
Local Plan Transport Evidence

<i>Ver</i>	<i>Date</i>	<i>Author</i>	<i>Review</i>	<i>Approve</i>	<i>Comments</i>
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1 Summary

- 1.1.1 In the summer of 2016 the four local authorities, Harborough District Council (HDC), Oadby and Wigston Borough Council (O&W), Leicestershire County Council (LCoC) and Leicester City Council (LCiC), issued a brief¹ that set out the requirements for a study to investigate the cumulative effect of a number of different options for the location of housing on travel and transport in the East and South East sector of the Leicester Principal Urban Area.
- 1.1.2 Edwards and Edwards Consultancy Ltd (EAE) were commissioned to undertake the study. This report is the culmination of stage 1 and 2 of the brief which involved initial investigations into the potential impact of accessibility by sustainable modes and the potential locations of where stresses may form on the highways network.
- 1.1.3 The study provides transport evidence that can be used by the local authorities to support decisions made during the development of their local plans. The City and County highways authorities have been consulted on the methodology and inputs to this study and are satisfied that the evidence is sufficiently robust to provide transport evidence that will allow the LPA's to help sift and prioritise their housing allocations. However, the evidence needs further, more detailed, analysis work to be undertaken in order to allow mitigation strategies or other transport interventions to be developed. Work to develop mitigation strategies will follow in stage 3 and 4 as described in the original brief.
- 1.1.4 The outcomes of stages 1 and 2 are reported in technical notes that are appended as Appendix A (sustainable travel) and Appendix B (potential location of stresses on the highways network).

2 Context and Limitations

2.1 General

- 2.1.1 The purpose of this study was to have a 'first look' at the cumulative and cross-border transport effects of potential Local Plan locational options in the East and South East of Leicester.

¹ Local Plan Transport Evidence, Adrian Thorpe, June 2016

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- 2.1.2 It is based on the best information available at the time in respect of likely locational options that might emerge through the development of the new Harborough District and Oadby and Wigston Local Plans respectively. Further, through the use of the Leicester and Leicestershire Transport Model, the parties to the study are content that it has taken into account to an appropriate degree (at this stage of work) developmental growth in other neighbouring areas, especially in Blaby District and Leicester City.
- 2.1.3 However, it is important to stress that the purpose of this ‘first look’ was **not** to establish quantum of impacts. Rather, by identifying where impacts from different locations could coincide, the work would help inform initial sifting and sieving of locational options. It would also be used to help inform the commissioning of further stages of work; these would include quantifying the scale of the impacts and would then start to look at strategies to mitigate against those impacts and/or to provide infrastructure that could help in the delivery of the development. For instance, by improving accessibility from the South East of Leicester.
- 2.1.4 The nature of this ‘first look’ is considered by the parties to the study to be commensurate with the level of evidence that is appropriate to inform the early developmental stages of a Local Plan. As we move beyond the initial sifting and sieving stage it will be important to refine the inputs to the model to ensure that both housing and employment assumptions across the South and East of the PUA reflect the best estimates of each of the local authorities². Consideration should also be given to the relevance of including a ‘more accurate’ representation of the housing/employment plans of Blaby District Council as development within their authority would likely impact the results of any study into travel and transport within this study area.
- 2.1.5 Given the specific geographical focus of this study and its particular purpose, it would not be appropriate to use its outcomes to draw any particular conclusions in respect of strategic spatial planning across the wider Housing Market Area.

2.2 Context and limitation of the accessibility study

- 2.2.1 When weighing up the attractiveness of a location each household will have a different set of criteria for choosing where to live. One consideration will be the accessibility from their new home to jobs, services, schools and leisure facilities.
- 2.2.2 Reasonable travel time is subjective and dependent on the trip purpose. For this initial analysis, the study has focussed on commuting for which the average commuting time is estimated to be 30 minutes³. We have assumed that the use of sustainable travel modes⁴ is enhanced if the travel time from the new homes is shorter than this.
- 2.2.3 As part of their contribution to this study, Leicester City Council’s Transport Strategy Section has run the TRACC software. Assumptions include:
- **Walk:** assumes 4.8kph using highway and footpaths

² More detailed evidence work has already been prepared in respect of the Harborough Local Plan, for example

³ National Travel Survey (2015) showed the average commuting time in 2014 to be 30 minutes

⁴ walking, cycling and public transport

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- **Cycle:** assumes 16kph using highways and cycle paths
 - **Public Transport (PT):** assumes a Thursday 2016 timetable between 7am and 10am and allows an 800m walk to the initial bus-stop and a 400m interchange distance between bus-stops. No account is taken of ticket inter-changeability.

2.2.4 It should be noted that the Public Transport analysis does not include any additional PT provision that might be included as part of the planning conditions for a new development. However, as we are only concerned with accessibility at this stage, rather than looking in detail at service frequency and cost this does not have a material impact on the results presented.

