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## **Local Transport Plan Evidence Study Phase 2**

### **Existing Highway Network Assessment Opportunities and Constraints**

**Oadby and Wigston Borough Council  
Harborough District Council  
Leicestershire County Council  
Leicester City Council**

## DOCUMENT CONTROL

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Existing Highway Network Assessment – Opportunities and Constraints**

**Client: Oadby and Wigston Borough Council**

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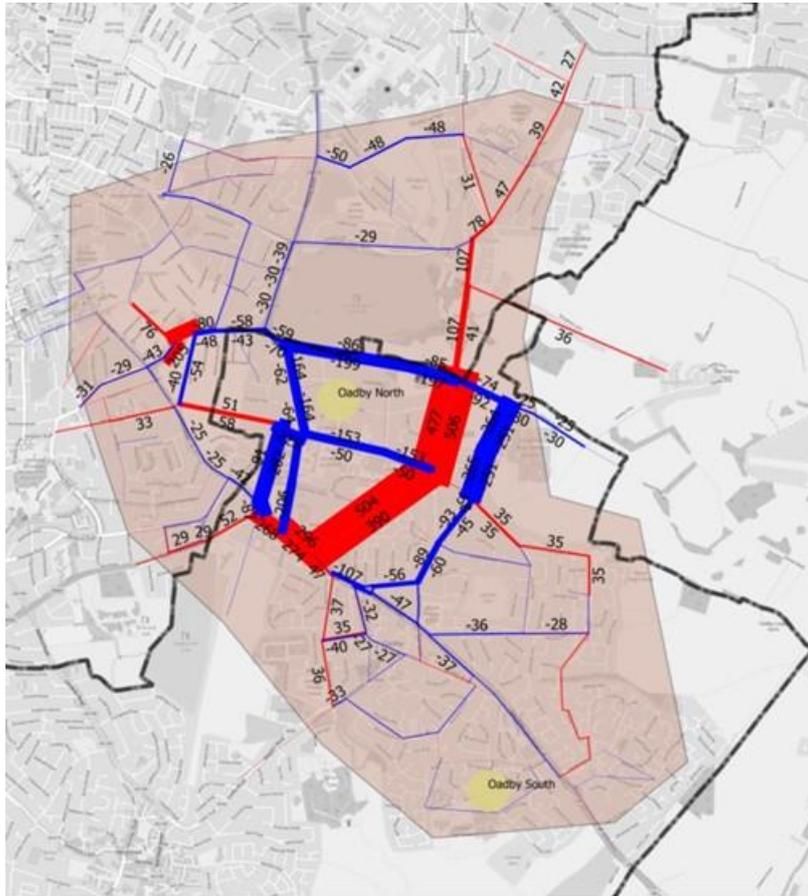
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## **2 Executive Summary**

- 2.1 In 2016 Edwards & Edwards Consultancy Ltd were commissioned to undertake a study to look at the cumulative effects on travel of a number of potential housing location options in the South East sector of the Leicester PUA. In June 2017 EAE were commissioned to take this work forward and to undertake the next phase (phase 2) of this study to provide an 'in principal' list of transport measures, at a strategic level that may not be identified through individual development transport assessments, that would be sufficient to support the proposed growth. This work would identify constraints and opportunities for improvements and would lead to a preferred list of schemes/measures together with indicative costs and risks. In addition, this phase includes the outcomes from the A6-Gartree Road link road modelling exercise.
- 2.2 The outcome of this phase of work will allow the planning and transport authorities to prepare a 'joint position statement' on the cumulative transport impacts, and potential mitigation opportunities and constraints, in and around the southern edge of the Leicester Principal Urban Area (PUA) arising from development in six strategic locations in Harborough District Council and Oadby and Wigston Borough Council.

### **A6 to Gartree Road Assessment using LLITM**

- 2.3 Leicestershire County Council has produced a report on the potential impacts of providing a link between the A6 and Gartree Road using the alignment of highway improvement lines near the Asda supermarket, Oadby. EAE have reviewed this report and produced the following summary.
- 2.4 The report indicates that the scheme would likely provide a benefit to drivers undertaking orbital movements linking the Fosse Park industrial/commercial areas and the M1 junction with the PUA area to the East of the City. The results also show that traffic from Oadby and Wigston would potentially make use of the scheme using Brabazon Road to access the A6 rather than using the B582 through New Street in Oadby.



**Figure 2-1: Area of Influence of the A6-Gartree scheme**

- 2.5 Figure 2-1 shows the Area of Influence of the scheme. This is defined as the area where traffic levels increase or decrease by 5% between the with and without scheme. Red shows links in which traffic is forecast to increase. Blue shows links with a decrease. The results indicate that the scheme provides a benefit over a relatively small geographical area. However, there are some potentially significant benefits with levels of traffic reducing on: Stoughton Road on the section that joins to Knighton Road and on the Stoughton Road section that joins to Oadby, Stoughton Drive South, Manor Road and the B582 Gartree Road.
- 2.6 Oadby may also see a reduction in trips as traffic moves from the B582 through New Street in Oadby onto Babazon Road. This would lead to increased traffic on Brabazon Road. The modelling shows that the scheme could lead to traffic increases on Shady Lane and Spencefield Lane in Evington. The modelling also highlighted the potential issue of additional delays on the A6 due to the need for a new junction.
- 2.7 Results from this modelling exercise show that it would not be appropriate to remove the highways improvement lines. Further evaluation, including with the full Eastern District Distributor Road (EDDR) concept, would be valuable in determining whether

an appropriate junction on the A6 could be developed, and whether accessibility to the East of Leicester PUA could be improved.

### Existing Highways Network Assessment

2.8 The purpose of this report is to identify opportunities and constraints for making transport improvements based upon forecast traffic growth (mainly commenting on junctions predicted to be stressed or severely stressed in 2031 and links predicted to be near to or exceeding capacity) arising from the combined impact of the 6 developments in this study. To simplify the reporting EAE have split the study area into ten separate areas. The locations of development and ten areas are shown in Figure 2-2.

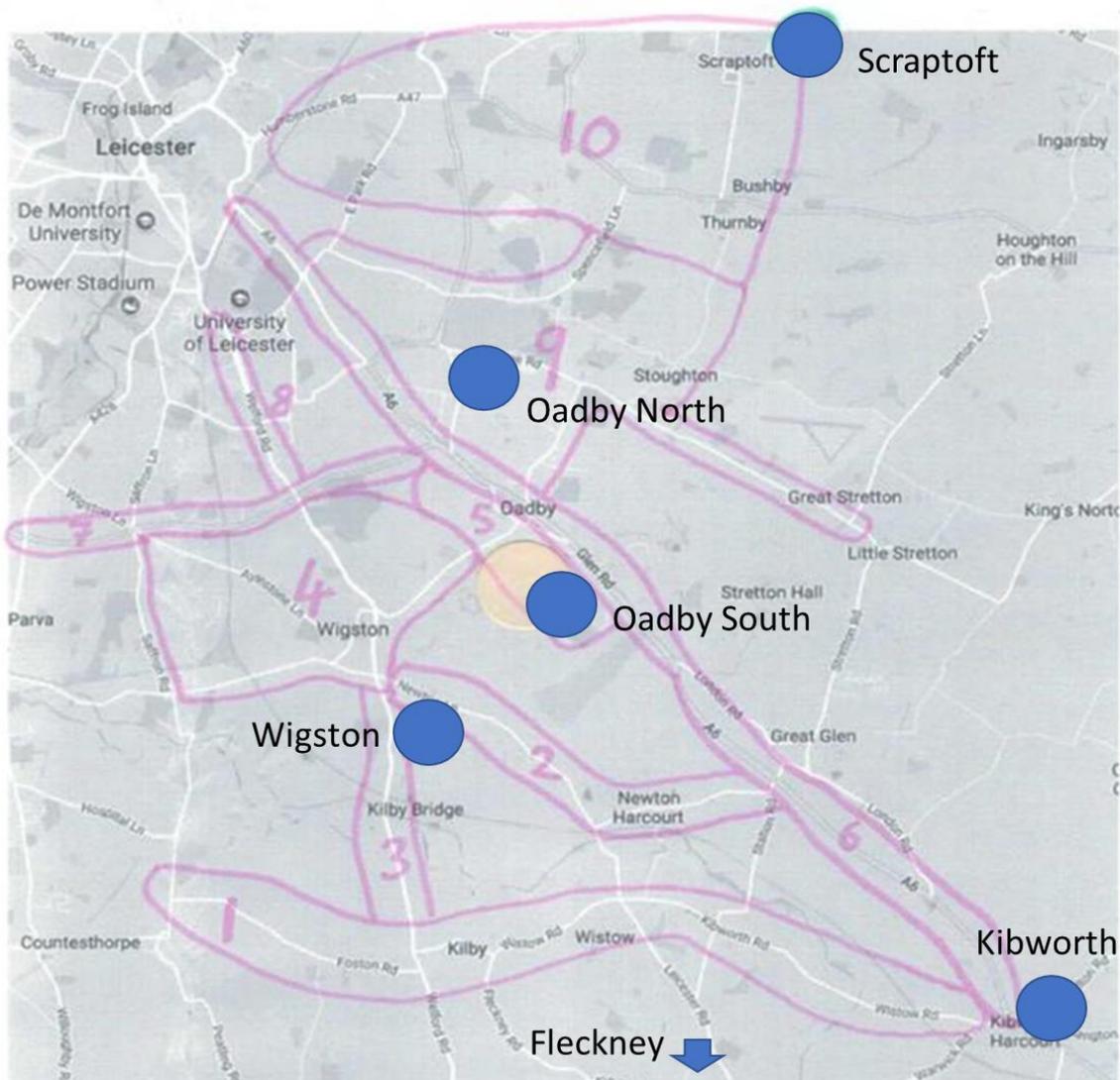


Figure 2-2: Areas referenced within this report

### Highways Network Area 1

***From Kibworth roundabout on A6, Kibworth Road, Kilby Road, Wistow Road, through Kilby, Spinney Road, Welford Road, Foston Road, Leicester Road, Hospital Lane to Blaby)***

- 2.9 This is a rural route, two-way single carriageway with no footway provision along its entire length. The route passes through Kilby village and the edge of Countesthorpe into Blaby. Development traffic in this area is primarily associated with traffic from the developments in the Kibworth and Fleckney area with the link between the A5199 and Countesthorpe also including traffic from Wigston.
- 2.10 Our conclusions of the highway assessment in this area is that the network could generally accommodate predicted traffic flows for 2031.
- 2.11 ***It is recommended that mitigation is considered for the A5199/Foston Road junction and the Foston Road/Leicester Road junction. The Leicester Road/Hospital Lane should be reviewed following the recent improvements to optimise the junction, minor improvements may be required.***

### Highways Network Area 2

***From Great Glen roundabout on A6 through Newton Harcourt, Newton Lane to but not including the Newton Lane /A5199 junction.***

- 2.12 This is a rural route from the A6 through the hamlet of Newton Harcourt, two-way single carriageway with no footway provision, to Wigston. Distributions from LLITM indicate that traffic associated with development at Kibworth and Wigston would pass through Newton Harcourt to link the A6 with Wigston. This would be combined on Newton Lane with traffic to/from Fleckney.
- 2.13 Our conclusions of the highway assessment in this area is that the network could generally accommodate predicted traffic flows for 2031.
- 2.14 ***It is recommended that the two highway authorities work together, taking into account wider influences on the A6 corridor due to growth during and beyond the Local Plan period, to ensure that the A6 corridor operates as efficiently and effectively as possible, through further potential strategic policy interventions and infrastructure improvements, to encourage as much additional traffic to use the A6 corridor instead of less suitable local rural parts of the network.***

2.15 ***It is recommended that mitigation is considered for the Station Road/Newton Lane junction.***

#### **Highways Network Area 3**

##### ***A5199 from Kilby/Countesthorpe “turns” to junction with Newton Lane.***

2.16 This route is considered out of scope as impact is predominantly from one development only (Wigston), impact of development traffic will be considered in the development Transport Assessment.

#### **Highways Network Area 4**

##### ***Movements through Wigston town centre - on Stonesby Ave/Aylestone Lane B5148, Leicester Road, Wakes Road, Long Street, on the A5199 from the Newton Lane/A5199 junction to the A563 and on Moat Street, Station Road through to the Blaby Road/Saffron Road junction in South Wigston.***

2.17 Wigston town centre and the two routes outlined above are in a dense urban area. Stonesby Ave/Aylestone Lane B5148 is the most direct link between Wigston town centre and the outer ring road and hence the link leading from/to Wigston and the M1 and M69 and hence the wider motorway network. There is extensive queuing on the approach to and exit from the Pork Pie roundabout leading to “rat running” around the area. There are two traffic calming features on Aylestone Lane. The city council are proposing to install traffic calming features on Stonesby Avenue near the Holy Cross Primary School.

2.18 Within this area the orbital and radial movements are characterised by traffic to/from different directions;

- A5199: Radial movements predominantly associated with the developments in Wigston and Kibworth
- Aylestone Lane and B582 (Blaby Road): Orbital movements associated with development at Wigston, Kibworth and Oadby South
- B582 (Oadby road): Orbital movements Wigston, Kibworth, Oadby South and Scraftoft

2.19 Our conclusions of the highway assessment in this area is that predicted flows exceed or are close to the junction and/or link capacity at several locations. Development traffic is having a material impact in this Area.

2.20 Several junctions along the Aylestone Lane/Stonesby Avenue “route” are predicted to be stressed, but there are opportunities to improve these junctions. The link capacity on Aylestone Lane near the railway bridge is currently exceeded and is predicted to be exceeded in 2031.

- 2.21 In Wigston, traffic flow in the southbound direction on Long Street in Wigston, between Aylestone Lane and Moat Street and northbound between Aylestone Lane and Wakes Road, is predicted to just exceed link capacity. In both cases being able to improve link capacity is unlikely and probably undesirable.
- 2.22 Several junctions along the Moat Street/Station Road/Blaby Road “route” are predicted to be stressed or severely stressed but there are opportunities to improve some of the junctions. The junctions of both Newton Lane with the A5199 and Kelmars Avenue with the A5199 are predicted to be stressed but there are opportunities to improve these junctions. Both would be complicated schemes to design and deliver as significant public utility diversion works are likely to be required. The junction of A5199/Carlton Drive is predicted to be stressed but there is little scope for improvements here. However, the purpose of the Carlton Drive link could be considered if it was desirable to reduce traffic in Wigston town centre. There is the opportunity to consider the creation of a cycle super highway along the A5199 corridor as this corridor is very wide along many parts of its length and this could help accommodate the growth in trips
- 2.23 ***It is recommended that mitigation is considered for the following junctions; Stonesby Avenue/Windley Road junction, Stonesby Avenue/Glenbourne Road junction, Aylestone Lane/Shackerdale Road junction, Aylestone Lane/West Avenue junction, the mini-roundabout junction at Moat Street/Long Street, Station Road/Pullman Road junction, Blaby Road/Landsdowne Grove junction, Newton Lane/A5199 junction, A5199/Kelmars Avenue junction, A5199/Carlton Drive junction and Wakes Road/A5199 junction (McDonald’s roundabout).***
- 2.24 ***It is recommended that consideration is given to creating a cycling expressway along the A5199 in this area and along the A5199 to Victoria Park Road (and Victoria Park) to help accommodate growth in traffic.***
- 2.25 ***It is recommended that further consideration, by way of a specific transport study, is given to options for routing of traffic in and around Wigston and improving bus, walking and cycling facilities and routes, to maximise the proportion of trips being made by sustainable travel modes and to help increase footfall in the town centre, prior to designing specific infrastructure improvements.***

## **Highways Network Area 5**

### ***Movements through Oadby South – on London Road, Leicester Road, The Parade, New Street B582, on Rosemead Drive and Briar Walk.***

2.26 London Road, Leicester Road, The Parade and Rosemead Drive are traffic calmed.

LLITM distributions within the Oadby area show traffic predominantly related to developments in Oadby South and Kibworth. Brabazon Road also includes traffic from Wigston and Scraftoft.

2.27 Our conclusions of the highway assessment in this area is that the network could generally accommodate predicted traffic flows for 2031. Mitigation measures are likely to be required for the B582 Wigston Road/Brabazon Road junction (particularly if the A6 – Gartree Link Road were to be constructed) and the mini roundabout junction at Wigston Road/London Road as both are predicted to be stressed.

2.28 ***It is recommended that mitigation is considered for the B582 Wigston Road/Brabazon Road junction and the mini roundabout junction at Wigston Road/London Road.***

## **Highways Network Area 6**

### ***A6 - from Main Street, Kibworth to Leicester Railway Station***

2.29 This area is one of the key radial routes into Leicester. The route consists of sections of dual carriageway in both the countryside between Kibworth and the junction with the outer ring road, and within the Principal Urban Area. There are also sections of two lane and single lane carriageway through the suburbs of Leicester. There are some sections of bus lane both inbound to and outbound from Leicester. The A6 from Ash Tree Road to the city centre benefits from the SCOOT traffic optimisation facility (traffic signal junctions are linked).

2.30 Traffic from the different developments dominate the ‘new’ traffic on different segments of the A6 that travel on this primary radial route into the centre of Leicester;

- Between Kibworth and the border of Oadby: Primarily dominated by traffic from Kibworth and Fleckney.
- Between Oadby and the Outer Ring Road: Primarily Kibworth, Fleckney but also from the Oadby South development.
- Between ORR and the railway station: Traffic from Wigston combines with traffic from Kibworth, Fleckney and Oadby South.
- Generally, there is not a high proportion of traffic from the Scraftoft or Oadby North developments using the A6.

