

Charnwood Local Plan 2021-37 Transport Evidence Topic Paper – November 2021

1. Introduction

- 1.1 Charnwood Borough Council has undertaken transport evidence to support each stage in the preparation of the Charnwood Local Plan and this paper provides a summary of that transport evidence and how it has influenced the Plan.

The list of evidence summarised in this topic paper includes:

Development Strategy Options Testing	
EB/TR/1	CBC Local Plan Option Testing (No Mitigation) Final Report, Leicestershire County Council, Nov 2018
EB/TR/2	CBC Local Plan: Mitigation Testing Final Report, Leicestershire County Council, June 2019
Site Selection Options Testing	
EB/TR/3	PRTM: Charnwood Local Plan Base Year Model Review, AECOM, May 2020
EB/TR/4	Charnwood Local Plan Interim Forecasting Report, AECOM, October 2020
EB/TR/5	Charnwood Local Plan Additional Forecasting Analysis, AECOM, November 2020
Charnwood Local Plan Mitigation Package Development & Testing	
EB/TR/6	SRN Issues, AECOM, January 2021
EB/TR/7	Technical Note 1: Hybrid Option, AECOM, January 2021
EB/TR/8	Technical Note 2: Long list of Interventions (Excel), AECOM, January 2021
EB/TR/9	Technical Note 3: Assessment of Mitigation (Excel), AECOM, January 2021
EB/TR/10	Revised Technical Note 3: Refined Assessment of Mitigation (Excel), AECOM, May 2021
EB/TR/11	Charnwood Local Plan Forecasting Report, AECOM, May 2021
EB/TR/12	Charnwood Local Plan Mitigation Report, AECOM, May 2021
Further Analysis and Refinement	
EB/TR/13	Charnwood Local Plan – Further Analysis and Refinement, AECOM, May 2021

- 1.2 The transport evidence base has been compiled in collaboration with all relevant stakeholders including Leicestershire County Council, Leicester City Council and National Highways, and a Statement of Common Ground has been produced which confirms their support for the transport evidence produced to date. The authorities are continuing to work together on further transport evidence to support the Local Plan.

2. Development Strategy Options Testing

CBC Local Plan Option Testing (No Mitigation) Final Report – Nov 2018 (EB/TR/1)

- 2.1 The initial transport evidence undertaken to inform plan preparation utilised the Leicester and Leicestershire Integrated Transport Model (LLITM) to provide evidence on the broad potential transport impacts of seven development strategy options in the Borough.

- 2.2 The options tested (four low growth scenarios of around 8,100 homes and three high growth scenarios of around 15,700 homes) involved testing combinations of urban concentration, dispersed settlement hierarchy distribution and a new settlement. Modelling of these scenarios identified the potential highway impacts of each option. The modelling took account of existing planned and committed development in the Borough which is expected to be delivered by 2036 to provide a baseline against which the alternative development strategy options could be assessed.
- 2.3 The development strategy options were then compared and ranked using a number of congestion criteria. The three high growth options ranked as the most congested and partners raised concerns about the deliverability of the mitigation that would be required for a high growth scenario within the plan period. The significant transport mitigation for the high growth options would involve complex coordination and delivery, making it more difficult to maintain a 5 year supply of housing than a strategy with more moderate levels of development.
- 2.4 The low growth scenarios which focused growth away from Loughborough resulted in the least impacts in transport terms for the town. However, partners highlighted that growth focused at Loughborough and Leicester edge offered the most potential for public transport usage and active travel (walking/cycling). There would also be increased opportunity to support more significant improvements in Loughborough and on the A46, improvements which would be needed for all development strategy options.

CBC Local Plan: Mitigation Testing Final Report – June 2019 (EB/TR/2)

- 2.5 Following on from the initial local plan option testing work, two high level mitigation packages were developed for the options; one for the low growth options, and one for the high growth options. The measures required to mitigate a high growth scenario, and the remaining transport impacts, were confirmed as being significantly higher than for a low growth scenario. Stakeholders suggested that this would lead to difficulties in the delivery of transport infrastructure given the scale, complexity and cost of provision and the need to involve wider partners including Highways England and adjacent local highway authorities. The consequential risk would be that mitigation is not delivered (resulting in transport harm) or that there would be a delay to the delivery of homes due to infrastructure delays (meaning delivery failure and implications for the five year supply).
- 2.6 For the low growth options, the high level mitigation testing showed that transport impacts could be mitigated to a reasonable level; however, each strategy would have different impacts for an individual part of the network making it important to understand those differences in relation to the policy objective for each part of the network. For example, should journey times in Loughborough be reduced or journeys be encouraged to move from less desirable routes onto more suitable roads.
- 2.7 The transport assessment of development strategy options, whilst informing the preferred development strategy, did not support any particular development strategy over the others and therefore was considered alongside other factors when determining the development strategy for inclusion in the plan.