2.2.5 An estimate for the location, number and category of jobs were obtained from the 2011 Census⁵. The accessibility analysis shows how many of these jobs could be accessible (by sustainable modes) from the different development locations. It should be noted that, at this stage of the process/evidence gathering methodology, the analysis does not include new jobs that could be provided within new developments, nor does it account for the closure of firms and the loss and relocation of jobs.

2.3 Context and limitations of the Highways study

2.3.1 There are many factors which influence **why** and **when** people travel, **where** they choose to travel and then **how** they choose to travel. Predicting future traffic levels is not as simple as taking the traffic levels forecast today and increasing them in-line with the change in the population.

2.3.2 For instance, the bullets below show **some** of the factors that influence **why**, **when**, **where** and **how** people choose to travel:

- changes in demographics (eg number of old/retired vs working age population) or changes in employment type and sector (full time vs part time, White collar vs blue collar) will affect **why and when** people travel.
- The location of homes, shops, schools and employers affect **where** people travel, and
- the cost of travel by car, the cost of travel by bus, levels of car ownership, levels of congestions, and accessibility to sustainable modes affect **how** people choose to travel

2.3.3 Transport models, such as the Leicester & Leicestershire Integrated Transport Model (LLITM), provide sophisticated forecasts of future travel behaviour based upon changes in population, employment and characteristics of travel. This is required as it not possible to simply scale levels of traffic we observed today when attempting to determine what might

⁵ Census table WP613EW

happen in the future⁶. This is a situation to which the two highways authorities party to this project recognise and accept.⁷

- 2.3.4 For instance, changes in demographics, household income levels, car ownership levels, fuel prices, bus fares will affect how people choose to travel. As such, it is not always possible to compare conditions as they are 'now' with a predicted future
- 2.3.5 These models take a considerable time to develop and involve detailed analysis to calibrate and validate the accuracy of the inputs and outputs.
- 2.3.6 LLITM provides the best source of evidence available to investigate the transport impacts of development options for the Local Plan.
- 2.3.7 The LLITM model assumes an increase in population and employment up to 2031 based upon Government forecasts within NTEM 6.2⁸. This means that the traffic⁹ level is consistent with the assumptions when the model was developed. The traffic distributions produced by LLITM, and the traffic volumes on the highways network are thus consistent with what might be expected under these congested conditions in 2031.
- 2.3.8 The study is based upon the use of existing LLITM v5 core scenario which has been used by the Leicestershire County Council and Leicester City Council, as local Highway Authorities, to provide evidence to support their strategic view of the highways network to 2031. This run of the model is also used by the County Council Highways Development Control who recommend that planning applications are supported by Transport Assessments that use traffic distributions from this run of the model.
- 2.3.9 This scenario does not, however, take into account recent changes and refinements in the planned local distribution and volume of both housing and employment that might have

⁶ In the future there will be many factors that will affect how many journeys are undertaken and the type of transport used. The population is forecast to grow, but with (for instance) a greater proportion of older/retired people who will tend to travel off-peak to access services and leisure rather than traveling during the peak to access jobs. In addition, car ownership is forecast to increase, car running costs continue to fall and bus fares rise. The LLITM model uses these factors, and many others, to estimate the number of car trips that will be made in future years and assigns them to the network mimicking how drivers behave when confronted with traffic delays and congestion. This is a very complex process that results in the model finding a solution in which the total journey time and cost of all the travellers is minimised. For example, due to modelled increased levels of traffic caused by new development, LLITM might divert modelled existing traffic from a route that it is using 'now' to a different route in the future. In modelling terms this is referred to as 'displaced traffic'; in reality, this manifests as 'rat-running', whereby drivers choose to use longer, less direct routes because they result in a shorter journey time overall. The end result is a highways network in which the number of vehicles in a future year is likely to have increased, but in which individual links will have increased or decreased numbers of vehicles as travel patterns have changed due to changing levels of congestion and delay. This level of delay and congestion will be suitable for obtaining a broad estimate of travel patterns in a future year, but this means that it is not necessarily possible to assume that future traffic conditions on a particular route bear direct comparison with conditions 'now'.