- 2.31 Our conclusions of the highway assessment in this area is that many junctions along the A6 are predicted to be stressed or severely stressed, as a result of growth as a whole of which this development traffic is a relatively small proportion, and that there are some opportunities to improve some of the junctions. At junctions between the A563 Outer Ring Road and Leicester City Centre there is generally little opportunity for improvement. The modus operandi of the Area Traffic Control Network Management is to keep traffic on the A6 moving and refrain from encouraging side road movements where appropriate.
- 2.32 Traffic flows on the A6 London Road from the junction with the A563 outer ring road into Leicester are generally predicted to exceed link capacity in one direction, from growth as a whole, and hence it is suggested that further consideration is given to this issue in due course.
- 2.33 Development traffic flows do have a material impact on the A6 route but the opportunities for junction and link capacity improvements are generally very limited. The strategy for this corridor in terms of catering for increased flows is likely to be to encourage more trips by bus through bus priority improvements and demand management measures and possibly Park and Ride if such a service was predicted to be commercially viable within a reasonable timeframe.
- 2.34 ***It is recommended that a route study is commissioned to help develop a strategy, which ensures the A6 corridor operates as efficiently and effectively as possible, to accommodate the predicted growth in traffic generally to 2031 which includes from the developments under consideration in this study. This study should take account of, and possibly influence, the Local Highway Authority's transport policy measures for the city centre and key radial routes, such as a city centre low emission zone and cycling "super highways", which may impact/influence traffic levels on the A6. The study could also investigate bus measures such as park and ride and express bus services, "quiet roads" cycle routes and junction improvements mitigation measures.***
- 2.35 ***It is recommended that mitigation is considered for the Main Street/London Road junction through the Kibworth development transport assessment work.***

## **Highways Network Area 7**

### **A563 - from A6 to A426**

- 2.36 This area is Leicester's Outer Ring Road between two key radial routes, the A426 and the A6, and crosses the A5199 which is also a key radial route into Leicester. It is mainly single carriageway. The "Pork Pie" roundabout, a five-arm signalised (on three arms) roundabout is one of the busiest and complicated junctions on Leicester's highway network. There are service roads on each side of the outer ring road through the housing areas.
- 2.37 Traffic from the six developments within this study do not make a major contribution to traffic on the Outer Ring Road. Traffic is primarily associated with the Oadby North and Scraftoft development that is accessing the west of the city.
- 2.38 Our conclusions of the highway assessment in this area is that predicted flows exceed or are close to the junction and/or link capacity (in at least one direction) of the A563 Outer Ring Road (except Attlee Way) between and including the A5199 and A426 junctions. However, the traffic flows from the developments are not having a material impact in this Area when considering the overall predicted traffic volumes.
- 2.39 There are significant areas of highway land along the A563 Outer Ring Road corridor that could be used to enhance the capacity of the route. There is the opportunity to investigate the re-design and operation of the Aberdale Road, Asquith Boulevard, Shackerdale Road junction with the outer ring road where two separate signalised T junctions may prove beneficial. This possibility could be considered alongside suggestions in the Wigston Area (Area 4) section of this report.
- 2.40 ***It is recommended that due to traffic generated by the developments having little impact on the A563 Outer Ring Road that any issues arising due to the predicted growth in general traffic are considered by the Local Highway Authorities in due course.***

**Highways Network Area 8**  
**A5199 – from A563 to Victoria Park Road**

- 2.41 This area is one of the key radial routes into Leicester through residential suburbs and a “village centre with shops and restaurants”. The route consists of a mixture of dual and single carriageway and one and/or two lanes in each direction. There are lengths of bus lanes both inbound and outbound along the route. The A5199 from Newton Lane/Moat Street to the city centre benefits from the SCOOT traffic optimisation facility (traffic signal junctions are linked).
- 2.42 Traffic within this area is primarily associated with radial traffic to/from the city along the A5199 associated with the development at Wigston and Fleckney.
- 2.43 Our conclusions of the highway assessment in this area is that many junctions along the A5199 are predicted to be severely stressed and that there are some opportunities to improve some of the junctions. Traffic flows on the A5199 from the junction with the A563 Outer Ring Road to Victoria Park Road are generally predicted to exceed link capacity. However, the flows from the developments are not having a material impact in this Area when considering the overall predicted traffic volumes.
- 2.44 The modus operandi of the Area Traffic Control Network Management is to keep traffic on the A5199 moving and refrain from encouraging side road movements where appropriate.
- 2.45 There is scope to install additional lengths of bus lane on existing carriageway on the outbound approach to the A563 Outer Ring Road and to strip widen on sections such as that between University Road and Victoria Park Road and Chapel Lane and Aberdale Road.
- 2.46 The strategy for this corridor in terms of catering for increased flows is likely to be to encourage more trips by bus through further bus priority improvements and demand management measures, walking and cycling.
- 2.47 ***It is recommended that as traffic generated by the developments has little impact on the A5199 that any issues arising due to the predicted growth in general traffic on this route are considered by the Local Highway Authorities in due course.***

## Highways Network Area 9

***Gartree Road from Great Stretton, Stoughton Road to the A6, Stoughton Drive South, Stoughton Road (Gartree Road to the A6), Manor Road.***

***Spencefield Lane B667 (from A47) into Evington Lane into Evington Road to A6, Church Road, Shady Lane, Stoughton Lane, Thurnby Lane, Stoughton Road through to Thurnby. Church Lane and Gaulby Lane in Stoughton***

- 2.48 The Oadby North development is modelled as joining where The Broadway joins Stoughton Drive South. Gartree Road is currently a very busy route as it forms an attractive alternative route for traffic from surrounding villages to avoid using London Road. Traffic is predominantly associated with the development at Scraftoft, however there is a smaller proportion of traffic from development in the Oadby North area.
- 2.49 Results of the A6-Gartree Road Link study suggest that there would be reductions in traffic levels on Stoughton Road, Stoughton Drive South, Manor Road and Gartree Road but increases on Shady Lane and Spencefield Lane.
- 2.50 The city council is currently (August 2017) preparing plans for road safety improvements at St Paul's Catholic School on Spencefield Lane between the A47 and Downing Drive.
- 2.51 Our conclusions of the highway assessment in this area is that mitigation measures are likely to be required for the highway network to accommodate the predicted growth to 2031. Several junctions in the area are predicted to be stressed and mitigation is possible at some of these junctions. There is little scope for improvement at junctions on Evington Road near to the A6. For this area of the network our assessment indicates that predicted flows can be readily accommodated on the links in the network.
- 2.52 The junction of Church Lane and Gaulby Lane in Stoughton is predicted to be stressed. However, due to the rural nature of the route through and in Stoughton it is likely that the county council Local Highway Authority and Local Planning Authority would not want to see additional traffic on this part of the highway network.
- 2.53 ***It is recommended that development traffic should be encouraged to use the classified road network and hence that mitigation is considered to facilitate this for the Spencefield Lane/ Goodwood Road/Marydene Drive junction, Evington Lane/The Common/Main Street junction, Evington Lane/Wakerley Road junction and also the Ethel Road/Wakerley Road junction.***

### **Highways Network Area 10**

***Scraptoft Lane, Station Road, Station Lane, Hamilton Lane, Dakyn Road, Nursery Road, Wicklow Drive, Ocean Road, Elmscroft Avenue, Colchester Road, Hungarton Boulevard***

- 2.54 This area is considered out of scope as impact is predominantly from one development only (Scraptoft), impact of development traffic will be considered in the development Transport Assessment.
- 2.55 ***It is recommended that mitigation measures are considered for the A47 as part of the Scraptoft development transport assessment work and that a sustainable accessibility strategy is included in this work.***

### **Overall Conclusion**

- 2.56 Based on the work undertaken utilising LLITM traffic modelling and latest housing numbers we believe that the proposed growth can be accommodated on the highway network with appropriate mitigation, as identified as deliverable and proportionate through this study. The radial routes into the city are likely to require a combination of strategic policy interventions together with infrastructure improvements including further bus priority measures whereas in the county area there are more opportunities for infrastructure improvements including sustainable travel modes, infrastructure improvements and promotion of “smarter choices” options.
- 2.57 A summary of the likely mitigation improvement schemes is provided in Table 2-1.

**Table 2-1 Mitigation Schemes**

Area	Potential Mitigation Schemes	Estimated Costs (excluding land, service diversions) and Risks	Comments
<p><b>Area 1</b> From the A6 Kibworth through Kilby to the edge of Countesthorpe and Hospital Lane to Blaby</p>	<p>A5199/Foston Road junction</p> <p>Foston Road/Leicester Road junction</p>	<p>Up to £300k Land on Foston Road may be required</p> <p>Up to £750k Land on Foston Road required, risk ownership and possible development adjacent to this junction</p>	<p>The Leicester Road/Hospital Lane should be reviewed following the recent improvements to optimise the junction, minor improvements may be required.</p>
<p><b>Area 2</b> From Great Glen roundabout on A6 through Newton Harcourt to Newton Lane/A5199 junction (excluding his junction).</p>	<p>Station Road/Newton Lane junction</p>	<p>Up to £300k Whilst capacity of junction isn't a concern, LHA's may consider this junction needs road safety improvements</p>	<p>It is recommended that the two highway authorities work together to encourage as much additional traffic to use the A6 corridor instead of less suitable local rural parts of the network.</p>
<p><b>Area 3</b> A5199 from Kilby/Countesthorpe "turns" to junction with Newton Lane.</p>	<p>Covered in the Wigston development Transport Assessment</p>	<p>Not Applicable</p>	<p>Area out of scope of this study</p>
<p><b>Area 4</b> Wigston town centre - Stonesby Ave/Aylestone Lane B5148, Leicester Road, Wakes Road, and Long Street, Bull Head Street, Moat Street, Station Road, Blaby Road and on the A5199 from Newton Lane to A563.</p>	<p>Some of the following locations, mitigation should be determined to improve the operation of the area as a whole in the context of this areas role as a local centre; Stonesby Avenue/Windley Road junction Stonesby Avenue/Glenbourne Road junction Aylestone Lane/Shackerdale Road junction Aylestone Lane/West Avenue junction Moat Street/Long Street junction Station Road/Pullman Road junction Blaby Road/Landsdowne Grove junction Newton Lane/A5199 junction A5199/Kelmarsh Avenue junction</p>	<p>£2m to £4m to fund improvements to some of the junctions listed (not including land or utility diversion costs).</p> <p>Main risks are land acquisition and public utility diversion works.</p> <p>In particular, the Newton Lane/A5199 junction would have significant public utility apparatus implications and hence costs.</p>	<p>It is recommended that consideration is given to creating a cycling expressway along the A5199 in this area and along the A5199 to Victoria Park Road (and Victoria Park) to help accommodate growth in traffic.</p> <p>It is recommended that further consideration, by way of a specific transport study, is given to options for routing of traffic in and around Wigston and improving bus, walking and cycling facilities and routes, to maximise the proportion of trips being made by sustainable travel modes and to help increase footfall in the town centre, prior to designing specific infrastructure improvements.</p>

	A5199/Carlton Drive junction Wakes Road/A5199 junction (McDonald's roundabout)		
<b>Area 5</b> Oadby Town Centre – London Road, Leicester Road, The Parade, New Street B582, on Rosemead Drive and Briar Walk, Brabazon Road.	B582 Wigston Road/Brabazon Road junction  Wigston Road/London Road mini roundabout junction	£0.5m to £1.5m (not including land or utility diversion costs).  Main risks public utility diversion works	The design of the B582 Wigston Road/Brabazon Road junction improvements should consider the impact of the possible A6 – Gartree Link Road should it be proposed to be constructed
<b>Area 6</b> A6 - from Kibworth to Leicester Railway Station.	Leicester Road/Main Street junction – covered in the Kibworth Transport Assessment	Not Applicable	It is recommended that a route study is commissioned to help develop a strategy, which ensures the A6 corridor operates as efficiently and effectively as possible, to accommodate the predicted growth in traffic generally to 2031 as well as from the developments under consideration in this study. This study should take account of, and possibly influence, the Local Highway Authorities' transport policy measures for the city centre and key radial routes, such as a city centre low emission zone and cycling "super highways", which may impact/influence traffic levels on the A6. The study could also investigate bus measures such as park and ride and express bus services, "quiet roads" cycle routes and junction improvements mitigation measures.
<b>Area 7</b> Outer Ring Road A563 - from the A6 to the A426.	None specifically required as a result of developments in Oadby and Wigston and Harborough	Not Applicable	It is recommended that due to traffic generated by the developments having little impact on the A563 Outer Ring Road that any issues arising due to the predicted growth in general traffic are considered by the Local Highway Authorities in due course.
<b>Area 8</b> A5199 – from A563 to Victoria Park Road.	None specifically required as a result of developments in Oadby and Wigston and Harborough	Not Applicable	It is recommended that as traffic generated by the developments has little impact on the A5199 that any issues arising due to the predicted growth in general traffic on this route are considered by the Local Highway Authorities in due course.
<b>Area 9</b> Gartree Road from Great Stretton, Stoughton Road to	Spencefield Lane/ Goodwood Road/Marydene Drive junction	£2m to £4m to fund improvements to some of the	Due to the rural nature of the route through and in Stoughton it is suggested that

<p>the A6, Stoughton Drive South, Stoughton Road (Gartree Road to the A6), Manor Road. Spencefield through to Evington Road to A6, Church Road, Shady Lane, Stoughton Lane, Thurnby Lane, Stoughton Road through to Thurnby. Church Lane and Gaulby Lane in Stoughton</p>	<p>Evington Lane/The Common/Main Street junction</p> <p>Evington Lane/Wakerley Road junction</p> <p>Ethel Road/Wakerley Road junction.</p>	<p>junctions listed (not including land or utility diversion costs).</p> <p>Main risks are public utility diversion works.</p>	<p>development traffic should be discouraged from using the area.</p>
<p><b>Area 10</b> Scraptoft Lane, Station Road, Station Lane, Hamilton Lane, Dakyn Road, Nursery Road, Wicklow Drive, Ocean Road, Elmscroft Avenue, Colchester Road, Hungarton Boulevard.</p>	<p>Covered in the Scraptoft development Transport Assessment</p>	<p>Not Applicable</p>	<p>Area out of scope of this study</p>

### 3 Introduction

- 3.1 In 2016 Edwards & Edwards Consultancy Ltd were commissioned to undertake a study to look at the cumulative effects on travel of a number of potential housing location options in the South East sector of the Leicester PUA. This was in the context of the ongoing development of new local plans by Harborough District Council (HDC) and Oadby and Wigston Borough Council (O&W). This work culminated in a report from EAE<sup>1</sup> to which Leicestershire County Council and Leicester City Council produced a joint commentary on the study Outcomes<sup>2</sup>
- 3.2 In June 2017 EAE were commissioned to take this work forward and to undertake the next phase (phase 2) of this study to provide an ‘in principal’ list of transport measures, at a strategic level that may not be identified through individual development transport assessments, that would be sufficient to support the proposed growth. This work would identify constraints and opportunities for improvements and would lead to a preferred list of schemes/measures together with indicative costs and risks (eg CPO/land ownership). It should be highlighted that the specific objective of this work was to consider the cumulative impact from multiple locations, and to specifically address issues that might not be identified or considered during an application for a single location.
- 3.3 The outcome of this phase of work will allow the planning and transport authorities to prepare a ‘joint position statement’ on the cumulative transport impacts, and potential mitigation opportunities and constraints, in and around the southern edge of the Leicester Principal Urban Area (PUA) arising from development in six strategic locations in Harborough District Council and Oadby and Wigston Borough Council.
- 3.4 This phase 2 work has involved:
- Estimating the total traffic flows to and from developments (as expected to be built out in 2031) in and around Fleckney, Kibworth and Great Glen, Wigston, Oadby South, Oadby North and Scraptoft.
  - Estimating the patterns of movement based upon distributions obtained from the LLITM
  - Overlaying the traffic on the existing LLITMv5 model run to show the areas in which traffic levels could increase and in which investigation of opportunities and constraints should be investigated

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<sup>1</sup> Local Plan Transport Evidence. Edwards & Edwards Consultancy Ltd. October 2016. [Local. Plan Transport Evidence - v1.2.pdf](#)

<sup>2</sup> Development of Joint Local Plan Transport Evidence: Highways Authorities’ Commentary on Study Work Outcomes. October 2016 [CityCounty EE responsev2.docx](#)

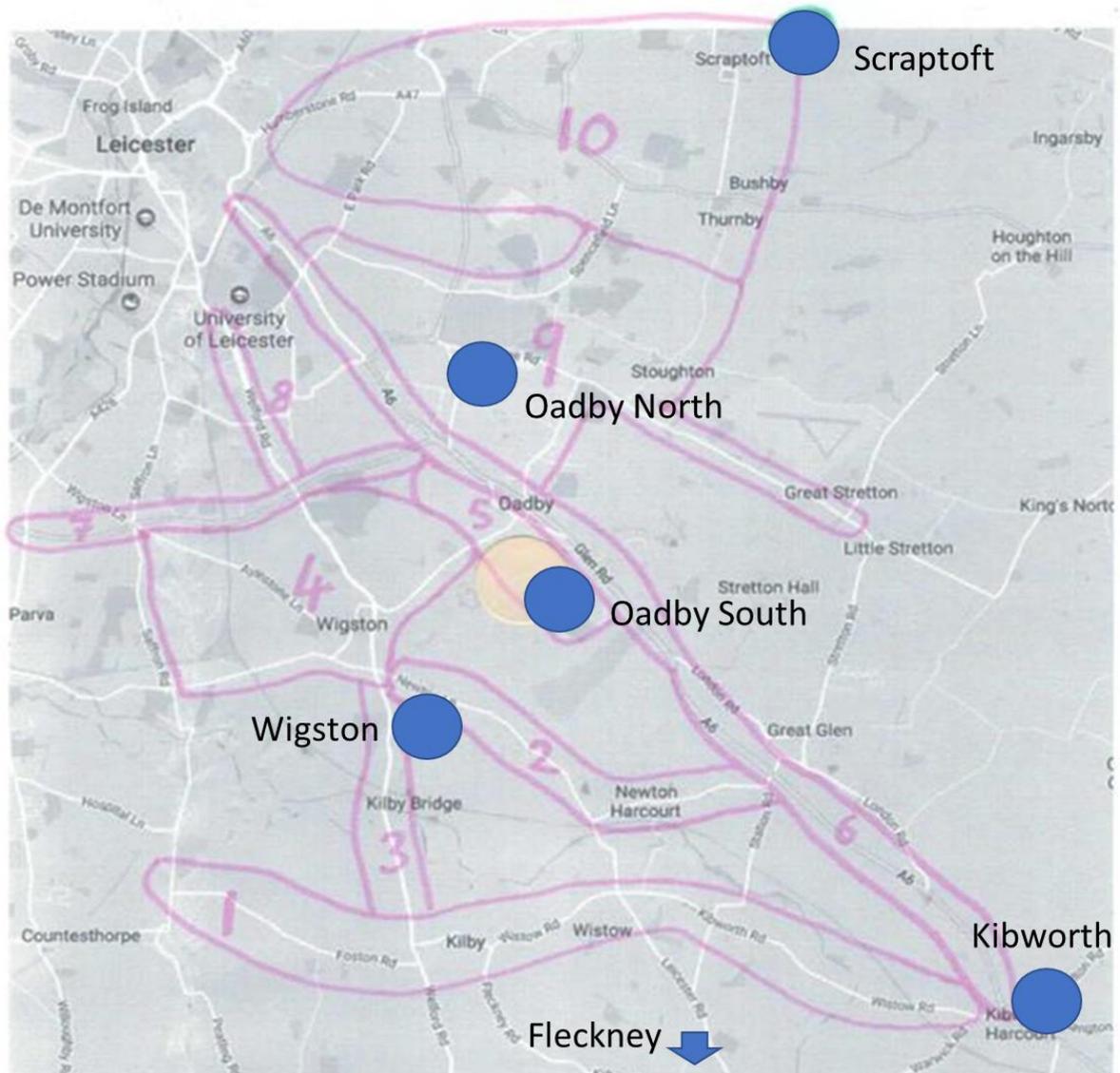
- Undertaking a LLITM model run to test the impact of implementing a new link between the A6 and Gartree Road following the reserved alignment of Eastern District Distributor Road (EDDR)
- Undertaking a desktop exercise (supplemented with site visits) to look at constraints and opportunities within identified areas.
- Producing a (costed) list of potential measures that would inform the Joint Position Statement, and which could be evaluated as part 3 of this study.

### **Existing Highways Assessment**

- 3.5 The purpose of this report is to identify opportunities and constraints for making transport improvements based upon forecast traffic growth (mainly commenting on junctions predicted to be stressed<sup>3</sup> or severely stressed in 2031 and links predicted to be near to or exceeding capacity) arising from the combined impact of the 6 developments in this study. In addition, we have included the outcomes from the A6-Gartree Road modelling exercise.
- 3.6 To simplify the reporting EAE have split the study area into ten separate areas. These are shown in Figure 3-1 together with the 6 locations for development.
- 3.7 The commentary regarding the future conditions at the junctions and on links refer to the impact of predicted traffic levels at 2031.
- 3.8 Where it is suggested highway and/or private land may be available for future use for highway purposes the land ownership and availability has not been investigated as part of this study. The presence of trees in highway land and private land has been noted at various locations during the preparation of this study but commentary is generally not included here due to the relatively temporary nature of trees in the context of long term transport planning.
- 3.9 Leicestershire County Council LHA and Leicester City Council LHA have been consulted during the preparation of this paper.

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<sup>3</sup> Junctions/links at over 85% of their design capacity will introduce additional delays and journey unreliability. Junctions/links over 100% capacity will have heavily congested flow with traffic demand exceeding the design capacity. These junctions/link are characterized by stop-and-go waves, poor travel time, low comfort and convenience, and increased accident risk



**Figure 3-1: Areas referenced within this report**

## **Mapping**

3.10 All the maps are provided by Open StreetMap. OpenStreetMap® is open data, licensed under the Open Data Commons Open Database License (ODbL) by the OpenStreetMap Foundation (OSMF). © OpenStreetMap contributors

## **4 Background**

### **Assumptions on the development considered within this study**

4.1 This study builds upon the phase 1 study in order to assess the impact of traffic from potential development at 6 broad locations within the borough of Oadby and Wigston and district of Harborough. These are shown in Figure 4-1.