2.8 The Council has prepared a separate topic paper on strategy and site selection (reference TP/2: Development Strategy and Site Selection Topic Paper). The development strategy that was identified in the Draft Charnwood Local Plan October 2019 was a hybrid of options tested through transport modelling and the sustainability appraisal.

3. Site Selection Option Testing

PRTM: Charnwood Local Plan Base Year Model Review – May 2020 (EB/TR/3)

3.1 Initial transport assessment work informed the overall proposed development strategy, but further detailed modelling work was now necessary to inform plan preparation once specific development sites for inclusion in the plan had begun to be identified. To provide this further evidence a strategic assessment of the proposed site allocations being considered for inclusion in the local plan was undertaken using the Pan-Regional Transport Model (PRTM), an extension of the LLITM used previously.

3.2 The first stage in this additional transport assessment work was to assess the performance of the base year highway model contained within the PRTM and assess the suitability of the model to assess the proposed growth being planned for through the emerging Charnwood Local Plan.

3.3 The review showed that the performance of the base year highway model against observed traffic counts and journey time surveys exceeded the defined Department of Transport's Transport Analysis Guidance (TAG) acceptability guidelines across the study area. On this basis, and due to the limited number of coding corrections identified as part of this review, the PRTM highway assignment model was considered a suitable tool to draw robust conclusions on the forecast impacts of growth proposed in the Charnwood Local Plan.

Charnwood Local Plan Interim Forecasting Report – Oct 2020 (EB/TR/4)

3.4 After establishing the appropriate scale and overall pattern of development for inclusion in the Plan, the site selection process enabled the transport modelling work to assess the impact on the highway network of specific sites. Two options were tested to inform the final site selection, the first option focused additional growth in three Service Centres to support the provision of new schools and the second option tested additional growth at Shepshed and Other Settlements. The decision to model two options was taken due to concerns that focusing growth in Service Centres could highlight significant transport issues compromising the delivery of the plan. This report has been revised and updated to form part of the Charnwood Local Plan Forecasting Report (EB/TR/11).

3.5 The modelling did not, however, provide a clear steer for the site selection process, identifying no significant difference in the transport impacts for the two options. A hybrid option was therefore prepared taking account of the education requirements and the sustainability appraisal.

- 3.6 The modelling did identify issues on the Strategic Road Network (SRN) with traffic from the proposed development sites tested being displaced onto less suitable routes due to issues on the SRN (M1 and A46), thus creating problems for the local road network. On that basis it was considered that the mitigation package should include addressing the SRN issues to alleviate these problems and return vehicles to more suitable roads, so easing local issues, rather than focusing all the mitigation on those roads which traffic is displaced to.

Charnwood Local Plan Additional Forecasting Analysis – Nov 2020 (EB/TR/5)

- 3.7 Additional analysis was undertaken and presented in diagrammatic form to further investigate the SRN issues and impacts around the city of Leicester, beyond Charnwood's boundary. It was undertaken to address queries raised by stakeholders and ensure the evidence base for the Local Plan is satisfactory ahead of examination. This work looked at baseline junction capacities, development zone and key route select links, key route journey times and route choice assignment.

4. Charnwood Local Plan Mitigation Development & Testing

SRN Issues – Jan 2021 (EB/TR/6)

- 4.1 Ahead of developing a mitigation package, work was undertaken to investigate the existing constraints on strategic routes in Charnwood and the vicinity, which could impact on the routing of new traffic arising from local plan growth, and how the mitigation needed was identified and developed. The objective of this work was to describe how the Strategic Road Network (SRN), in conjunction with the Local Road Network (LRN), operates currently; how it could be impacted by planned growth in Charnwood as well as surrounding areas; and the implications this has for developing a local transport mitigation strategy for Charnwood. This work identified that cooperation and collaboration between the local authorities and Highways England would be essential to underpin the mitigation strategy in light of the current and future SRN issues being impacted upon, not only by growth in Charnwood but also in neighbouring local authorities and regionally.

Technical Note 1: Hybrid Option – Jan 2021 (EB/TR/7)

- 4.2 Following the initial forecasting work and taking account of other evidence, a hybrid option had been identified for final testing and mitigation development. This technical note repeated the previous analysis undertaken for the two options tested in EB/TR/4, with the objective of identifying the broad locations where mitigation should be focused.