⁷ It is understood that the Highways Authorities will be preparing a joint commentary on the outcome of this study

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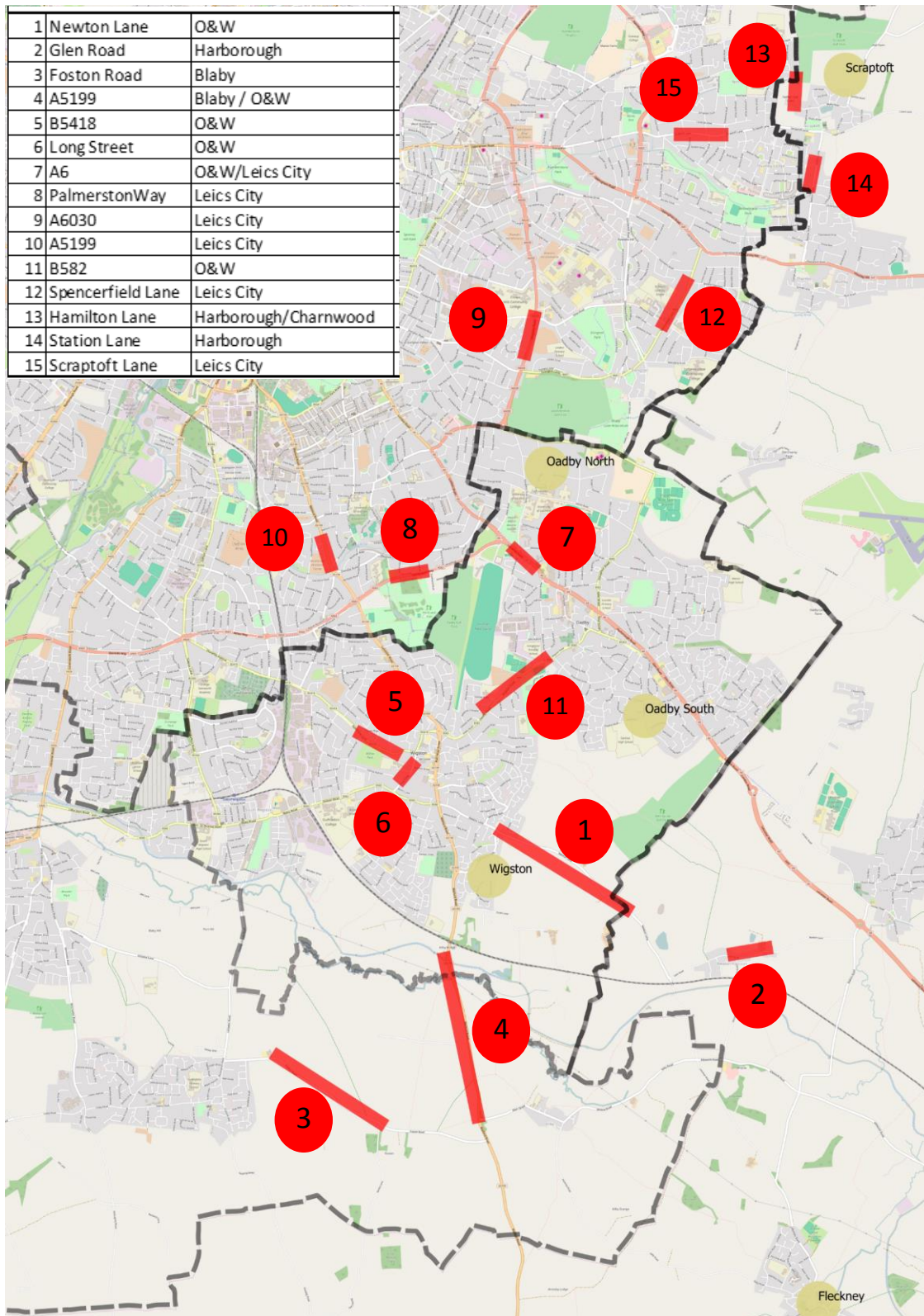
<http://webarchive.nationalarchives.gov.uk/20160622092100/https://www.gov.uk/government/publications/tempo-downloads/tempo>

⁹ Traffic is defined as the number of vehicles multiplied by the distance and is measured in Vehicle-km. The metric ensures that both changes in the number of trips and the distance travelled is captured

occurred since version 5 of the model was developed in 2013/2014. This fact is accepted by all the study partners and is considered to be only a minor point of note at this stage of the initial sifting and sieving process.

- 2.3.10 It should be noted that a new model (LLITM 2014) is currently in development and is likely to be released in late 2016. It is based upon data from the 2011 Census, 2014 traffic surveys, local data on the growth and location of housing and employment, together with the Working Futures Economic Model to forecast changes to 2031, 2036 and beyond. This model will contain the latest assumptions on economic and population growth as well as the latest (Spring 2016) inputs from all Local Authorities on their local plan targets.
- 2.3.11 Although the work undertaken using the existing LLITM v5 model will provide an important evidence base in the development of each authority's local plan it is recommended that before progressing onto future stages, beyond this initial task, it will be important to assess the availability of this new model as the release date is not fixed. A decision, by all the partner authorities, will need to be made as to whether work should continue using the existing LLITM v5, or moving to LLITM2014.

3 Highways links referenced in the report



Appendix A. Sustainable Travel

Appendix B. Stresses on the Highways Network