#### 4.2 Note that

- The potential development locations do not necessarily refer to individual parcels of land, but instead refer to the total quanta of development that is expected to come forward *in that area* in the plan period. Consequently, it includes developments that have already been given planning permission, and also some that have already been delivered.
- the growth at Kibworth also includes proposed development at Great Glen. Traffic from this location will feed onto the A6, and is assumed to have a similar distribution to traffic from Kibworth.

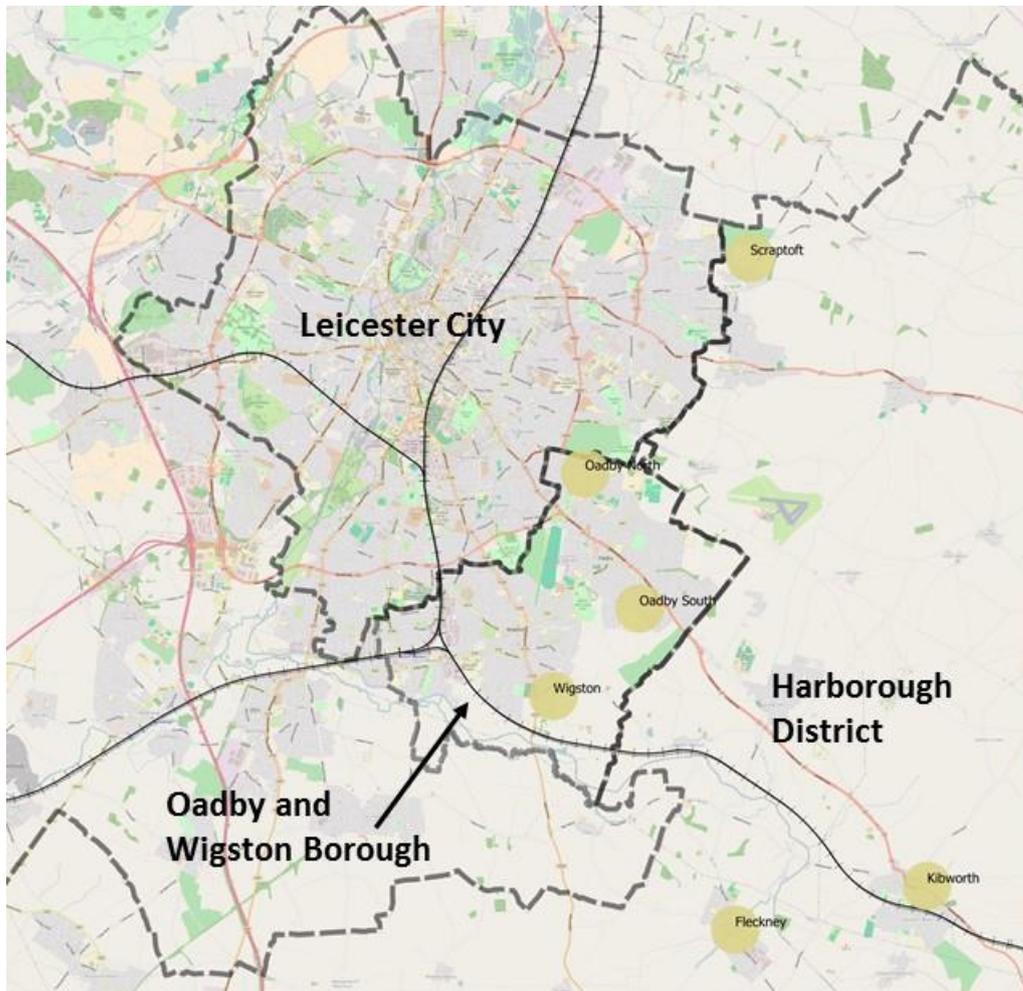


Figure 4-1: Location of the 6 Development locations in this study

4.3 The total scale of development is show in Table 4-1

**Table 4-1 Scale of total development in each location**

Location	Housing or Employment	Size of Devpt Site	Number of Dwellings
Fleckney	H		480
Fleckney	E	6,000sqm B2 + 9,000sqm B8	
Kibworth	H	includes 643 dwellings in Great Glen	1480
Kibworth	E	4,560sqm B1 + 18,240sqm B2	
Scraptoft	H		2119
Wigston	H		1103
Wigston	E	5,000sqm B2 + 5,000sqm B8	
Oadby South	H		400
Oadby North	H		300

4.4 The total morning and evening peak hour trips associated with the total build-out of development at these locations was estimated using the 85<sup>th</sup> percentile trip rates from TRICS. The developments within the Principle Urban Area<sup>4</sup> (PUA) then had a 20% reduction applied to account for a 'basic' level of travel planning demand management. It was agreed with the client group that no reduction would be applied to the sites at Kibworth and Fleckney as it was likely that trips from these locations towards the PUA would be unlikely to see a move away from the car without very significant additional measures.

4.5 The distribution of trips was based upon data extracted in phase 1 from the LLITM v5 model.

4.6 To assess the cumulative impacts the total traffic from growth at the six locations is considered and reported in this document.

**Transport Assumptions**

4.7 Transport Assumptions within this stage of work are:

- **LLITM traffic levels:** The 2031 LLITM model run assumes levels of housing growth from earlier local plans. It is estimated that at the 6 locations within this study the housing levels will have increased (in 2031) by around 1,150 in O&W and 2,800 in Harborough compared to assumption within LLITM. In addition, 11.2ha of additional employment land is assumed to be delivered in the study area. In order to reflect this increase the traffic from these additional dwellings was added on a link-by-link

<sup>4</sup> Scraptoft, Wigston, Oadby North and Oadby South

basis to the LLITM 2031 traffic flows to produce an revised (increased) level of traffic on each link.

- **LLITM Stressed Junctions:** LLITM reports the forecast ratio of volume to capacity (VoC) for each junction in the network. From this the stressed junctions (which are defined as those with a VoC>85%) have been identified. It should however be noted that the stressed junctions identified in the LLITM model run of 2031 do not include the impact of the additional houses that are included in this study. In order to ensure that junctions that are approaching capacity are shown the VoC of 70%, 85% and 100% are shown in this report.
- **Transport Infrastructure:** Midlands Connect and the Emerging Strategic Transport Plan are at an early stage of development. At the time of conducting this study they do not have any statutory weight and for the purposes of developing a local plan the infrastructure proposed cannot be considered delivered or deliverable.

### A6 to Gartree Road Assessment using LLITM

4.8 Leicestershire County Council Modelling team were commission to produce a report<sup>5</sup> on the potential impacts of providing a link between the A6 and Gartree Road using the alignment of highway improvement lines near the Asda supermarket, Oadby. EAE have reviewed this report and produced the following summary.



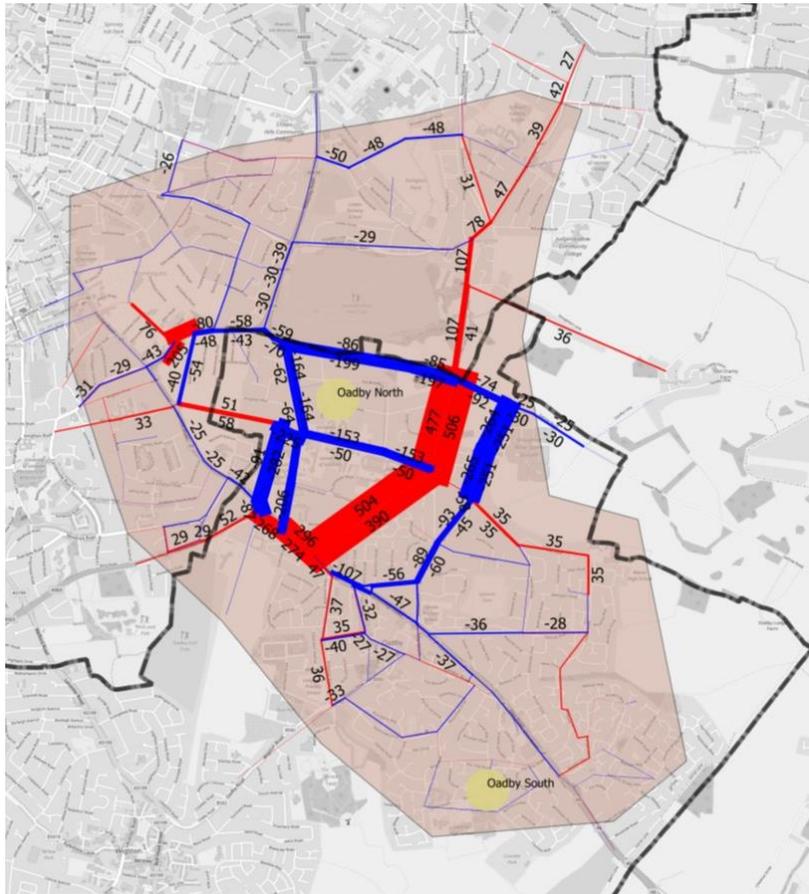
Figure 4.4.2 Results of the PM 2031 Screenline (Blue- Northbound on proposed link road; Red- Southbound on proposed link road).

**Figure 4-2: Extract from the LLITM report showing the forecast origin and destination of traffic using the link road**

4.9 The results in Figure 4-2 show that the scheme would likely provide a benefit to drivers undertaking orbital movements linking the Fosse Park industrial/commercial areas and the M1 junction with the PUA area to the East of the City. The results also show that traffic from Oadby and Wigston would potentially make use of the scheme

<sup>5</sup> A6 Leicester Road to Gartree Road, Project 3361.003. June 2017

using Brabazon Road to access the A6 rather than using the B582 through New Street in Oadby.



**Figure 4-3: Area of Influence of the A6-Gartree scheme**

4.10 Figure 4-3 shows the Area of Influence of the scheme. This is defined as the area where traffic levels increase or decrease by 5% between the with and without scheme. **Red** shows links in which traffic is forecast to increase. **Blue** shows links which are forecast to decrease.

4.11 The results show that the scheme provides a benefit over a relatively small geographical area. However, there are some potentially significant benefits with levels of traffic reducing on:

- Stoughton Road on the section that joins to Knighton Road and on the Stoughton Road section that joins to Oadby.
- Stoughton Drive South.
- Manor Road
- B582 Gartree Road

4.12 Oadby may also see a reduction in trips as traffic moves from the B582 through New Street in Oadby onto Babazon Road. This would lead to increased traffic on Brabazon Road.

4.13 The modelling shows that the scheme could lead to traffic increases on Shady Lane and Spencefield Lane in Evington. The impact of this would need to be addressed.

4.14 The modelling also highlighted the potential issue of additional delays on the A6 due to the need for a new junction. It would be necessary to develop designs that included access from the A6 to the new link, Asda and Brabazon Road.

4.15 Results from this modelling exercise show that it would not be appropriate to remove the highways improvement lines. Further evaluation, including with the full Eastern District Distributor Road (EDDR) concept, would be valuable in determining whether an appropriate junction on the A6 could be developed, and whether accessibility to the East of Leicester PUA could be improved.

4.16 Observations from the Leicestershire County Council Highways Authority are included below<sup>6</sup>

*My overall conclusion on the preliminary work is that such a road would appear to have some merits. Accepting that there could be possible with impacts on the A6 in and around the Race Course roundabout, nevertheless such a link would appear to draw traffic some 'existing' traffic away from routes through surrounding residential areas and from the existing B582; this could help to focus traffic on the most appropriate routes available and give certain scope to help accommodate/mitigate likely impacts of future growth (albeit not as a long term solution for growth out to 2050).*

*There is enough in the outcome of this preliminary work to suggest that there is merit in further investigating the idea, either as work moves forward from the joint local plan evidence work or, if 'we' want to revisit the EDDR concept more widely, (say, for example) as part of wider follow up modelling work for the Strategic Transport Plan. Either way, I think that the case for retaining the EDDR corridor in the new Oadby and Wigston Local Plan is only strengthened by the outcomes of this preliminary work.*

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<sup>6</sup> Email from A Yeomanson, Leicestershire County Council Highways Authority received 16/8/17

## 5 Highway Network Area 1

From Kibworth roundabout on A6 Kibworth Road, Kilby Road, Wistow Road, through Kilby, Spinney Road, Welford Road, Foston Road, Leicester Road, Hospital Lane to Blaby.

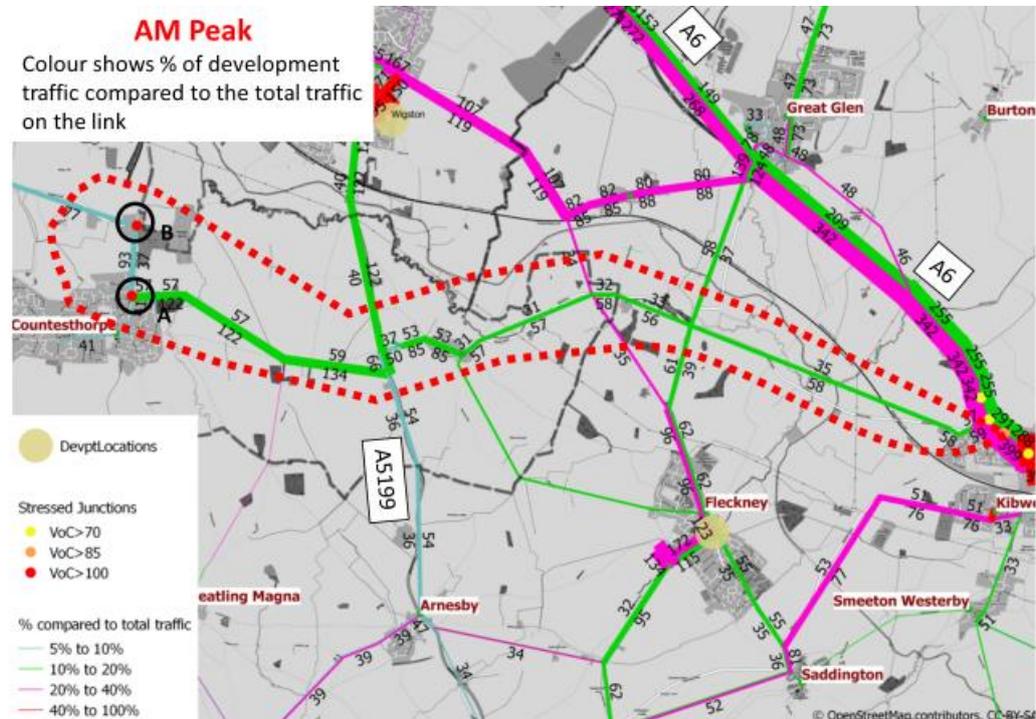


Figure 5-1: Traffic accessing the development locations in the Morning Peak Hour

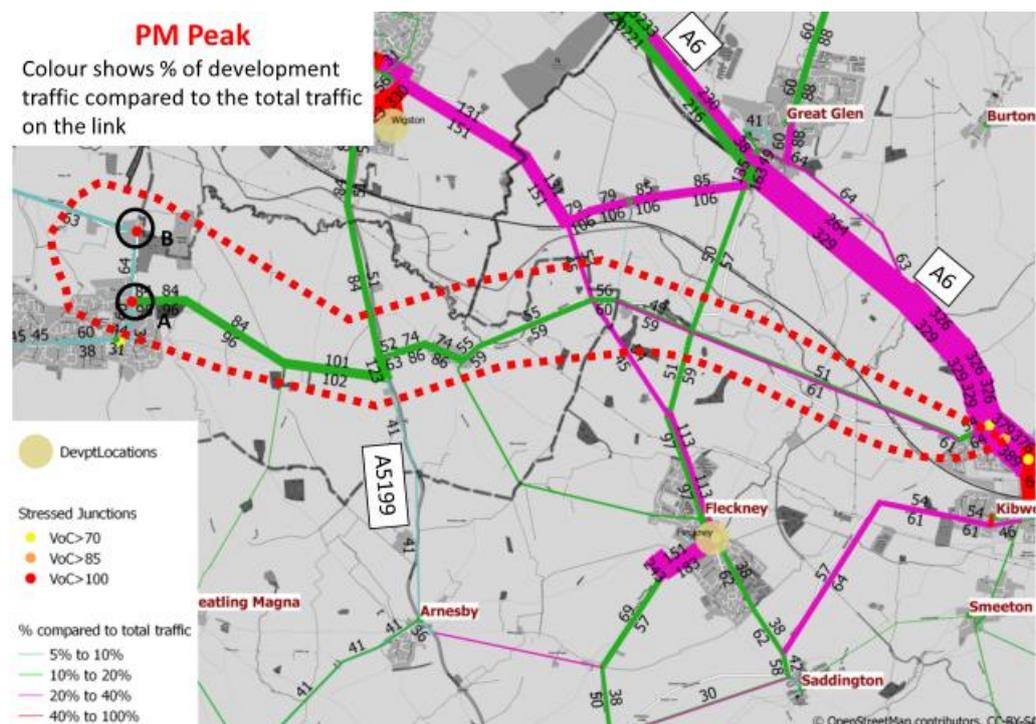
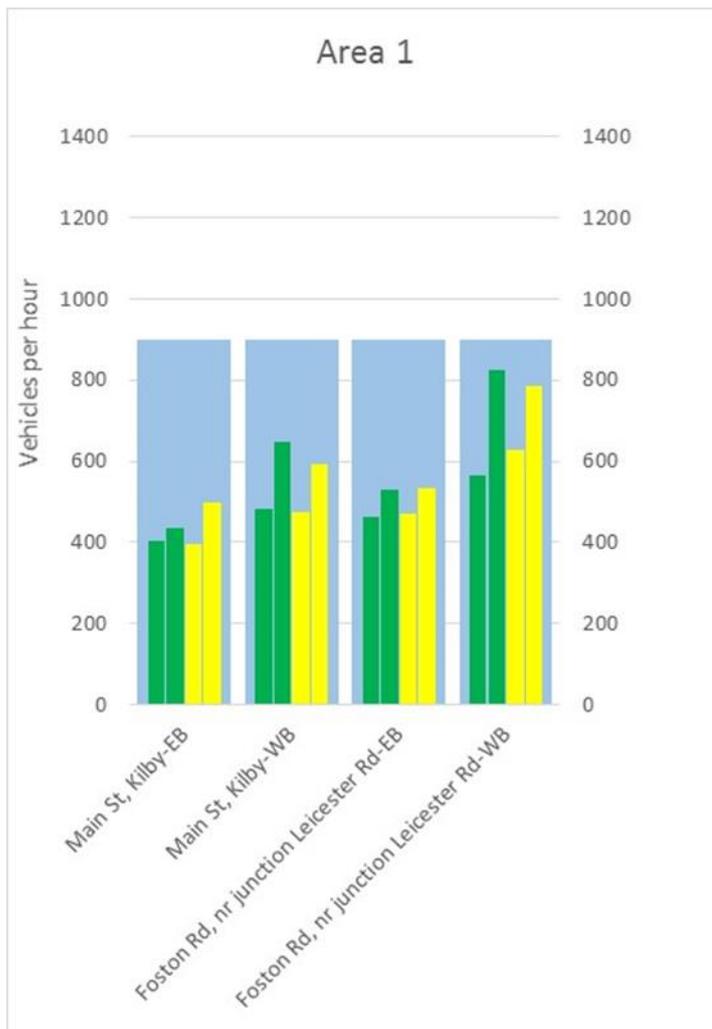


Figure 5-2: Traffic accessing the development locations in the Evening Peak Hour

- 5.1 The map Figure 5-1 and Figure 5-2 shows the total forecast traffic levels from the 6 development locations within the study. The colour denotes the proportion of this development traffic relative to the total traffic level in 2031 on each link. The red dashed line shows the extent of Area 1.
- 5.2 Figure 5-3 shows the estimated 2031 link volumes together with the estimated DMRB link capacities for selected links within the area.



