and access consultancy, with a very good reputation. Their report (EH1) shows that, as a consequence of a combination of assessment errors in the Appellant's analysis of the traffic on Charlotte Avenue, if the proposals are given consent, the impacts due to congestion will be "very probably severe".
- B. The CDC Officer's Report to committee of 9th of March 2023 was very much informed by the OCC Highways assessments and eventual removal of all their prior Objections to the proposed designs. Given the points made in these, it is clearly important to explain in more detail *why* the impacts caused by this congestion along Charlotte Avenue would count as 'Severe.' This document shows that they extend beyond just creating delays along the Elmsbrook Spine Road (as OCC Highways stated in a meeting on the 23rd of February 2023).
- C. This document considers the following separate impacts:
 - (1) 'knock-on' effects to the local road network;
 - (2) pollution impacts, in comparison with alternative access solutions (ref. ET2);
 - (3) distances travelled and potential traffic faced by emergency vehicles.

In combination, these show that impacts are clearly 'severe' – from a safety perspective (increased risks to life and limb), and from an environmental perspective. For these to be created on the UK's 'beacon' for future environment-conscious design, the 'Exemplar' Ecotown, would be ironic, tragic, and a huge embarrassment.

1.0 KNOCK-ON EFFECTS

- 1.1 It is not simply the creation of long delays *along Charlotte Avenue* due to the addition of 138 homes' worth of proposed traffic onto the far end of Phase 2, combining with the continuing and long-term future drop-off and collect parking requirements for Gagle Brook School (and overspill parking requirements for the Eco Business Centre, etc), that are going cause the overall impacts of traffic congestion caused by the Appellant's proposals to be 'severe.'
- 1.2 The B4100 – Charlotte Avenue road junction is already at RFC = 0.87 or DOS = 86.9% (if traffic lights are added), with the addition of the 138 homes from the proposed development. Both RFC and DOS are both incredibly sensitive to any errors made in the modelling, such as:
- a) a large percentage underestimation by the Appellant of true traffic levels (i.e. determined by what transport mode proportion is set as input to the simulations);
 - b) the Appellant ignoring the actual school traffic levels (also needed as input to simulations);
 - c) the Appellant assuming two-way flow throughout, via road modifications which can't work (see evidence EH1, ET1), and ignoring the vast majority of Charlotte Avenue being made one-way flow anyway due to the school parking requirements (see evidence EH1, ET3);
 - d) errors in the Appellant's modelling (e.g. negative numbers from accesses, and other examples shown by ETPG in the first 2021 Objection report; see also EH1);
 - e) any other subsequent changes where levels would have an impact; e.g. design, construction, occupancy and usage of the Community Hub and (whatever ends up at) the Local Centre.
- 1.3 These, in any combination, would likely push the RFC well above 1.0, and the DOS well above 90%, for both leaving and entering Charlotte Avenue. This then affects the queue of cars on the B4100 for the A4095 Bicester Ring Road junction nearby, and at time of writing, the queue from this passes Charlotte Avenue from roughly 08:15 to 08:50, extending beyond Aunt Ems Lane and sometimes as far as the Braeburn Avenue entrance to Elmsbrook, as noted in regular observations and the evidence of a traffic survey in March 2023.
- 1.4 With traffic congestion all the way between the school and the B4100 junction, this would likely cause queues both ways for vehicles turning into Charlotte Avenue, as well as impacting those turning out. The queue along the B4100 towards Charlotte Avenue *is then very likely to reach the A4095 junction* for a significant part of the peak hour time window. This would potentially then back up *into* the other entrances to the B4100-A4095 junction, and thus add further queues and delays onto the A4095 in both directions. This would in turn impact *the next adjacent junctions* on the A4095 – namely with the A4421 to the east, but perhaps more critically, with the Bucknell Road junction to the south-west.
- 1.5 This unmodelled effect therefore compounds the modifications to that junction proposed by VTP, as part of this application (TNs 08, 11): without robust modelling to measure all these knock-on effects, it should not be possible to conclude that the proposed modifications are enough (a conclusion that OCC Highways has arrived at without modelling the impact).
- 1.6 There would also then be further interactions with: (a) any initial building of the Hawkwell Village development, prior to the Strategic Link Road being built; (b) the traffic impacts of *building* the Strategic Link Road; and (c) the traffic from the rest of Hawkwell Village (3,100 homes) and the A2Dominion development beyond it (900 homes), both due to come to

planning committee soon in 2023. This is a serious compounding impact that has not been considered, and none of it is being modelled by *any of the development parties involved*.