Technical Note 2: Long list of Interventions (Excel) – Jan 2021 (EB/TR/8)

- 4.3 Having identified the locations where mitigation would be necessary, the work to identify a preferred mitigation package involved a process of refinement starting with a long list of proposed potential transport interventions, set out in this technical note along with capital costs of the interventions.

Technical Note 3: Assessment of Mitigation (Excel) – Jan 2021 (EB/TR/9)

4.4 This note set out the assessment of the suitability of the long list of interventions identified to inform the selection of appropriate interventions to address the potential impact arising from the Local Plan. The final package identified features a mix of schemes designed to address congestion caused by the proposed developments, and also alleviate issues where more strategic traffic is using local routes as a result of congestion on the SRN in and around Charnwood. The mitigation package that was identified fed into the Charnwood Local Plan Viability Study (EB/I&D/1).

Revised Technical Note 3: Refined Assessment of Mitigation (Excel) – April 2021 (EB/TR/10)

4.5 Revised technical note 3 includes revisions to the draft mitigation package (EB/TR/9). The work was based on additional analysis undertaken and addresses a number of key comments made by stakeholders on the draft outputs of the mitigation report and draft modelling reports.

Charnwood Local Plan Forecasting Report – May 2021 (EB/TR/11)

4.6 This report draws together previous work, the modelling of the hybrid option and the assessment of mitigation measures. The report concludes with a summary of stakeholder feedback which was addressed in the Further Analysis and Refinement Report identified below.

Charnwood Local Plan Mitigation Report – May 2021 (EB/TR/12)

4.7 The report sets out the preferred package of mitigation measures together with capital cost for works. The mitigation measures feature in the Infrastructure Schedule at Appendix 3 to the Pre-Submission Draft Charnwood Local Plan and were re-appraised as part of whole plan viability (EB/I&D/2).

5. Further Analysis and Refinement

Charnwood Local Plan – Further Analysis and Refinement – May 2021 (EB/TR/13)

5.1 The report was produced in response to stakeholder feedback to the Local Plan Forecasting Report (EB/TR/11) and includes:

- Additional analysis of existing data requested by stakeholders.
- Refinement of the mitigation package to take account of stakeholder comments and secondary impacts.
- Investigation of the mitigation measures at M1 Junction 23 to ensure they relate to the growth proposed and are deliverable taking account of the constraints of the junction.

6. Conclusion

6.1 The Forecasting Report (EB/TR11), Mitigation Report (EB/TR/12) and Further Analysis and Refinement (EB/TR/13) are the most useful starting points for understanding the impacts of the Pre-Submission Draft Charnwood Local Plan and

the proposed mitigation package. The previous reports and technical notes show the process of option testing and consideration of the relationship between the Strategic and Local Road Network which informed the preparation of the local plan and the preparation of these final pre-submission reports.

- 6.2 The complexity of the issues in Charnwood mean there are several issues raised by stakeholders that could not be resolved at the point of Pre-Submission Consultation on the Charnwood Local Plan. Work has therefore continued with partners, and following representations made during the Regulation 19 consultation on the Charnwood Local Plan, Charnwood Borough Council, National Highways, Leicestershire County Council and Leicester City Council have agreed a Statement of Common Ground to document the agreed work to date and the need for further transport assessments (SCG/5).
- 6.3 The authorities have identified that further work is required to build upon the existing evidence and provide a more detailed understanding of the Plan's impact upon the highway network. A proposal for this work has been agreed and will initially include:
- a review of existing modelling work and further refinement to establish an initial analysis of the scenarios at 2026 and 2031 to provide a more incremental and multi-modal approach;
 - assessment of the development taking place in the next five years to inform mitigation measures needed in the near future;
 - separating background traffic growth forecasts and the impact of external factors on key parts of the network; and
 - evaluation of the distribution of development and the cumulative impact of each allocation to provide a clearer understanding of mitigation requirements and associated costs for each stage of the Plan period and to inform a proportional, fair and reasonable approach for each site.
- 6.4 The authorities have jointly identified that following this initial work, further evidence would be needed to:
- provide sufficient evidence on impacts to the highway network in the first five years, notably on the SRN;
 - enable sufficient identification of the direct impacts of Local Plan growth, separate from the impacts of Baseline congestion arising from committed development located outside the Borough;
 - enable the cumulative, cross-boundary impacts of Charnwood's and adjacent authorities emerging Local Plans to be understood;
 - separate the impact of mitigation measures on the local road network (LRN) from those of future potential schemes on the SRN for which funding is not confirmed; and
 - evidence the feasibility and value for money of all the mitigation interventions proposed.
- 6.5 At the point of writing draft outputs of the initial work have been received and are being reviewed by parties.