**Figure 5-3: Highways Link Traffic volumes and estimated DMRB capacities**

**Blue:** estimated link capacity

**Green:** AM Peak (left column 2016, Right column 2031)

**Yellow:** PM Peak (left column 2016, Right column 2031)

- 5.3 This is a rural route, two-way single carriageway with no footway provision along its entire length. The route passes through Kilby village and the edge of Countesthorpe into Blaby. It crosses the Midland Main Line and the Grand Union Canal.

Development traffic in this area is primarily associated with traffic from the developments in the Kibworth and Fleckney area with the link between the A5199 and Countesthorpe also including traffic from Wigston.

- 5.4 There are several constraints and opportunities along the route such as:
- a “humpback” bridge over the Grand Union Canal.
  - Staggered crossroads at the junction of Kibworth Road/Station Road (the crossroads has in the past been altered to become staggered – presumably as an accident reduction feature).
  - Road narrowings/priority traffic calming features and two cattle grid crossings through Wistow.
  - Very tight bends at each end of Kilby. There is no opportunity to ease the severity of the bend at the eastern end of Kilby due to the close proximity of residential buildings. The bend at the western end could be eased but this would involve land take and provision of a new bridge, albeit a small bridge, over a tributary to the River Sence. Kilby is a 20mph zone.
- 5.5 The mini roundabout junction of Foston Road/Leicester Road (Countesthorpe) Circle A in Figure 5-1 is predicted to be a severely stressed in AM and PM. There is an opportunity to improve the capacity of this junction as there is land (not highway) that could be taken to amend the design of the junction including signalisation.
- 5.6 The Leicester Road/Hospital Lane Circle B Figure 5.-1 priority T junction is predicted to be severely stressed in AM and PM. This junction was signalised in September 2016 so is likely to be performing better now than modelled in LLITM.
- 5.7 To help assess the capacity of the highway network links in this area we have considered the link through Kilby and a link on Foston Rd into Countesthorpe. The maximum predicted traffic flow on the Kilby link is 647pcu in AM 2031 westbound (2016 is 481pcu, estimated capacity is 900pcu). On Foston Road the maximum predicted traffic flow on the link is 823pcu in AM 2031 westbound, which is approaching the capacity of this link (2016 is 565pcu, estimated capacity is 900pcu). Whilst there is a significant increase in flow for both links the modelling indicates that the predicted flows can be accommodated. Our assessment indicates that the links in the network in this area can accommodate the predicted flows.
- 5.8 Our conclusions of the highway assessment in this area is that the network could generally accommodate predicted traffic flows for 2031.
- 5.9 Mitigation measures are likely to be required for at least the Foston Road/Leicester Road junction and there are opportunities to improve this junction. The Leicester Road/Hospital Lane should be reviewed following the recent improvements to

optimise the junction, minor improvements may be required. There is significant traffic coming from the Wigston development heading south on the A5199 and turning westwards towards Countesthorpe at the “Countesthorpe turn” hence it would be appropriate to consider improving this junction.

- 5.10 Due to the primarily rural nature of the route from the A6 through Wistow and Kilby to the A5199 the LHA/LPA may consider it inappropriate to carry out mitigation that could encourage additional traffic on this part of the network.
- 5.11 ***It is recommended that mitigation is considered for the A5199/Foston Road junction and the Foston Road/Leicester Road junction. The Leicester Road/Hospital Lane should be reviewed following the recent improvements to optimise the junction, minor improvements may be required.***

## 6 Highway Network Area 2

From Great Glen roundabout on A6 through Newton Harcourt, Newton Lane to but not including the Newton Lane /A5199 junction.

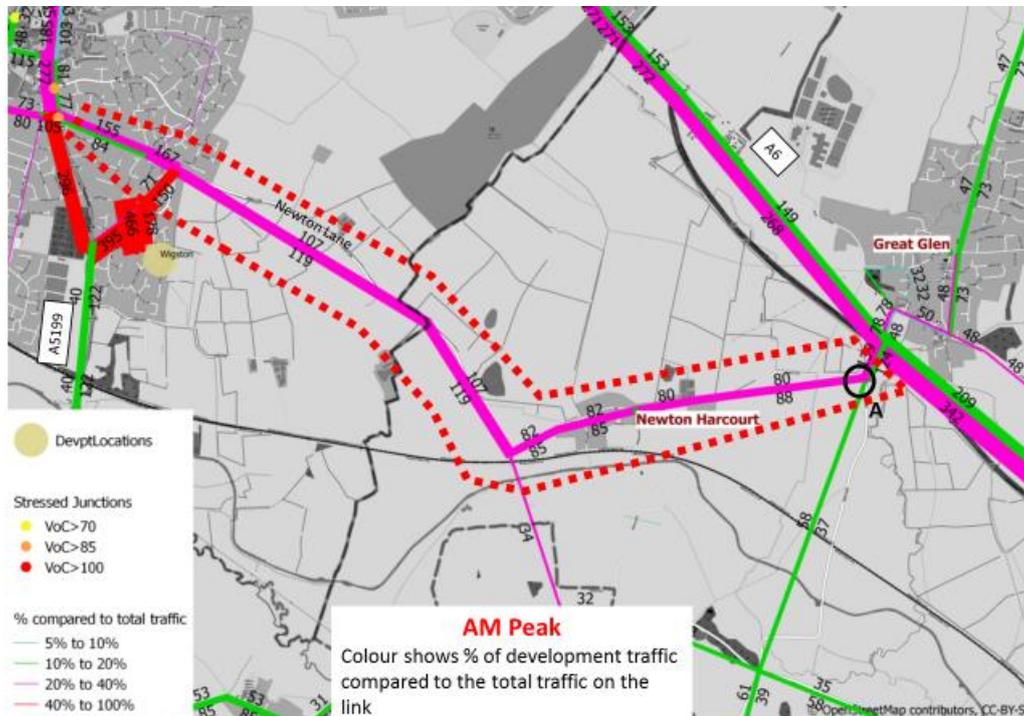


Figure 6-1: Traffic accessing the development locations in the Morning Peak Hour

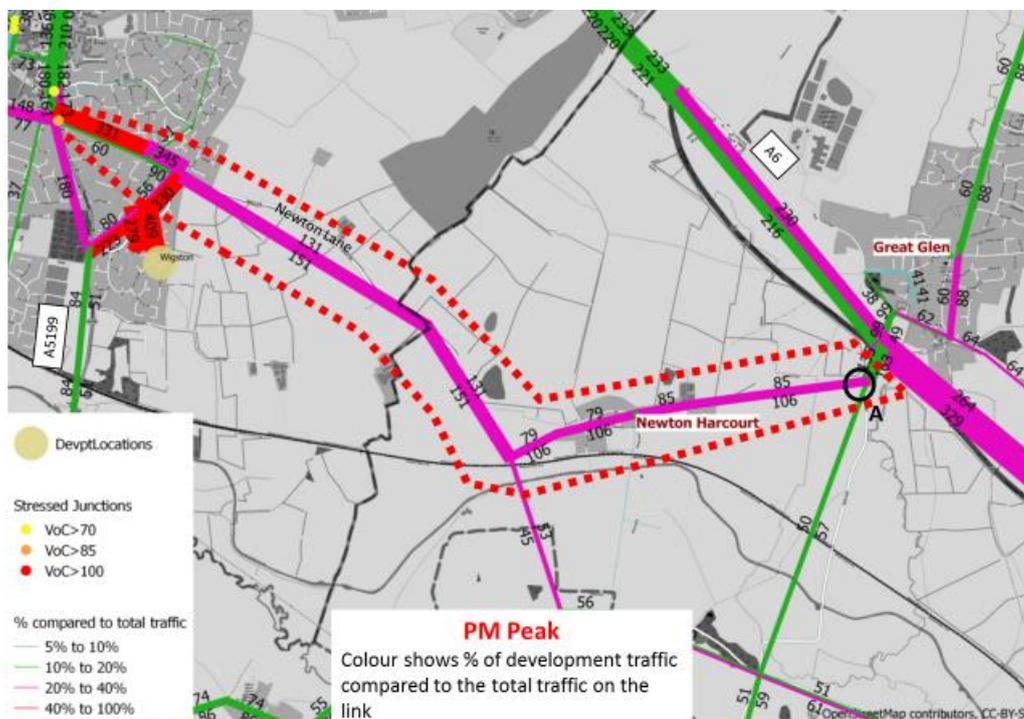
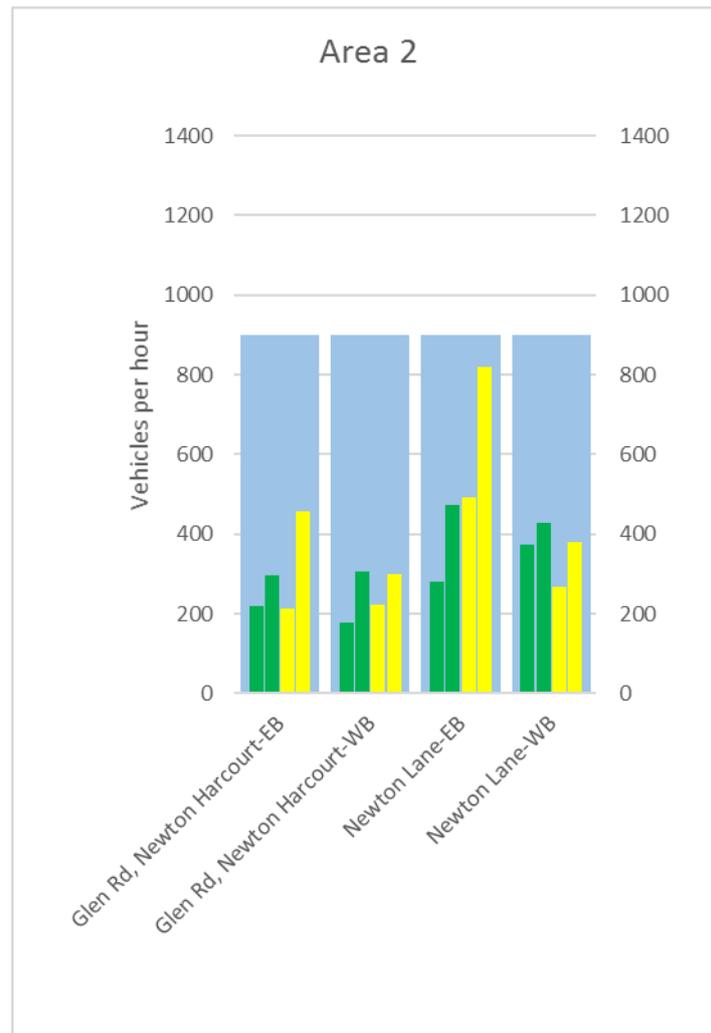


Figure 6-2: Traffic accessing the development locations in the Evening Peak Hour

- 6.1 The maps Figure 6-1 and Figure 6-2 shows the total forecast traffic levels accessing the 6 development locations within the study in the morning and evening peak hour. The colour denotes the proportion of this development traffic relative to the total traffic level in 2031 on each link. The red dashed line shows the extent of Area 2.
- 6.2 Figure 6-3 shows the estimated 2031 link volumes together with the estimated DMRB link capacities for selected links within the area.



**Figure 6-3: Highways Link Traffic volumes and estimated DMRB capacities**

**Blue:** estimated link capacity

**Green:** AM Peak (left column 2016, Right column 2031)

**Yellow:** PM Peak (left column 2016, Right column 2031)

- 6.3 This is a rural route from the A6 through the hamlet of Newton Harcourt, two-way single carriageway with no footway provision, to Wigston. Distributions from LLITM indicate that traffic associated with development at Kibworth and Wigston would pass through Newton Harcourt to link the A6 with Wigston. This would be combined on Newton Lane with traffic to/from Fleckney. There is very little traffic associated with the two Oadby developments or Scaptoft. There are several constraints and opportunities along the route such as;
- 6.4 The Wigston development points of access are assumed to be onto Newton Lane and onto the A5199 in the model which is consistent with the development when it is fully built out and there are connections to both roads. In the initial phases housing is delivered off Newton Lane and employment off the A5199. However, an internal link road will be provided as part of the development.
- 6.5 The junction of Station Road/Newton Lane Circle A Figure 6-1, just off the Great Glen A6 roundabout is currently a simple priority T junction. The junction is not predicted to be stressed. As there is increased traffic flow on both Station Road and Newton Lane there will be an increase in conflicting movements. There is land available (this appears to be highway land) to improve this junction including signalisation to address any road safety concerns if required.
- 6.6 Glen Road through Newton Harcourt has recently been (2014) traffic calmed using priority road narrowing.
- 6.7 The junction of Glen Road and Newton Lane is not predicted to be stressed. However, visibility at this junction should be reviewed for left and right turners out of Glen Road and improvements made if required and practicable.
- 6.8 To help assess the capacity of the highway network links in this area we have considered the link through Newton Harcourt (Glen Rd) and the link on Newton Lane approaching the junction with the A5199. The maximum predicted traffic flow on the Newton Harcourt link is 458pcu in PM 2031 eastbound (2016 is 214pcu, estimated capacity is 900pcu). On Newton Lane the maximum predicted traffic flow on the link is 820pcu in PM 2031 westbound (2016 is 492pcu, estimated capacity is 900pcu). Whilst there is a significant increase in flow for both links the modelling indicates that the predicted flows can be accommodated. Our assessment indicates that the links in the network in this area can accommodate the predicted flows.

- 6.9 Our conclusions of the highway assessment in this area is that the network could generally accommodate predicted traffic flows for 2031.
- 6.10 The junction of Station Road/Newton Lane is not predicted to be stressed but as there is increased traffic flow on both Station Road and Newton Lane there will be an increase in conflicting movements. There is the opportunity to improve this junction from a road safety perspective.
- 6.11 It is worth noting that Glen Road through Newton Harcourt has recently been traffic calmed and hence the LHA may wish to consider if further calming measures are required to discourage additional traffic through this area.
- 6.12 ***It is recommended that the two highway authorities work together, taking into account wider influences on the A6 corridor due to growth during and beyond the Local Plan period, to ensure that the A6 corridor operates as efficiently and effectively as possible, through further potential strategic policy interventions and infrastructure improvements, to encourage as much additional traffic to use the A6 corridor (see section 10 of this report) instead of less suitable local rural parts of the network.***
- 6.13 ***It is recommended that mitigation is considered for the Station Road/Newton Lane junction.***

## **7 Highway Network Area 3**

### **A5199 from Kilby/Countesthorpe “turns” to junction with Newton Lane.**

- 7.1 This route is considered out of scope as impact is predominantly from one development only (Wigston), impact of development traffic will be considered in the development Transport Assessment.
- 7.2 The A5199 junction with Newton Lane is considered as part of Area 4.

## 8 Highway Network Area 4

Movements through Wigston town centre - on Stonesby Ave/Aylestone Lane B5148, Leicester Road, Wakes Road, Long Street, on the A5199 from the Newton Lane/A5199 junction to the A563 and on Moat Street, Station Road through to the Blaby Road/Saffron Road junction in South Wigston.