- 1.7 Considering the other direction along the B4100: the queue currently extends beyond Aunt Ems Lane at peak times. The impact of the 'knock-on effect' from the Charlotte Avenue queues would likely extend this further – i.e. to extend regularly beyond the Braeburn Avenue entrance (and future Western Parcel's proposed construction access).
- 1.8 The impact of interaction with Braeburn Avenue could then also be critical. VTP's modelling predicts an RFC = 0.48 here; but this is again with underestimations of true traffic levels *and* other strange errors from the Appellant's modelling, e.g. adding ~200% more homes only creating ~100% more vehicle trips, for which no explanation has ever been given (despite OCC Highways stating in their initial Objection that this and other issues raised in the initial Objection by ETPG needed to be answered by VTP). When these factors are compounded, along with the Ring Road queue reaching here, the true RFC would be significantly higher – it is impossible to predict if it would be greater than 1.0. Without robust, trustable modelling, the true impact cannot be demonstrated. Furthermore, such modelling cannot be a planning condition: it must be undertaken as part of a revised application, to enable full review, and because of the potential impacts on road access viability (one of the key design parameters fixed at Outline stage).
- 1.9 We recommend considering a solution routing Eastern Parcel homes via proposed Access E instead: the additional 138 homes would *not then* overload the B4100 – Charlotte Avenue entrance; the 'knock-on effects' to the Braeburn Avenue junction and A4095 junctions would no longer be significant. Vehicles using Access E to enter/exit during peak hours would impact the queue lengths on the B4100 – but not by such a huge extent *in one place* – and thus the additional 'interaction' effects would be minimal in comparison.

Conclusions:

- 1.10 It is not just traffic delays to residents of Elmsbrook Phases 1-2 and the 138 proposed homes that would be vastly increased, i.e. perhaps 400-500 people affected by it. Traffic congestion reaching Braeburn Avenue compounds with Phases 3-4 and the Western Parcel, more than doubling the number of impacted people. Queueing all the way to the A4095 Ring Road junction on the northbound side would increase traffic delays to many thousands of people.
- 1.11 This 'lost time' for Phase 1-2 and the 138 proposed home residents would be in the form of commuting for work, school journeys (to secondary schools and other primary schools - as not all local children will attend Gagle Brook Primary School), shopping, bus journeys, cyclists dealing with increased traffic/risks, and deliveries into and out of the development.
- 1.12 However, for all the additional thousands then impacted, it is mostly going to be people commuting to work; the lost time is therefore digging much deeper in £££ lost for the UK economy. This is the exact opposite of what an Ecotown – a 'beacon' for sustainable development – is supposed to do: it is supposed to add sustainably to the UK economy, not create additional loss for it and affect many people who don't live on the Ecotown.

2.0 POLLUTION

- 2.1 Figure 1 shows a comparison between the average distance travelled by a vehicle coming from the Eastern Parcel along Charlotte Avenue to reach the B4100 and the average distance travelled if it went via the proposed Access E, instead.
- 2.2 It can instantly be seen that the Eastern Parcel homes' within-estate journey distances would be *much* shorter using Access E; by approximately a factor of six.

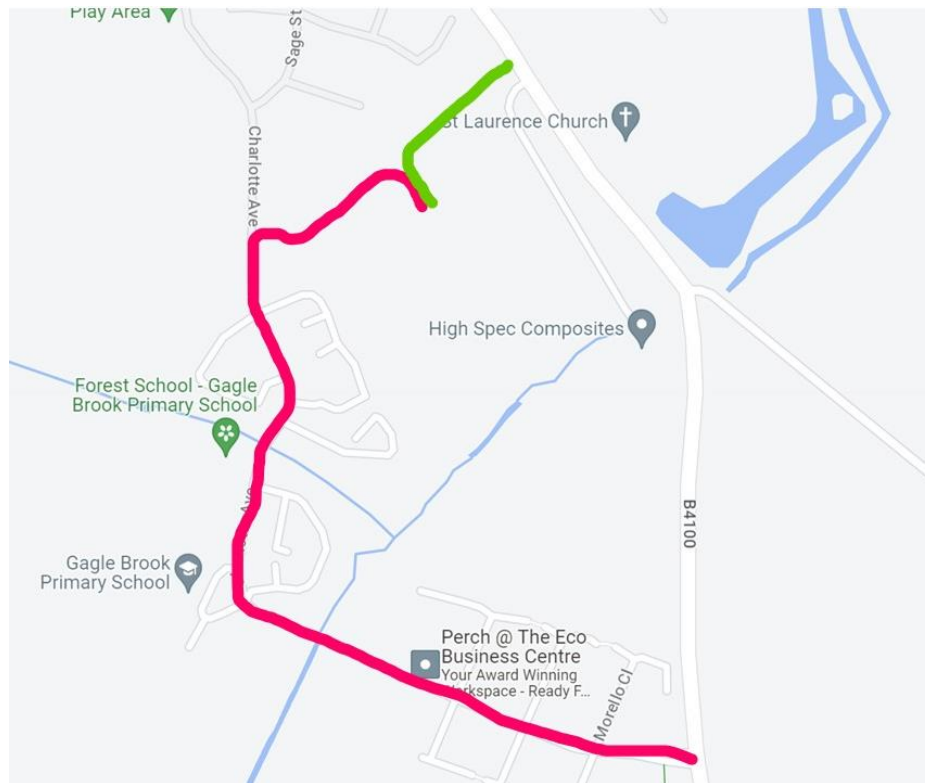


Figure 1: Comparing average distance for an Eastern Parcel resident to drive to the B4100 – (a) using the proposed Charlotte Avenue route (pink line), and (b) using proposed Access E (green line).