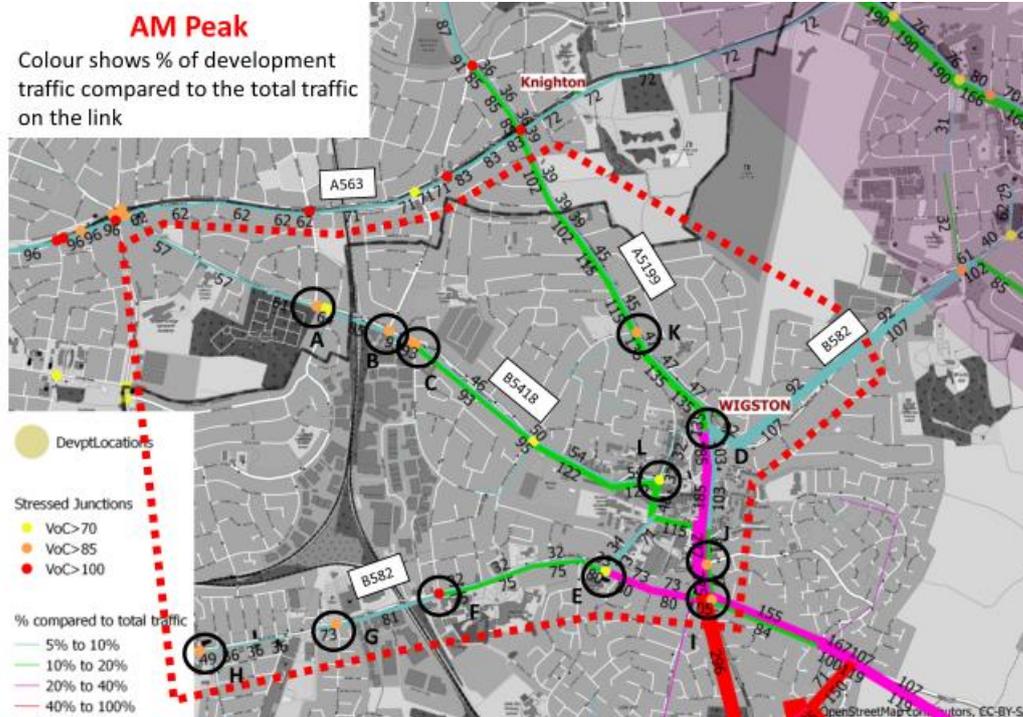


Figure 8-1: Traffic accessing the development locations in the Morning Peak Hour

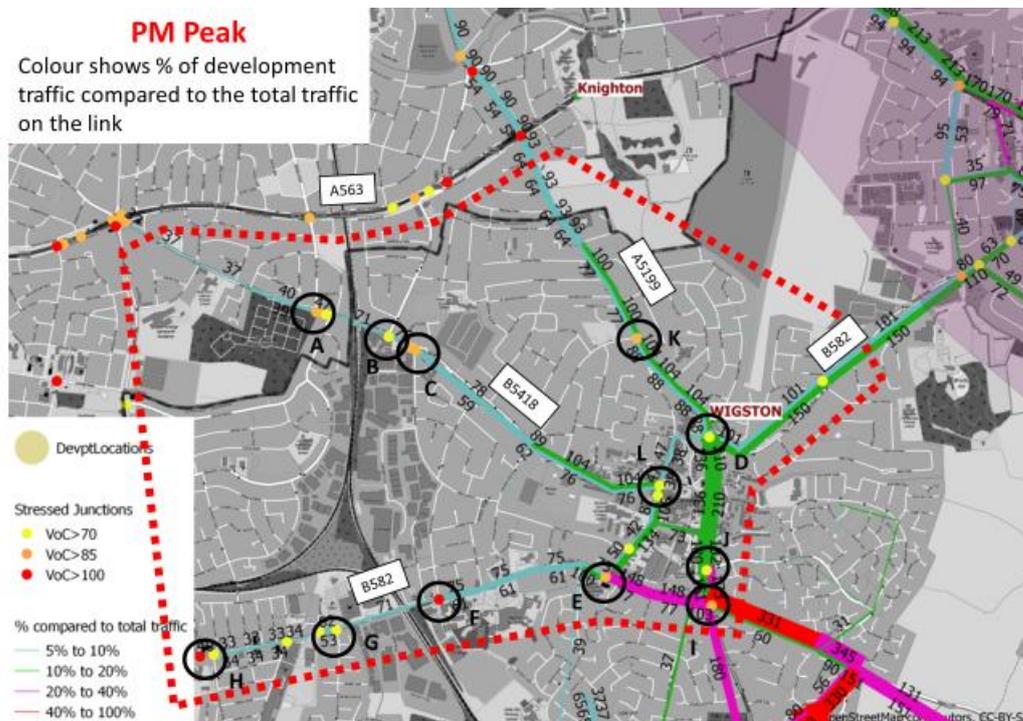
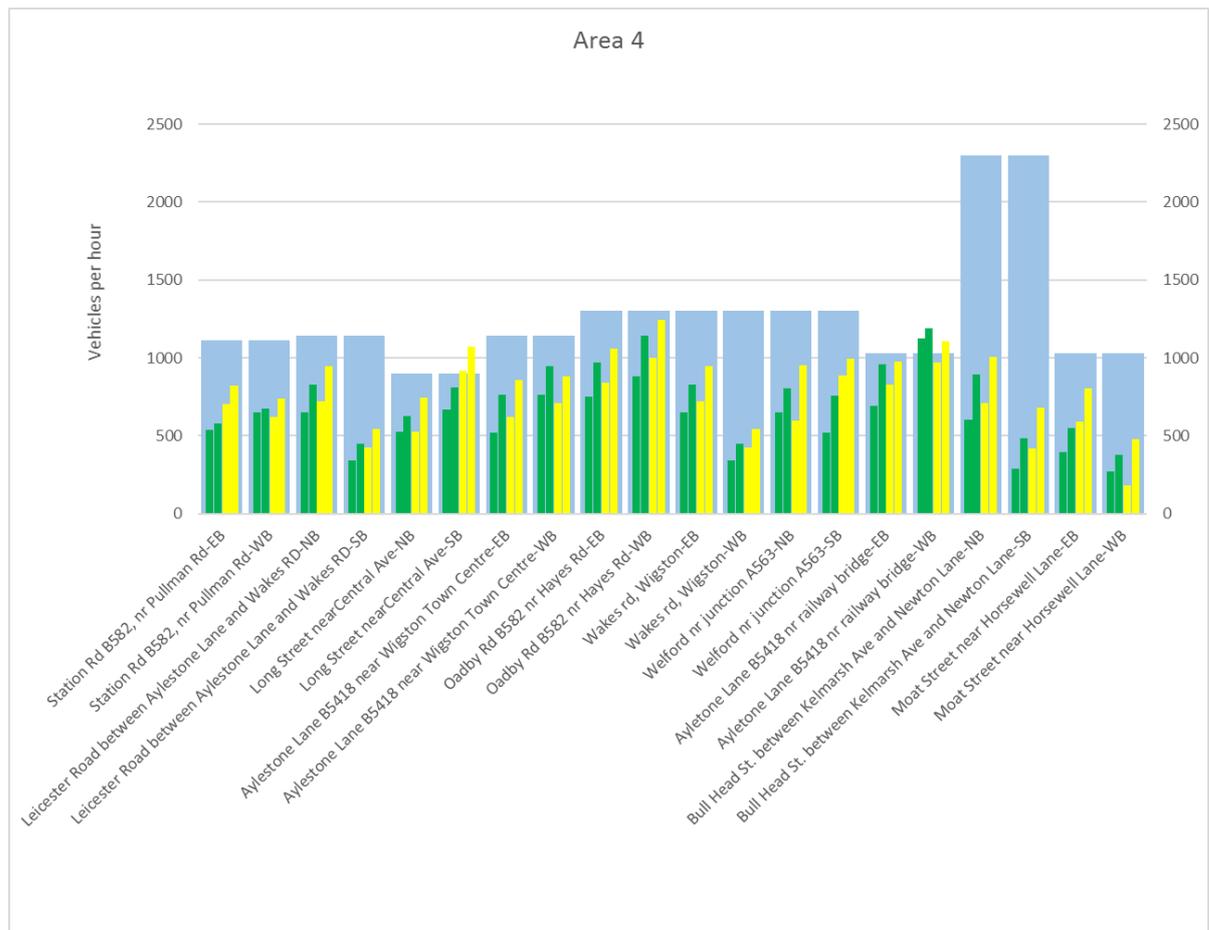


Figure 8-2: Traffic accessing the development locations in the Evening Peak Hour

- 8.1 The maps Figure 8-1 and Figure 8-2 shows the total forecast traffic levels accessing the 6 development locations within the study in the morning and evening peak hour. The colour denotes the proportion of this development traffic relative to the total traffic level in 2031 on each link. The red dashed line shows the extent of Area 4.
- 8.2 Figure 8-3 shows the estimated 2031 link volumes together with the estimated DMRB link capacities for selected links within the area.



**Figure 8-3: Highways Link Traffic volumes and estimated DMRB capacities**

- Blue:** estimated link capacity
- Green:** AM Peak (left column 2016, Right column 2031)
- Yellow:** PM Peak (left column 2016, Right column 2031)

8.3 Wigston town centre and the two “routes” (Stonesby Avenue/Aylestone Lane and Moat Street/Station Road/Blaby Road) are in a dense urban area. Stonesby Avenue/Aylestone Lane B5148 is the most direct link between Wigston town centre and the outer ring road and hence the link leading from/to Wigston and the M1/M69 and hence the wider motorway network. There is extensive queuing on the approach to and exit from the Pork Pie roundabout leading to “rat running” on Southfields Drive to the outer ring road close to the Pork Pie roundabout, on Trenant Road and Glenbourne Road onwards to Saffron Lane and then to the outer ring road and/or through the Eyres Monsell estate to the outer ring road. There are two traffic calming features on Aylestone Lane, a raised zebra crossing between Exeter Road and Rollaston Road and a junction table at the Aylestone Lane/Holmden Avenue Junction. The city council are proposing to install more traffic calming features on Stonesby Avenue near the Holy Cross Primary School during 2017/18 as part of their programme to address anti-social parking and behaviour/driving around schools.

8.4 Within this area the orbital and radial movements on the various routes are characterised by traffic to/from the different developments;

- A5199: Radial movements predominantly associated with the developments in Wigston and Kibworth
- Aylestone Lane and B582 (Blaby Road): Orbital movements associated with development at Wigston, Kibworth and Oadby South
- B582 (Oadby road): Orbital movements Wigston, Kibworth, Oadby South and Scraftoft

8.5 There are several constraints and opportunities on the network in this area such as;

8.6 The Stonesby Avenue/Windley Road junction Circle A Figure 8-1 is predicted to be stressed in both AM and PM. The junction is a simple priority T junction with wide footways and highway verges adjacent to the carriageway such that improvements and signalisation could take place. However, the close proximity of the adjacent Stonesby Avenue/Glenbourne Road junction (VoC 70%+) would need to be taken into consideration.

8.7 The Aylestone Lane/Shackerdale Road junction Circle B Figure 8-1 is predicted to be stressed in AM and VoC 70%+ PM. The junction is a simple priority T junction

with a yellow box road marking on the inbound to Wigston side of Aylestone Lane across the junction to help prevent queuing, to turn right into West Avenue, traffic blocking the junction. The junction layout has recently (2016/17) been improved and a new pedestrian refuge on Shackerdale Road installed. There is sufficient space at the junction to allow signalisation to improve operation of the junction. However, signalisation and improvement is likely to attract traffic onto Shackerdale Road as a cut through route. Any improvements should take the adjacent junctions of Aylestone Lane/Viking Road, Aylestone Lane/Brailsford Road and Aylestone Lane/West Avenue into account during the design process.

- 8.8 There is a significant amount of highway land available and private land on Aylestone Lane at the Shackerdale and West Avenue junctions such that there should be the opportunity to create separate right turning lanes at these junctions that could significantly improve the operation of these junctions.
- 8.9 The Aylestone Lane/West Avenue junction Circle C Figure 8-1 is predicted to be stressed in both AM and PM. The junction is a simple priority T junction with a yellow box road marking on the outbound from Wigston side of Aylestone Lane across the junction to help prevent queuing, to turn right into Shackerdale Road, traffic blocking the junction. There is a pelican crossing adjacent to the junction, between Brailsford Road and West Avenue. There is sufficient space at the junction to allow signalisation to improve operation of the junction. However, signalisation and improvement is likely to attract traffic onto West Avenue as a cut through route. Any improvements should take the adjacent junctions into account and the possible removal of the pelican crossing.
- 8.10 The junctions in the Wigston Town centre itself and the Wakes Rd/A5199 “McDonalds’ roundabout Circle D Figure 8-1 are VoC 70%+ in AM and PM. The mini roundabout junction at Aylestone Lane/Long Street in Wigston Circle L Figure 8\_1 is a constraint due to the close proximity of buildings at the junction. The “McDonalds’ roundabout is an accident cluster site being number 15 on the county councils cluster site list, 11 accidents over past five years (list run on 29/6/17). Road safety improvements have been made to the junction including signalisation in 2016 and minor alterations are already proposed as mitigation for Phase 1 of the Wigston for Growth (which consists of 450 dwellings and 2.5 hectares of employment land).

- 8.11 To help reduce traffic on Wakes Road and hence at the McDonald's roundabout, if that was desirable, consideration could be given to re-opening the Leicester Road/A5199 junction, potentially opposite Highfield Drive to have one four arm junction at this location.
- 8.12 There is an opportunity to discourage traffic from rat running through Wigston by introducing further traffic calming/reduction measures on Aylestone Lane between West Avenue junction with Aylestone Lane and Wigston Town Centre but consideration would need to be given to alternative routing options of displaced traffic (outside scope of this study).
- 8.13 The mini-roundabout junction at Moat Street/Long Street Circle E Figure 8-1 is predicted to be stressed in AM and VoC 70%+ PM. There is an opportunity to improve this junction as there is some land available around the junction, signalisation should be possible. However, if this junction were to be improved there would be the risk of facilitating increased flow of traffic through Wigston town centre.
- 8.14 Station Road/Pullman Road junction Circle F Figure 8-1 is predicted to be severely stressed in both the AM and PM. This junction is currently signalised including signalisation of the exit from the Wigston Swimming Pool car park. This junction has the benefit of MOVA which is an intelligent operating facility to help optimise the operation of the junction. This junction appears to be a significant constraint in terms of room for future improvement. However, there is highway and private land in front of Wigston College and the Wigston swimming pool site (if car park land was taken) that could be used. Detailed design could consider extending the right turn lane into Pullman Road, a separate left turn lane into the Wigston Swimming Pool or for an additional straight-ahead (and left turn) lane and short merge lane after the junction to improve the capacity of the junction. However, noting comments in paragraph 8.8 the future purpose of the route from Pullman Road through West Avenue, Shackerdale Road to the A563 and then Aberdale Road through to the A5199 should be considered.
- 8.15 Blaby Road/Landsdowne Grove junction Circle G Figure 8-1 is predicted to be stressed in AM and VoC 70%+ in PM. The junction is currently a simple priority T junction with a toucan crossing just to the north of the junction. The junction is close to the roundabout at the entrance to the South Wigston Tesco. There are residential properties each side of Landsdowne Grove at the junction and the Tesco car park is

opposite the junction leaving no scope for carriageway widening within highway land. If Tesco land was available the junction could be improved and the adjacent pelican crossing removed and pedestrian facilities included in a new junction. The close proximity of the roundabout at the entrance to Tesco would need to be taken into account if this option was further considered.

- 8.16 The mini roundabout junction Blaby Road B582/Canal Street is not predicted to be stressed but is 70% VoC+ in PM. It is however an accident cluster site being number 17 on the county councils cluster site list, 11 accidents over past five years (list run on 29/6/17).
- 8.17 The Saffron Road B5366/Blaby Road junction Circle H Figure 8-1 in South Wigston is predicted to be stressed in AM and severely stressed in PM. The junction is a signalised T junction with separate turning lanes. This junction has the benefit of MOVA which is an intelligent operating facility to help optimise the operation of the junction. The junction is in close proximity to another signalised T junction at Blaby Road/Countesthorpe Road. It is bounded by a Church, Fuel Station and residential properties with no scope for carriageway widening and as such is a constraint.
- 8.18 The Newton Lane/A5199 junction Circle I Figure 8-1 is predicted to be stressed in both AM and PM. The junction is currently a signalised junction with pedestrian crossing facilities on all four arms. Side road splits have recently (during 2016/17) been introduced so that right turners out of Newton Lane run unopposed. Mitigation works (minor widening) planned arising from Phase 1 of the Wigston for Growth development are designed to mitigate the impact of that development.
- 8.19 Further improvements could be made. Land is available on Newton Lane (southern side), would need checking if this is highway land, to provide a very short length of a straight-ahead (and left turn) lane from Newton Lane into Moat Street to help reduce queuing on Newton Lane. There is land (likely to be private land but likely to be in the ownership of the County Council as was a children's home) available on the southern side of Moat Street that could facilitate a merge lane on the Moat Street exit from the junction.
- 8.20 There is land available in front of the Horse and Trumpet public house, likely to be highway land, as is currently a wide footway, that could provide an outbound left turn lane into Newton Lane but the layby in front of the butchers could need amending/reducing in length.

- 8.21 In summary, there is the possibility of improving the capacity of this junction. It could be a complicated scheme as there are land ownerships issues, likely to be complex utility issues (and hence costly diversion works), temporary disruption to highway users during construction of a scheme and temporary and probably permanent impacts on businesses.
- 8.22 The A5199/Kelmarsh Avenue junction Circle J Figure 8-1 is predicted to be stressed in the AM and 70%VoC+ in the PM. This junction is a signalised T junction with pedestrian and cyclist crossing facilities on each arm. There is a yellow box road marking on the outbound (from Leicester) side of the A5199 to help prevent traffic queuing back from the A5199/Newton Lane junction blocking the junction. The junction is on the SCOOT facility for the A5199 route. There is land available (unlikely to be highway land) on the east side of Welford Road and the north side of Kelmarsh Avenue in front of the Wigston Liberal Club building which could be used for a left turn lane into Kelmarsh Avenue and/or to move the centreline of Kelmarsh Avenue carriageway towards the Liberal Club to improve the left turn lane out of Kelmarsh Avenue to help improve junction operation. However, consideration should be given to the possibility of Kelmarsh Avenue becoming a “rat run” for traffic avoiding the Newton Lane/Welford Road junction if improvements were made at this junction.
- 8.23 The junction of A5199/Carlton Drive Circle K Figure 8-1 is predicted to be stressed in both AM and PM. It is an accident cluster site being number 38 on the county councils cluster site list, 8 accidents over past five years (list run on 29/6/17). The junction is currently signalised. Accident analysis would need to be conducted to identify possible safety improvements. There is only some land available on the south side of Carlton Drive for widening although widening here is unlikely to be necessary in terms of enhancing junction capacity. The right turn lane into Carlton Drive could be extended northwards if the right turners queue is blocking straight ahead traffic.
- 8.24 To help assess the capacity of the highway network links in this area we have considered several links ie on Station Road, Long Street, Leicester Road, Aylestone Lane, Oadby Road, Wakes Road and Welford Road. The maximum predicted traffic flow on the Station Road link is 820pcu in PM 2031 eastbound (2016 is 492pcu, estimated capacity is 1110pcu). Leicester Road is variable in width, traffic calmed

and has a pinch point of two 3.1m wide lanes where there is a refuge outside the Wetherspoons public house. On the link between Aylestone Lane and Wakes Road the maximum predicted traffic flow is 946pcu in PM 2031 northbound (2016 is 722pcu, estimated capacity is 900pcu). The predicted flow exceeds capacity in the northbound direction.

- 8.25 On the Long Street link between Aylestone Lane and Moat Street the maximum predicted traffic flow is 1074pcu in PM 2031 southbound (2016 is 920 pcu, estimated capacity is 900pcu). The predicted flow exceeds capacity in the southbound direction.
- 8.26 We have considered two links on Aylestone Lane. Firstly, the link joining to Long Street in Wigston town centre has a maximum predicted traffic flow of 948pcu in AM 2031 westbound (2016 is 762pcu, estimated capacity is 1140pcu). On the link near Shackerdale Road at the railway bridge the maximum predicted traffic flow is 1192pcu AM 2031 westbound (2016 is 1124pcu, estimated capacity is 1030 pcu). Hence, the predicted flow exceeds capacity in the westbound direction.
- 8.27 The maximum predicted traffic flow on the Oadby Road link is 1245pcu in PM 2031 westbound (2016 is 997pcu, estimated capacity is 1300pcu) suggesting that the predicted flow is approaching the capacity of this link. Wakes Road is a short link between Leicester Road and the A5199 with variable width, a pelican crossing and several side road connections within a short distance. The maximum predicted traffic flow on the link is 946pcu in PM 2031 eastbound (2016 is 722pcu, estimated capacity is 1300pcu). The maximum predicted traffic flow on the Welford Road link to the junction with the A563 is 996pcu in PM 2031 southbound (2016 is 888pcu, estimated capacity is 1300pcu).
- 8.28 Link assessment for this area indicates that link capacity is a concern regarding predicted flows for 2031 on Long Street, Aylestone Lane and on Oadby Road. Improving the capacity of Long Street does not look possible generally due to the close proximity of buildings and on Aylestone Lane the railway bridge is a pinch point. There is highway land available to widen the Oadby Road link for parts of its length but there are also restricted widths in places and it is noted that there are mini-roundabouts and a raised junction table on this link such that it is suggested that improving the capacity of this link is not a priority.

- 8.29 During the highway assessment the we have identified the opportunity to improve walking and cycling facilities – there is the opportunity to consider the creation of a cycle super highway along the A5199 corridor as this corridor is very wide along many parts of its length and this could help accommodate the growth in trips.
- 8.30 Our conclusions of the highway assessment in this area is that predicted flows exceed or are close to the junction and/or link capacity at several locations. Development traffic is having a material impact in this Area.
- 8.31 Several junctions along Aylestone Lane/Stonesby Avenue are predicted to be stressed, but there are opportunities to improve these junctions. The link capacity on Aylestone Lane near the railway bridge is currently exceeded and is predicted to be exceeded in 2031.
- 8.32 Junctions in Wigston Town centre itself and the Wakes Rd/A5199 “McDonalds’ roundabout are VoC 70%+. The mini roundabout junction at Aylestone Lane/Long Street in Wigston is a constraint due to the close proximity of buildings at the junction. Flow in the southbound direction on Long Street in Wigston, between Aylestone Lane and Moat Street and northbound between Aylestone Lane and Wakes Road, is predicted to just exceed link capacity. In both cases being able to improve link capacity is unlikely and probably undesirable.
- 8.33 To help reduce traffic on Wakes Road and hence at the McDonald’s roundabout, if that was desirable, consideration could be given to re-opening the Leicester Road/A5199 junction, potentially opposite Highfield Drive to have one four arm junction at this location.
- 8.34 Along the Moat Street/Station Road/Blaby Road “route” in Wigston to and through South Wigston the Station Road/Pullman Road junction is predicted to be severely stressed. There are opportunities to improve this junction but it would be a complicated scheme to design and deliver due to lack of highway land available and the close proximity of the railway bridge. The Long St/Moat St, Blaby Road/Landsdowne Grove and Saffron Road B5366/Blaby Road junctions are predicted to be stressed. Improvements at the two former junctions are possible but again complicated whereas improvements to the later do not look possible.
- 8.35 The junctions of both Newton Lane with the A5199 and Kelmash Avenue with the A5199 are predicted to be stressed but there are opportunities to improve these

junctions. Both could be complicated schemes to design and deliver as significant public utility diversion works are likely to be required. There could be concerns regarding the Kelmarsh Avenue junction improvements leading to increased “rat running” through the Meadows estate, to avoid the Newton Lane/Welford Road A5199 junction, but this could be managed with suitable traffic calming.

- 8.36 The junction of A5199/Carlton Drive is predicted to be stressed but there is little scope for improvements here. Extension of the right turn lane into Carlton Drive would be possible if this helped improve operation. However, the purpose of the Carlton Drive link could be considered if it was desirable to reduce traffic in Wigston town centre.
- 8.37 There is the opportunity to consider the creation of a cycle super highway along the A5199 corridor as this corridor is very wide along many parts of its length and this could help accommodate the growth in trips.
- 8.38 Noting the issues raised in this area under consideration it is suggested that traffic re-routing in this area, the “Wigston area”, generally could be investigated before designing any junction or link improvements. During this investigation the future “look” of Wigston Town Centre and the current and future possible purpose of routes such as Aylestone Lane, Shackerdale Road, West Avenue, Pullman Road, Carlton Drive and Long Street could be reviewed. It may be desirable to reduce traffic entering Wigston on Aylestone Lane through traffic reduction measure(s) and encouraging “through” traffic to use the Outer Ring Road.
- 8.39 It is understood that the District Council wishes to increase the footfall to the town centre by facilitating more local trips by walking and cycling and hence help to retain a healthy town centre retail offer. It is noted that there are ample opportunities to provide and/or improve walking and cycling facilities in this area.
- 8.40 ***It is recommended that mitigation is considered for the following junctions; Stonesby Avenue/Windley Road junction, Stonesby Avenue/Glenbourne Road junction, Aylestone Lane/Shackerdale Road junction, Aylestone Lane/West Avenue junction, the mini-roundabout junction at Moat Street/Long Street, Station Road/Pullman Road junction, Blaby Road/Landsdowne Grove junction, Newton Lane/A5199 junction, A5199/Kelmarsh Avenue junction,***

***A5199/Carlton Drive junction and Wakes Road/A5199 junction (McDonald's roundabout).***

- 8.41 ***It is recommended that consideration is given to creating a cycling expressway along the A5199 in this area and along the A5199 to Victoria Park Road (and Victoria Park) to help accommodate growth in traffic.***
- 8.42 ***In respect of Area 4 we believe that the proposed growth can be accommodated, however, it is recommended that further consideration, by way of a specific transport study, is given to options for routing of traffic in and around Wigston and improving bus, walking and cycling facilities and routes, to maximise the proportion of trips being made by sustainable travel modes, prior to designing specific infrastructure improvements.***

## 9 Highway Network Area 5

Movements through Oadby South – on London Road, Leicester Road, The Parade, New Street B582, on Rosemead Drive and Briar Walk.

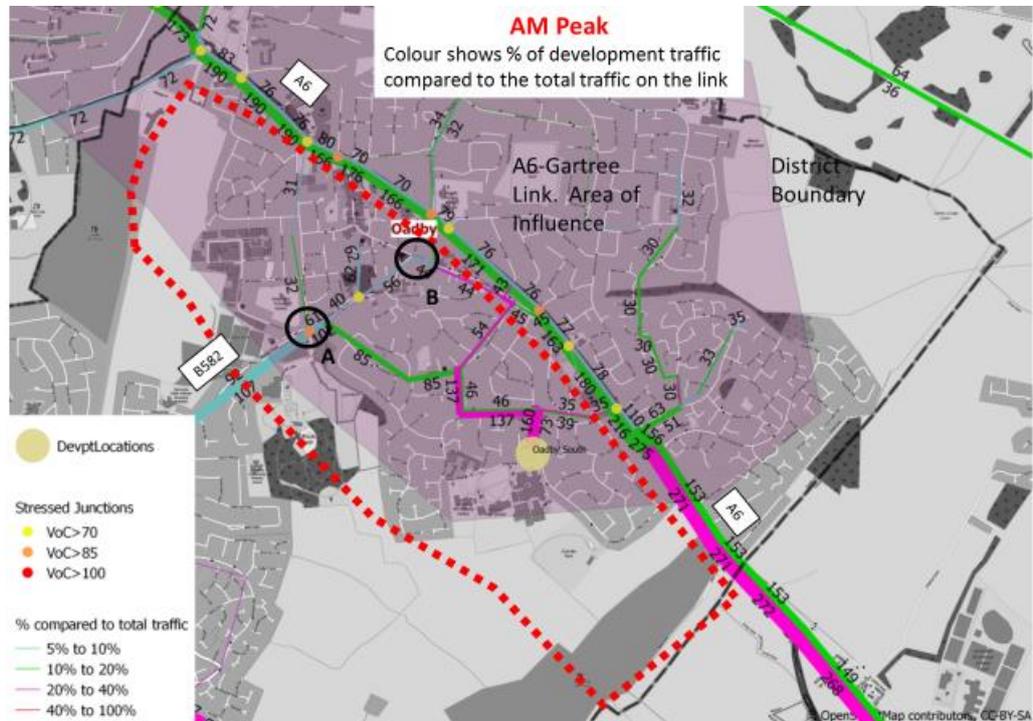


Figure 9-1: Traffic accessing the development locations in the Morning Peak Hour

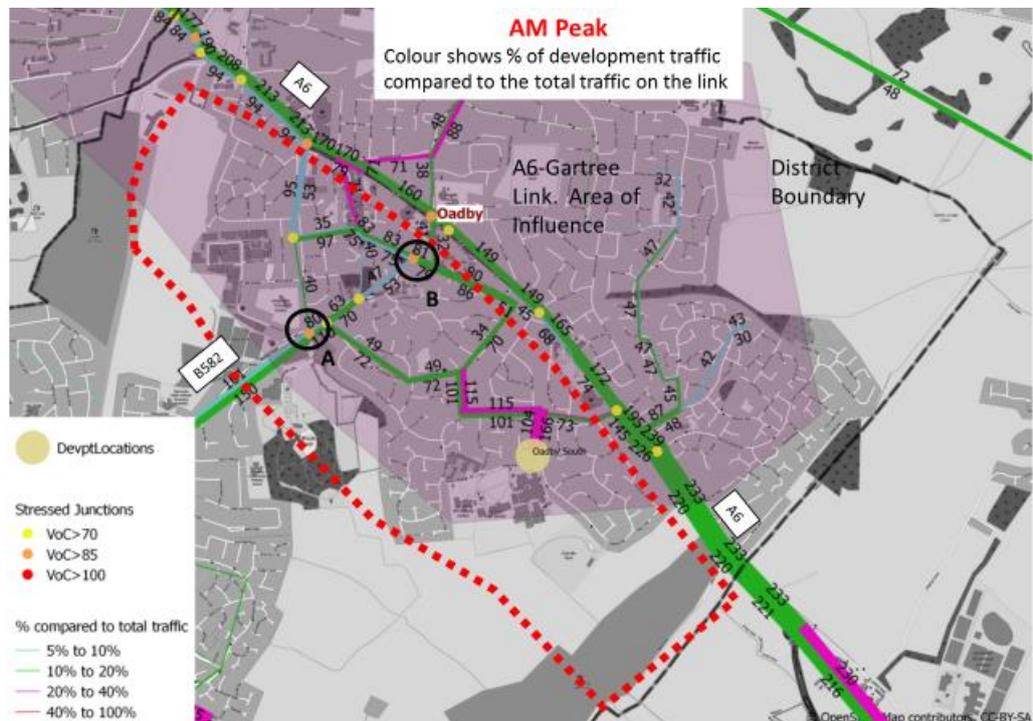
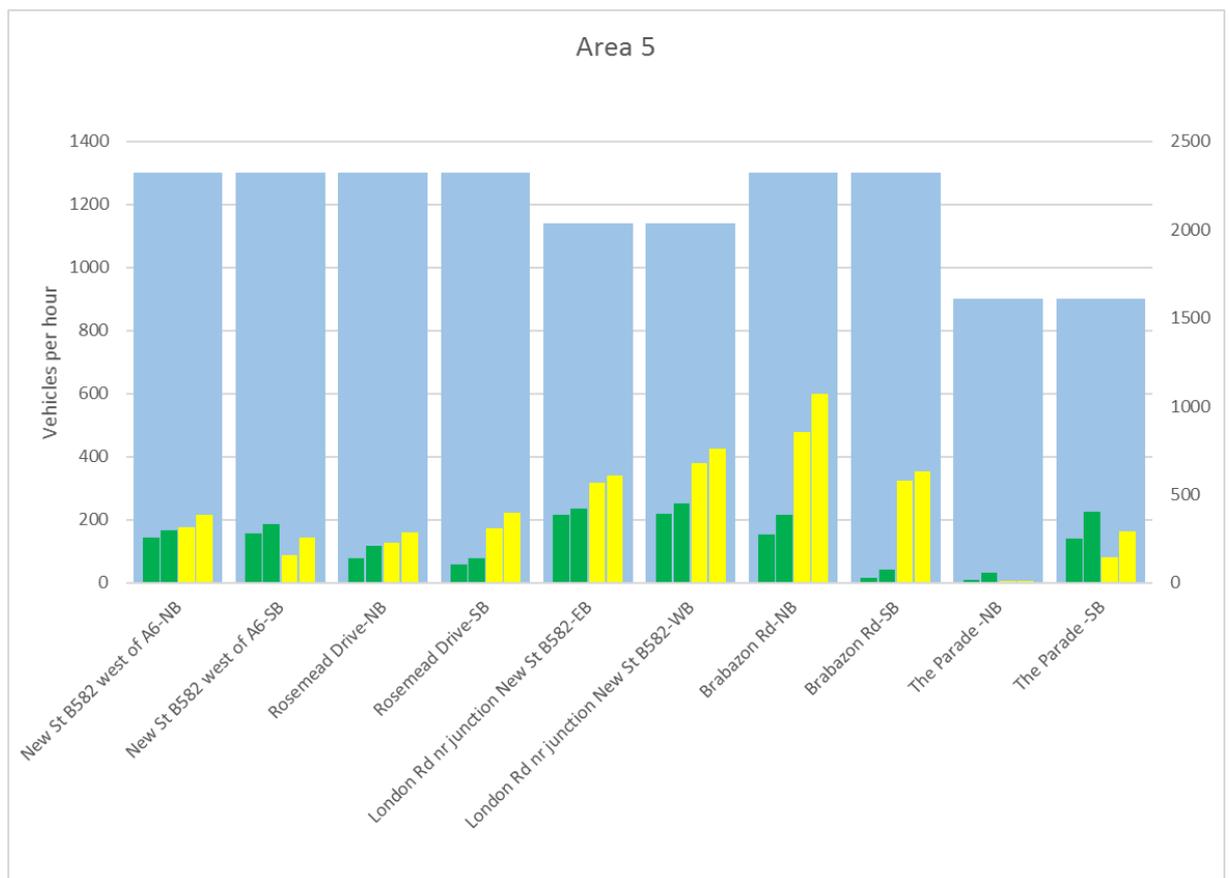


Figure 9-2: Traffic accessing the development locations in the Evening Peak Hour

9.1 The maps Figure 9-1 and Figure 9-2 shows the total forecast traffic levels accessing the 6 development locations within the study in the morning and evening peak hour. The colour denotes the proportion of this development traffic relative to the total traffic level in 2031 on each link. The red dashed line shows the extent of Area 5.

9.2 Figure 9-3 shows the estimated 2031 link volumes together with the estimated DMRB link capacities for selected links within the area.



**Figure 9-3: Highways Link Traffic volumes and estimated DMRB capacities**

- Blue:** estimated link capacity
- Green:** AM Peak (left column 2016, Right column 2031)
- Yellow:** PM Peak (left column 2016, Right column 2031)

9.3 The Oadby South development is assumed to be linked to the highway network via Coombe Rise, Ash Tree Road. London Road, Leicester Road and The Parade are

traffic calmed with mini roundabouts, a raised zebra crossing near South Street and junction table at The Parade/Chestnut Avenue junction. Rosemead Drive is traffic calmed with speed cushions and full width road humps along its length. LLITM distributions within the Oadby area show traffic predominantly related to developments in Oadby South and Kibworth. Brabazon Road also includes traffic from Wigston and Scraftoft.

- 9.4 The Wigston Road/Brabazon Road/Washbrook Lane junction Circle A Figure 9-1 is predicted to be stressed in both the AM and PM. This is a four-arm signalised junction, complicated by the presence of service roads on the northern side of Wigston Road. The service roads do not have turning heads. The junction benefits from MOVA which is an intelligent operating facility to help optimise the operation of the junction. There is land available (highway land and private) that could be used to create a left turn lane from Wigston Road into Washbrook Lane to the Parklands Leisure Centre. There is highway land available that could be used to create left turn (into Brabazon Road), ahead and right turn (into Washbrook Lane) lanes from Wigston Road into Brabazon Road. The configuration of the service roads here would need consideration.
- 9.5 The mini roundabout junction of Wigston Road/London Road (B582) in Oadby Circle B Figure 9-1 is predicted to be stressed in the PM. The junction is constrained by buildings, such as a church and public houses, and is a complicated junction in terms of layout and a small one-way road (Albion Street) off the roundabout as well as the three main approaches. This junction could be signalised to improve operation/control and possibly capacity. As noted in Section 4 of this report traffic through this junction is predicted to reduce if the A6 – Gartree Link Road were to be constructed.
- 9.6 During consultations with the LHA/LPA it was noted that The Parade should be kept as it is in terms of function.
- 9.7 During consultations it has been noted that some delay is caused on the B582 at the recycling site by right turners waiting to enter the site at peak hours, which in turn leads to unreliable journey times. Whilst space is limited here creation of a right turn lane may be feasible.
- 9.8 Results of the A6-Gartree Road Link study suggest that Oadby may see a reduction in trips as traffic moves from the B582 through New Street in Oadby onto Babazon

Road. This would lead to increased traffic on Brabazon Road and hence impact on this junction.

- 9.9 To help assess the capacity of the highway network links in this area we have considered several links ie on New Street B582 west of the A6, Rosemead Drive, London Road in Oadby, The Parade and Brabazon Road. The maximum predicted traffic flow on the New Street link is 388pcu in PM 2031 northbound (2016 is 317pcu, estimated capacity is 1300). The maximum predicted traffic flow on the Rosemead Drive (traffic calmed) link is 398pcu in PM 2031 southbound (2016 is 307pcu, estimated capacity is 1300pcu). London Road in Oadby is of variable width and layout. The maximum predicted traffic flow on the London Road link is 761pcu in PM 2031 westbound (2016 is 676, estimated capacity is 1140pcu). The maximum predicted traffic flow on the The Parade link is 401pcu in AM southbound (2016 is 249pcu, estimated capacity is 900pcu). The maximum predicted traffic flow on the Brabazon Road link is 1070pcu in PM 2031 northbound (2016 is 857pcu, estimated capacity is 1300pcu). There is obviously an increase in traffic predicted on the links considered for 2031 and our assessment indicates that predicted flows can be readily accommodated on the links in the network.
- 9.10 Our conclusions of the highway assessment in this area is that the network could generally accommodate predicted traffic flows for 2031.
- 9.11 Mitigation measures are likely to be required for the B582 Wigston Road/Brabazon Road junction (particularly if the A6 – Gartree Link Road were to be constructed) and the mini roundabout junction at Wigston Road/London Road as both are predicted to be stressed.
- 9.12 ***It is recommended that mitigation is considered for the B582 Wigston Road/Brabazon Road junction and the mini roundabout junction at Wigston Road/London Road.***

# 10 Highway Network Area 6

A6 - from Main Street, Kibworth to Leicester Railway Station.

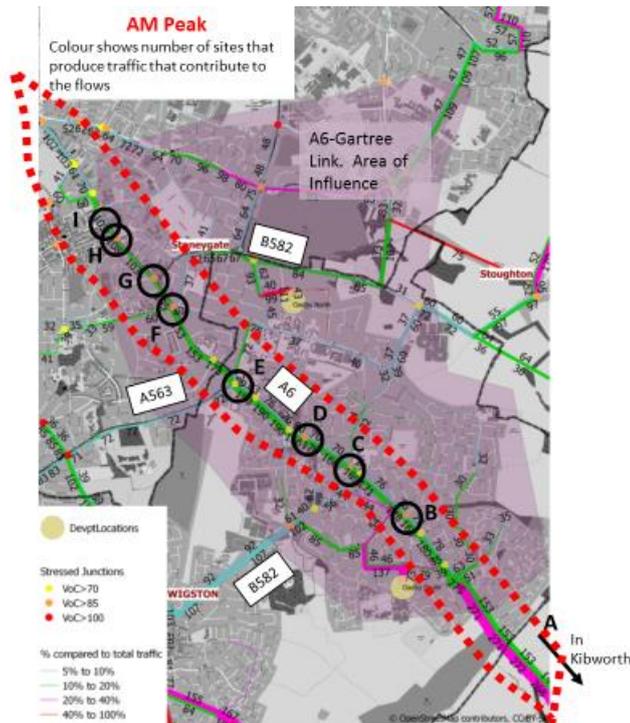


Figure 10-1: Traffic accessing the development locations in the Morning Peak Hour

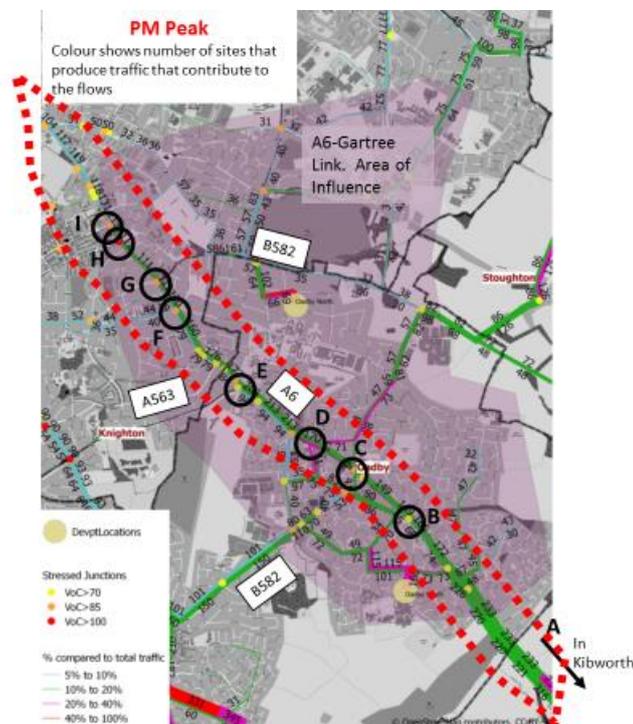


Figure 10-2: Traffic accessing the development locations in the Evening Peak Hour

10.1 The maps Figure 10-1 and Figure 10-2 shows the total forecast traffic levels accessing the 6 development locations within the study in the morning and evening

peak hour. The colour denotes the proportion of this development traffic relative to the total traffic level in 2031 on each link. The red dashed line shows the extent of Area 6.

10.2 Figure 10-3 shows the estimated 2031 link volumes together with the estimated DMRB link capacities for selected links within the area.