- 2.3 Furthermore, since Charlotte Avenue has the one-way flow issues discussed in other evidence (ET3) due to the school parking, the actual journey *time* would be reduced significantly more than a factor of six by using Access E instead – perhaps by a factor of more than 10x during peak hours (i.e. depending on the exact time the journey was made).

Conclusions:

- 2.4 Cars, vans and lorries going via the Charlotte Avenue 'pink route' would spend a lot longer within the estate than via the Access E 'green route': via Access E, they would spend less time sat stationary in a traffic jam, and for all petrol and diesel vehicles, this would be a huge reduction in the amount of carbon ejected into the atmosphere via exhaust fumes.
- 2.5 Put the other way around: routing an extra 138 homes worth of traffic movements along Charlotte Avenue instead of a shorter direct 'new junction' exit *would significantly increase* the amount of pollution – on the UK's Exemplar Ecotown. Any development proposal which included such an effect should be prevented from using such a solution, if *any* better solution is achievable (and one clearly is – see evidence ET2).

- 2.6 However – pollution would not be just increased for the proposed new homes via the Appellant’s proposed poorer solution:
- 2.7 Firstly, it would increase pollution for all the other vehicles from Elmsbrook Phases 1 and 2, plus those delivering pupils to the school and commuting to the Eco Business Centre.
- 2.8 Secondly, due to the ‘knock on effect’ north on the B4100, it would also increase pollution for vehicles from Elmsbrook Phases 3-4 and the Western Parcel.
- 2.9 Even if the Ecotown has a greater proportion of electric vehicles than most estates, the results in 2.7-2.8 are still bad; and there’s worse:
- 2.10 Thirdly, the effect of 2.8 would also impact everyone commuting into Bicester along the B4100, plus also local villages to the north (e.g. Bainton, Caversfield).
- 2.11 Fourthly, due to the ‘knock on effect’ *south* on the B4100, it would also increase pollution for vehicles travelling on the A4095, and create further impacts to the A4421, Bucknell Road, and beyond; and other near-future estates on the Ecotown.
- 2.12 **Conclusions:** The total additional pollution into the atmosphere from all these vehicles being delayed would be very significant, created purely by a suboptimal design for part of the Ecotown (the Appellant’s proposals). This is a key reason why the impacts caused by the traffic congestion of the *current* Appellant designs for road access should be considered as ‘Severe’ from an environmental perspective. For this to be considered acceptable, on the UK’s ‘beacon’ for future environment-conscious design, the ‘Exemplar’ Ecotown, would be ironic, tragic, and a huge embarrassment.

3.0 EMERGENCY VEHICLE ACCESS

- 3.1 Figure 1 also indicates a further ‘knock on effect’ of a different kind: that of Health and Safety. It has already been detailed in other documents (EH1, ET1) that the proposed changes to Charlotte Avenue would reduce safety for cyclists and pedestrians, especially children travelling to Gagle Brook Primary School. The chances of an accident caused by cars, creating risk of a serious injury (again, especially to a child), are clearly significantly increased. These are most likely during the 8-9AM peak hour, when journeys coincide.
- 3.2 In such increased scenarios, but also in everyday home/garden accidents, including fires, it may be necessary for Ambulances and Fire Engines (i.e. large, wide emergency vehicles) to rapidly travel to (and from) any home located within Elmsbrook Phases 1-4 plus the Eastern and Western Parcels. Traffic congestion would thus significantly hamper emergency journeys:
- 3.3 Based on the arguments in the ‘Knock-on Effects’ section, there is the evident risk of increased journey times due to increased traffic delays on the surrounding road network, in all directions. Even at non-peak hours, the distance is much greater using Charlotte Avenue rather than Access E, as shown in Figure 1. During peak hours, the issue would be much worse: traffic congestion, parked cars all along Charlotte Avenue, cars trying to go both ways along while there is only one-way flow due to the parked cars, plus the bus coming the other way...the delays that would be caused to a larger emergency vehicle are **very significant**. **And these are precious minutes of time, which could make the difference between lives lost or saved.** Again: an alternative solution is required which does not require such a long within-estate journey, nor create such delays from congestion.