10.3 This study complements the earlier Jacobs 'Fleckney, Great Glen and the Kibworths Cumulative Development Traffic Impact study'. The earlier study provides a robust analysis for areas away from the PUA, such as Kibworth, whilst this new study provides better information closer to, and within the PUA. Consequently, the results of the Jacobs study should have greater weight in the Kibworth area, whilst this report has greater weight closer to the PUA

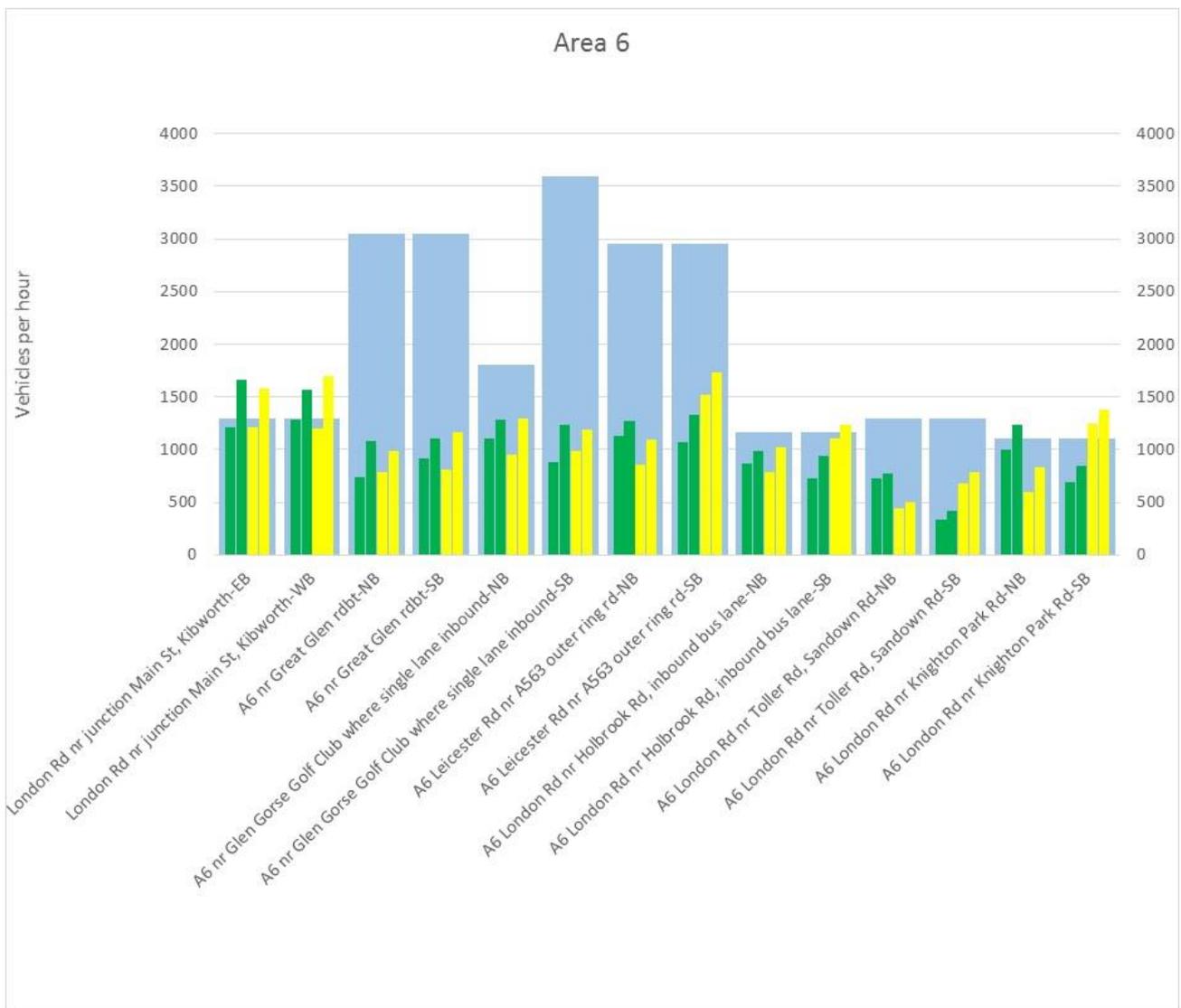


Figure 10-3: Highways Link Traffic volumes and estimated DMRB capacities

**Blue:** estimated link capacity

**Green:** AM Peak (left column 2016, Right column 2031)

**Yellow:** PM Peak (left column 2016, Right column 2031)

10.4 This area is one of the key radial routes into Leicester bypassing Great Glen and Oadby on a dual carriageway. The route consists of sections of dual carriageway in both the countryside between Kibworth and the Leicester Principal Urban Area and within the Principal Urban Area. There are also sections of two lane and single lane carriageway through the suburbs of Leicester. There are some sections of bus lane both inbound to and outbound from Leicester. The A6 from Ash Tree Road to the city centre benefits from the SCOOT traffic optimisation facility (traffic signal junctions are linked).

10.5 Traffic from the different developments dominate the 'new' traffic on different segments of the A6 that travel on this primary radial route into the centre of Leicester;

- Between Kibworth and the border of Oadby: Primarily dominated by traffic from Kibworth and Fleckney.
- Between Oadby and the Outer Ring Road: Primarily Kibworth, Fleckney but also from the Oadby South development.
- Between ORR and the railway station: Traffic from Wigston combines with traffic from Kibworth, Fleckney and Oadby South.
- Generally there is not a high proportion of traffic from the Scraftoft or Oadby North developments using the A6.

10.6 The Leicester Road/Main Street junction in Kibworth Location A south of the area in Figure 10-1 is predicted to be stressed in the AM and PM. The junction is predominantly a priority T junction with a cul-de-sac slightly offset opposite Main Street. Main Street is bounded by narrow footways and high brick garden walls as is the A6 at this location leaving very little, if any scope for improvements. There does appear to be sufficient space to introduce signal control at the junction.

10.7 The A6/London Road/Waldron Drive/London Road junction Circle B Figure 10-1 is predicted to be stressed in AM and VoC% 70+ in PM. The junction is a signalised

four-arm junction recently (2016/17) improved when the separate right turn into London Road was separately signalled. There wasn't sufficient space for pedestrian facilities on all four arms of this junction when it was recently improved. There is highway land available on the southern side of London Road at the junction next to Highcroft Avenue but improvements to the side road operation could encourage rat running onto Rosemead Drive and/or through Oadby town centre.

- 10.8 The A6/New Street B582 junction Circle C Figure 10-1 is predicted to be stressed in AM and PM. The junction is a signalised four-arm junction recently. The right turn lanes on the A6 were signalised in March 2007. Changes for the Waitrose development, to allow right turn lane into the site, were completed in 2010. It is in close proximity to the signalised T junction of the A6 and Uplands Road. There is some highway land and private land available on the A6 adjacent to New Street, on the west side of the A6, such that a separate left turn into the A6 from New Street and a separate left turn from the A6 into New Street could be provided.
- 10.9 The A6/Regent Street/The Parade junction Circle D Figure 10-1 is predicted to be stressed in both AM and PM. The junction is a signalised four-arm junction with separate right turn lanes into Regent Road and The Parade from the A6. There is some land (likely to be highway and/or council owned) available on the A6 adjacent to The Parade that may facilitate a short length of separate left turn lane into The Parade. There is also some land, mostly highway, available on the A6 and Regent Street adjacent to the Asda car park that could be used to provide a separate left turn lane into Regent Street.
- 10.10 The roundabout junction of the A6/A563 outer ring road Circle E Figure 10-1 is predicted to be stressed in the PM. It is however an accident cluster site being number 22 on the county councils cluster site list, 9 accidents over past five years (list run on 29/6/17). Accident analysis would need to be conducted to identify possible safety improvements however the roundabout is not currently signalised so signalisation is an obvious improvement to consider.
- 10.11 The A6/Guilford Drive/Ratcliffe Road junction Circle F Figure 10-1 is predicted to be stressed in the PM. This is a four-arm junction which is not signalised. The city council proposes to introduce a sensor such that traffic on Guilford Drive, under certain conditions, triggers the pelican crossing on the A6 just north of Guilford Drive to go to red allowing traffic to exit Guilford Drive. The volume of side road

traffic is very low compared to that on the A6. Signalising this junction resulting in more green time for the side roads would be detrimental to the A6 flow of traffic so would be unlikely to be acceptable to the Highway Authority. There is some land available, mixture of highway and private at this junction, that could be used to facilitate a left turn into Ratcliffe Road and a left turn from Guilford Drive onto the A6. The junction is an accident cluster site being number 36 on the cluster site list, 14 accidents over past five years (list run on 29/6/17). Accident analysis would need to be conducted to identify possible safety improvements.

- 10.12 The A6/A6030 Stoughton Road/Knighton Road junction Circle G Figure 10-1 is predicted to be stressed in AM and PM. A separate left turn lane out of the A6030 outbound would help to improve the operation of the junction but private land, recently a new Co-op car park, would be required but there is insufficient width available. There is land, most likely to be private, on the A6 outbound/Stoughton Road corner of the junction that could be used for a separate left turn lane into Stoughton Road but this looks difficult to achieve with private land and trees.
- 10.13 The A6/Stoneygate Road/Avenue Road junction Circle H Figure 10-1 is predicted to be stressed in AM and severely stressed in PM. This junction is a four-arm signalised junction with the right turn into Stoneygate Road prohibited. Signalisation has created a “gate” for A6 traffic and hence has created delays for A6 traffic. There is private land on the east side of the junction for left turn in and out of Stoneygate Road. However, such improvements could facilitate rat running along Stoneygate Road to the A6030 Stoughton Road.
- 10.14 The A6/Clarendon Park Road junction Circle I Figure 10-1 is predicted to be stressed in the PM. It is an accident cluster site being number 37 on the cluster site list, 14 accidents over past five years (list run on 29/6/17). Accident analysis would need to be conducted to identify possible safety improvements. There is land, school land, on the north side of Clarendon Park Road that may be used for improvements but it is unlikely the city council LHA would want to encourage further orbital movements along Clarendon Park Road.
- 10.15 Many of the junctions between Victoria Park Road and Leicester Railway Station are predicted to be stressed or severely stressed in AM and PM. The Conduit Street/London Road and Saxby Street/London Road are accident cluster sites being number 30 (15 accidents in past 5 years) and 31 (15 accidents in past 5

years) respectively on the accident cluster site list. The city council has proposals to alter the layout of the A6 from the Evington Road junction to the railway station to provide a two-way cycleway. Details are not currently available.

- 10.16 To help assess the capacity of the highway network links in this area we have considered several links ie on London Road in Kibworth and along the A6 from Kibworth into Leicester. The maximum predicted traffic flow on the London Road link near Main Street in Kibworth is 1664pcu in AM eastbound (2016 is 1212pcu, estimated capacity is 1300pcu). This is close to where traffic is being loaded within the model, and is thus a location where information from the earlier study would be more robust. Of the links considered along the A6; the London Road link, near Holbrook Road, southbound is predicted to exceed capacity in the PM 2031 with flow of 1238pcu (2016 is 1109pcu, estimated capacity is 1162pcu) and the London Road link near Knighton Park Road in both northbound and southbound directions is predicted to exceed capacity, northbound in AM at 1234pcu (2016 is 100pcu, estimated capacity is 1110pcu), southbound in PM at 1384pcu (2016 is 1254pcu, estimated capacity is 1110pcu). Our assessment indicates that flows on the A6 London Road from the junction with the A563 outer ring road into Leicester are predicted to exceed link capacity.
- 10.17 Our conclusions of the highway assessment in this area is that many junctions along the A6 are predicted to be stressed or severely stressed, as a result of growth as a whole of which this development traffic is a relatively small proportion, and that there are some opportunities to improve some of the junctions. At junctions between the A563 Outer Ring Road and Leicester City Centre there is generally little opportunity for improvement.
- 10.18 The modus operandi of the Area Traffic Control Network Management is to keep traffic on the A6 moving and refrain from encouraging side road movements where appropriate.
- 10.19 The Main Street/London Road junction in Kibworth is predicted to be stressed but there is very little scope for improvement here, signalisation looks possible if deemed desirable. The earlier 'Cumulative Development Traffic Study' based upon more detailed assumptions as to the location of proposed development within Kibworth did not identify the need for improvements at this junction. However, that study did identify other junctions on the A6 that could be improved due to the

cumulative traffic from the Kibworth developments. Given its location, the impact to this junction should be assessed by transport assessments as the proposals for future developments in Kibworth come forward

- 10.20 Flows on the A6 London Road from the junction with the A563 outer ring road into Leicester are generally predicted to exceed link capacity in one direction, from growth as a whole, and hence it is suggested that further consideration is given to this issue in due course.
- 10.21 Development flows are likely to have a material impact on the A6 route but the opportunities for junction and link capacity improvements are generally very limited. The strategy for this corridor in terms of catering for increased flows is likely to be to encourage more trips by bus through bus priority improvements and demand management measures and possibly Park and Ride if such a service was predicted to be commercially viable within a reasonable timeframe.
- 10.22 ***In respect of Area 6 we believe that the proposed growth can be accommodated, however, it is recommended that a route study is commissioned to help develop a strategy, which ensures the A6 corridor operates as efficiently and effectively as possible, to accommodate the predicted growth in traffic generally to 2031 which includes from the developments under consideration in this study. This study should take account of, and possibly influence, the Local Highway Authority's transport policy measures for the city centre and key radial routes, such as a city centre low emission zone and cycling "super highways", which may impact/influence traffic levels on the A6. The study could also investigate bus measures such as park and ride and express bus services, "quiet roads" cycle routes and junction improvements mitigation measures.***
- 10.23 ***It is recommended that mitigation is considered for the Main Street/London Road junction through the Kibworth development transport assessment work.***

# 11 Highway Network Area 7

## A563 - from A6 to A426

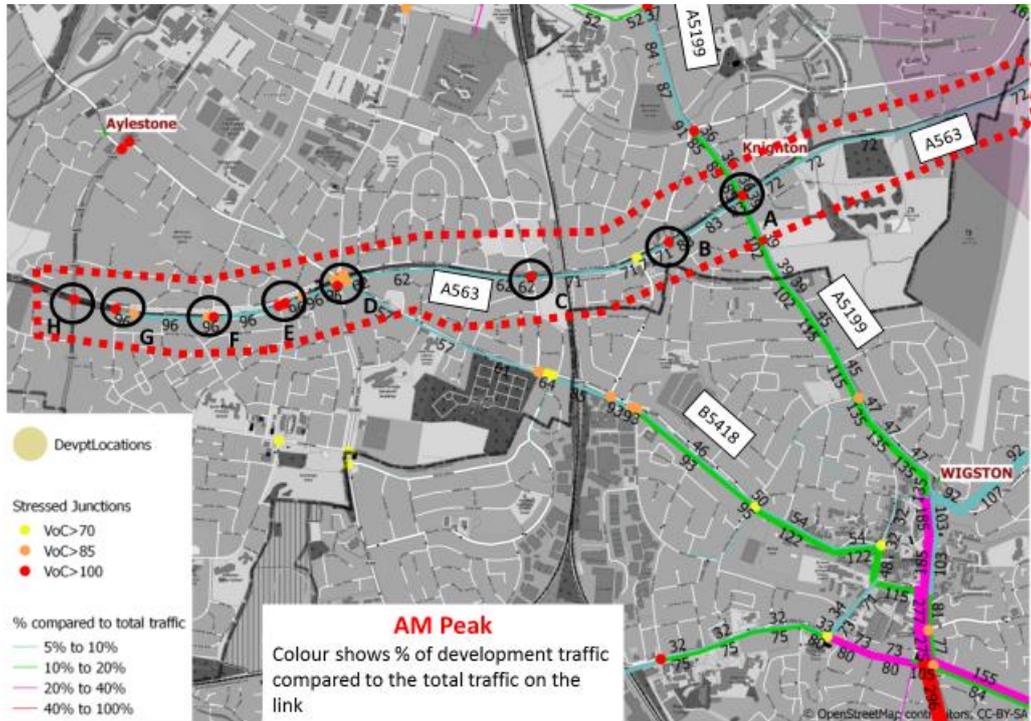


Figure 11-1: Traffic accessing the development locations in the Morning Peak Hour

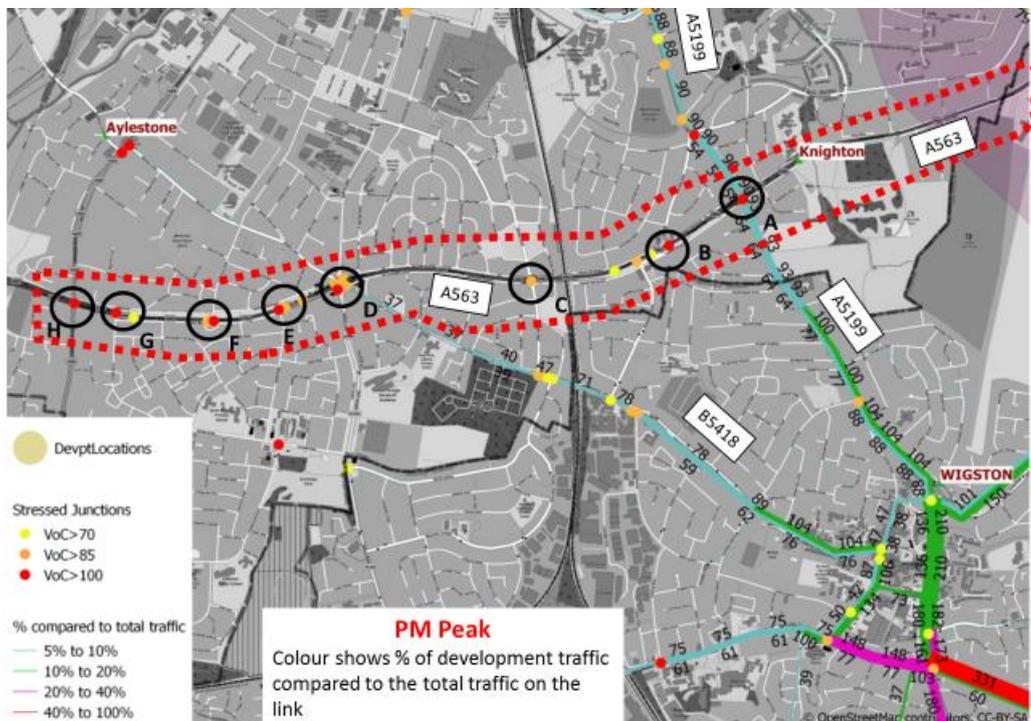
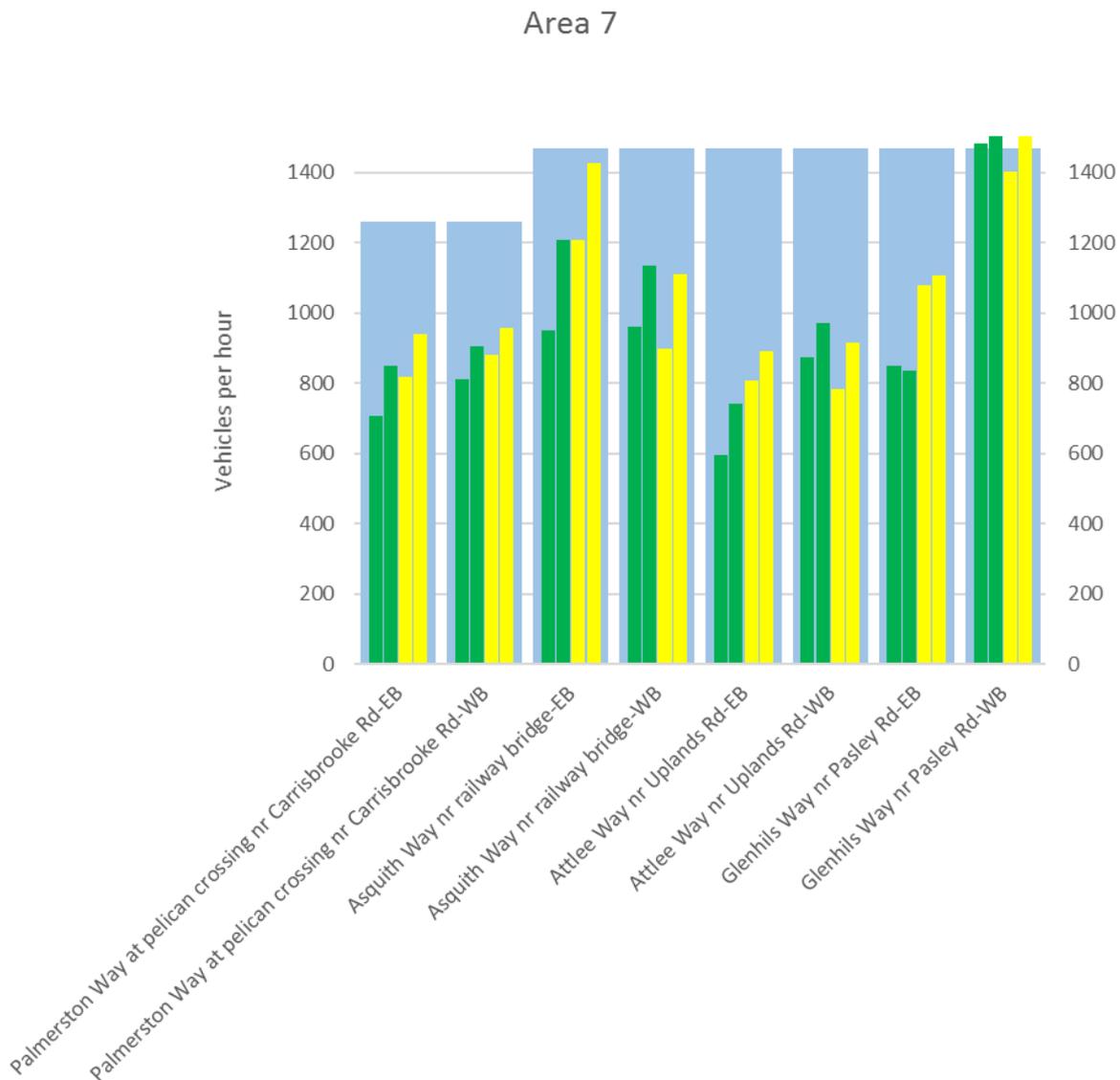


Figure 11-2: Traffic accessing the development locations in the Evening Peak Hour

11.1 The maps Figure 11-1 and Figure 11-2 shows the total forecast traffic levels accessing the 6 development locations within the study in the morning and evening

peak hour. The colour denotes the proportion of this development traffic relative to the total traffic level in 2031 on each link. The red dashed line shows the extent of Area 7.

11.2 Figure 11-3 shows the estimated 2031 link volumes together with the estimated DMRB link capacities for selected links within the area.



**Figure 11-3 Highways Link Traffic volumes and estimated DMRB capacities**

**Blue:** estimated link capacity

**Green:** AM Peak (left column 2016, Right column 2031)

**Yellow:** PM Peak (left column 2016, Right column 2031)

11.3 This area is Leicester's outer ring road between two key radial routes, the A426 and the A6, into Leicester and crosses the A5199 which is a key radial route into

Leicester. There are service roads on each side of the outer ring road through the housing areas. It is mainly single carriageway with centre hatching from the A6 to the A5199 (Palmerston Way) with a short section of dual carriageway on the approach to the A5199 junction. There are two toucan crossings near the entrances to Knighton Park, one on the Knighton Way cycle route.

- 11.4 From the A5199 to the Pork Pie roundabout (Attlee Way) it is two lanes in the westerly direction and a single lane in the easterly direction to the railway bridge (Midland Mainline) at which and up to the Pork Pie roundabout it is single carriageway. There is a signalised junction at Aberdale Road and a roundabout at Windley Road.
- 11.5 From the Pork Pie roundabout to the A426 it is single carriageway to the Sturdee Road junction where it becomes two lanes in each direction at the A426 junction. There are three priority T junctions, at Paisley Road, Aylestone Drive and Sturdee Road, along this section giving access to residential areas. There is a pelican crossing adjacent to each of these junctions. Traffic, including buses, has difficulty in exiting the residential areas at these junctions due to the volume of traffic on the outer ring road.
- 11.6 Traffic from the six developments within this study do not make a major contribution to traffic on the Outer Ring Road. Traffic is primarily associated with the Oadby North and Scraftoft development that is accessing the west of the city.
- 11.7 The A563 outer ring road/A5199 junction Circle A Figure 11-1 is predicted to be severely stressed in both AM and PM. The junction is a large signalised four-arm junction. All four arms have separate right turn lanes and there are separate left turn lanes onto and off the A563 to the A5199. There is land available (highway or city council owned) on the south side of the A563 west of the junction such that the two exit lanes could be extended towards the Aberdale Road/A563 junction which would help improve the capacity of the junction. This junction is on the "SCOOTED" A5199 route.
- 11.8 The A563 outer ring road/Aberdale Road junction Circle B Figure 11-1 is predicted to be severely stressed in both AM and PM. The junction is a signalised four-arm junction complicated by the presence of service roads close to and in parallel to the A563. There is a large amount of land (highway and/or council owned) available between the A5199 and the railway bridge. There is the opportunity to investigate

making the junction a signalised T junction by closing off the link to Shackdale Road. Shackdale Road could exit directly onto the A563 close to the Aberdale public house. Creation of two signalised T junctions is likely to improve the performance and safety of this section of the outer ring road. With suitable re-alignment left separate left and/or right turn lanes could be provided at these junctions if required.

- 11.9 The A563/Windley Road roundabout junction Circle C Figure 11-1 is predicted to be severely stressed in AM and stressed in PM. There is the opportunity to signalise this roundabout to improve operation.
- 11.10 The “Pork Pie” roundabout Circle D Figure 11-1 is predicted to be severely stressed in both AM and PM. This is a five-arm roundabout junction with three of the arms signalised. It is one of the most complicated and well used junctions on Leicester’s highway network. There is land available on Glenhills Way to extend the two lanes exit from the roundabout towards the A426 Lutterworth Road. Similarly, there is land available on Attlee Way to extend the two lanes exit from the roundabout towards the A5199. Carrying out one or both of these improvements would improve the operation of the roundabout. There has in the past been proposals to provide two lanes in each direction of the A563 between the Pork Pie roundabout and Lutterworth Road but the proposals didn’t progress beyond the consultation stage and a smaller scheme, focussing on improving the Pork Pie roundabout were carried out.
- 11.11 The A563/Paisley Road junction Circle E Figure 11-1 is predicted to be severely stressed in both AM and PM. The junction is currently a simple priority T junction with a pelican crossing on the A563 adjacent to the junction. There is the opportunity to improve this junction, through signalisation and carriageway widening if required.
- 11.12 The A563/Aylestone Drive junction Circle F Figure 11-1 is predicted to be severely stressed in both AM and PM. The junction is currently a simple priority T junction with a pelican crossing on the A563 adjacent to the junction. There is the opportunity to improve this junction, through signalisation and carriageway widening if required.
- 11.13 The A563/Sturdee Road junction Circle G Figure 11-1 is predicted to be severely stressed in both AM and PM. The junction is currently a simple priority T junction

onto one side of the A563 (the A563 being two lanes in each direction at this location). There is the opportunity to improve this junction through signalisation and carriageway widening if required.

- 11.14 There is the opportunity to consider the section of the A563 between the Pork Pie roundabout and the A426, including the three junctions above, with a view to adding an additional lane in each direction along with signalising the junctions to improve this section of the outer ring road.
- 11.15 The A563/ A426 junction Circle H Figure 11-1 is predicted to be severely stressed in both AM and PM. The junction is probably the most strategically important junction on Leicester's highway network due to its geographical location. The junction has been improved in the past but further improvements appear to be very limited particularly as Soar Valley Way is built on an embankment and is bounded by retaining walls. The junction benefits from MOVA which is an intelligent operating facility to help optimise the operation of the junction. The junction traffic signal control cannot be linked to the Middleton Street/A426/Wigston Lane junction, which is the next junction in towards Leicester City Centre, due to the complexity of the Middleton Street/A426/Wigston Lane junction. Hence this junction is considered to be a significant constraint.
- 11.16 The junction is an accident cluster site being number 26 on the accident cluster site list however the junction was improved in 2013/14 and hence is being monitored with regards to improvement in performance in road safety terms.
- 11.17 To help assess the capacity of the highway network links on the A563 outer ring road we have considered four links; on Palmerston Way near Knighton Park, on Asquith Way near the railway bridge, on Attlee Way near Uplands Road and on Glenhills Way near Pasley Road. The maximum predicted traffic flow on the Palmerston Way link is 959pcu in PM 2031 westbound (2016 is 880pcu, estimated capacity is 1260pcu). The maximum predicted traffic flow on the Asquith Way link is 1427pcu PM eastbound (2016 is 1207pcu, estimated capacity is 1470pcu). The maximum predicted traffic flow on the Attlee Way link is 970pcu in AM 2031 westbound (2016 is 875pcu, estimated capacity is 1470 pcu). The maximum predicted traffic flow on the Glenhills Way link is 1643pcu in AM 2031 westbound (2016 is 1483pcu, estimated capacity is 1470pcu). Our assessment indicates that the predicted flow on the A563 outer ring road is over or near to the capacity along

most of the length between the A5199 and the A426 in one direction, except for Attlee Way.

- 11.18 Our conclusions of the highway assessment in this area is that predicted flows exceed or are close to the junction and/or link capacity in one direction of the A563 Outer Ring Road (except Attlee Way) between and including the A5199 and A426 junctions. However, the flows from the developments are not having a material impact in this Area when considering the overall predicted traffic volumes.
- 11.19 There are significant areas of highway land along the A563 Outer Ring Road corridor that could be used to enhance the capacity of the route. There is the opportunity to investigate the re-design and operation of the Aberdale Road, Asquith Boulevard, Shackerdale Road junction with the outer ring road where two separate signalised T junctions may prove beneficial. This possibility could be considered alongside suggestions in the Wigston Area (Area 4) section of this report.
- 11.20 ***It is recommended that due to traffic generated by the developments having little impact on the Outer Ring Road that any issues arising due to the predicted growth in general traffic are considered by the Local Highway Authorities in due course.***

# 12 Highway Network Area 8

## A5199 – from A563 to Victoria Park Road.

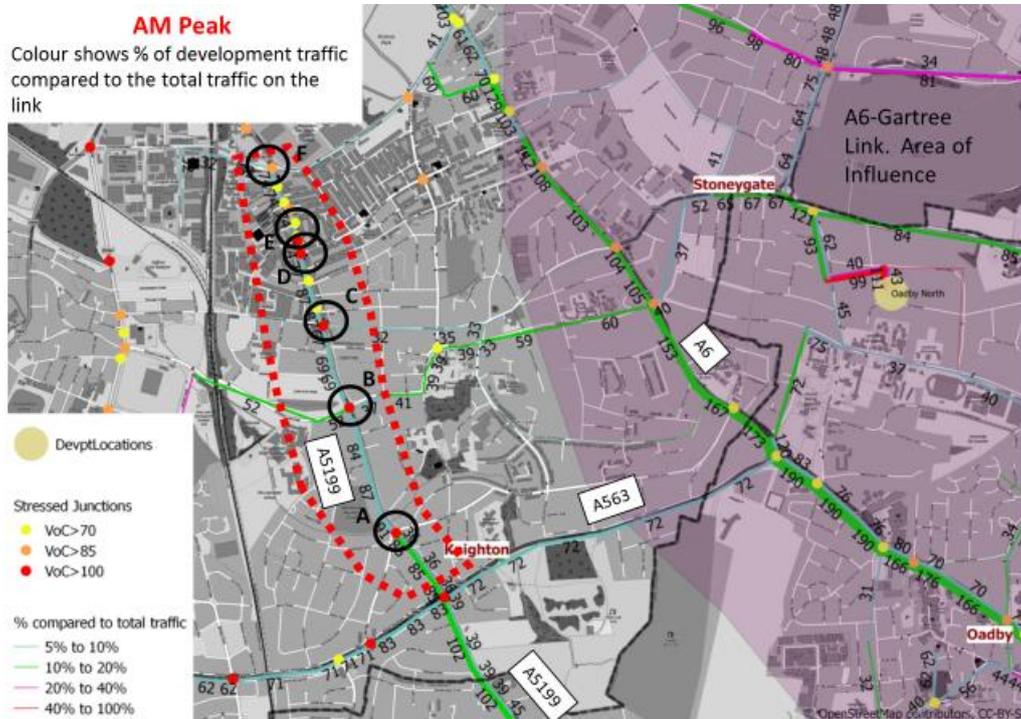


Figure 12-1: Traffic accessing the development locations in the Morning Peak Hour

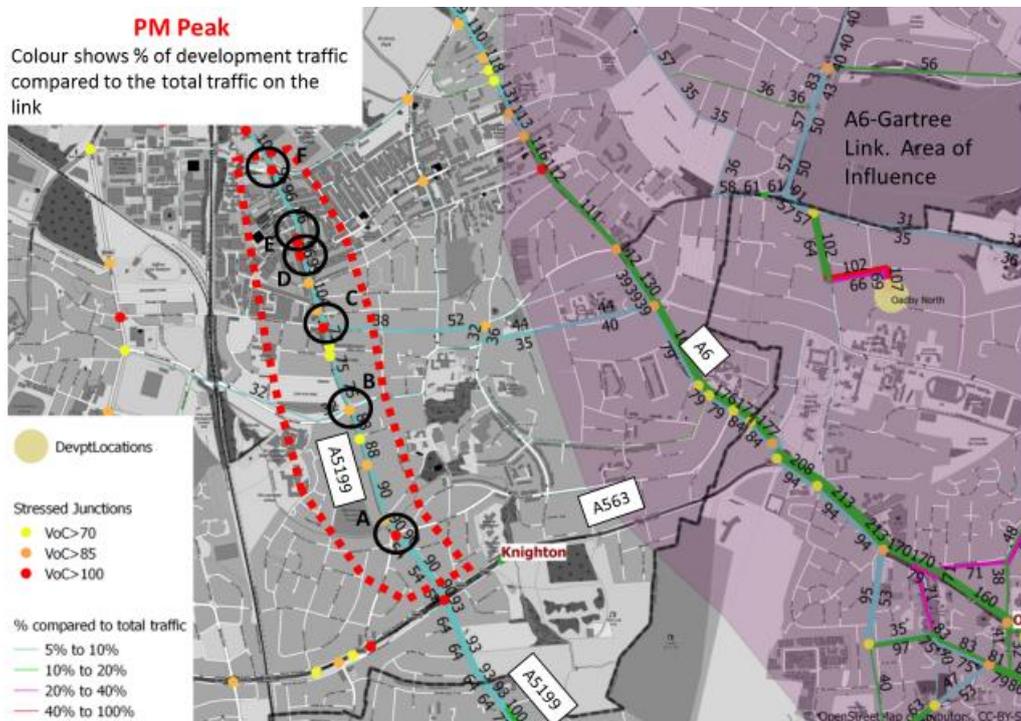
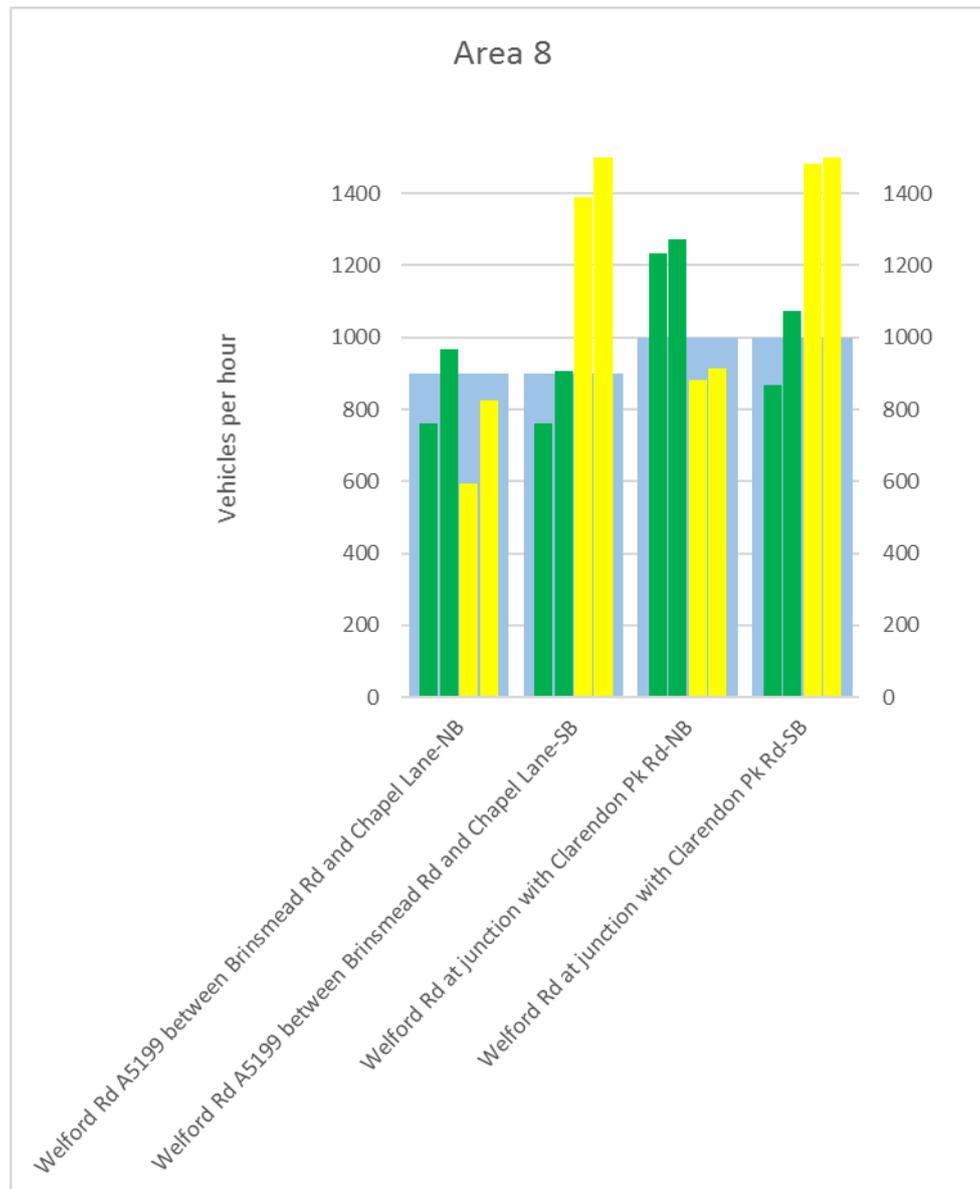


Figure 12-2: Traffic accessing the development locations in the Evening Peak Hour

- 12.1 The maps Figure 12-1 and Figure 12-2 show the total forecast traffic levels accessing the 6 development locations within the study in the morning and evening peak hour. The colour denotes the proportion of this development traffic relative to the total traffic level in 2031 on each link. The red dashed line shows the extent of Area 8.
- 12.2 Figure 12-3 shows the estimated 2031 link volumes together with the estimated DMRB link capacities for selected links within the area.



**Figure 12-3 Highways Link Traffic volumes and estimated DMRB capacities**

**Blue:** estimated link capacity

**Green:** AM Peak (left column 2016, Right column 2031)

**Yellow:** PM Peak (left column 2016, Right column 2031)

- 12.3 This area is one of the key radial routes into Leicester through residential suburbs and a “village centre with shops and restaurants”. The route consists of single carriageway two lanes in each direction and single carriageway, between the A563 and Overdale Road, consisting of two lanes in bound and a wide lane outbound which sometimes has two lanes of traffic. (The city council is currently (August 2017) constructing a scheme to reduce to a single outbound lane for road safety reasons, between Overdale Road and Chapel Lane) There is dual carriageway and two-way single carriageway between Chapel Lane and Victoria Park Road. There are lengths of bus lanes both inbound and outbound along the route. The A5199 from Newton Lane/Moat Street to the city centre benefits from the SCOOT traffic optimisation facility (traffic signal junctions are linked).
- 12.4 Traffic within this area is primarily associated with radial traffic to/from the city along the A5199 associated with the development at Wigston and Fleckney.
- 12.5 There is scope to install additional lengths of bus lane on existing carriageway on the outbound approach to the A563 outer ring road and to strip widen on sections such as that between University Road and Victoria Park Road and Chapel Lane and Aberdale Road.
- 12.6 The A5199/Overdale Road junction Circle A Figure 12-1 is predicted to be severely stressed in both AM and PM. This is currently a four-arm signal controlled junction with the separate right turns into Overdale Road and Aberdale Road. There appears to be limited opportunities here to cater for additional traffic going straight ahead on the A5199 in each direction and turning right into Aberdale Road outbound. There is highway land available to the north east of the junction in front of the Brookview Dental Practice that could be used for a left turn lane into Overdale Road and the left turn lane into Aberdale Road could be extended but this would involve removing two or more mature highway trees.
- 12.7 The A5199/Chapel Lane junction Circle B Figure 12-1 is predicted to be severely stressed in both AM and PM. The junction is an accident cluster site location and options to improve the junction have been drawn up in the past but not progressed as low value for money/low priority. There is highway and private land available at the junction to make improvements such as a left turn lane from Knighton Lane East

into the A5199. Green filter for traffic turning right into Welford Road from Knighton Lane East would benefit from a green filter.

- 12.8 The A5199/Knighton Fields Road East junction Circle C Figure 12-1 is predicted to be severely stressed in both AM and PM. This a staggered crossroads, unsignalised with bus lanes both inbound and outbound each side of the junction. The Local Highway Authority is unlikely to want to improve this junction, such as by introducing signal control, as this would impede the through flow on the A5199. There is rat-running along roads parallel and perpendicular to Welford Road, to avoid the Chapel Lane/Welford Road junction and this would most likely increase if the Welford Road/Knighton Fields Road East junction was improved.
- 12.9 The A5199/Clarendon Park Road junction Circle D Figure 12-1 is predicted to be severely stressed in both AM and PM. This a priority T junction, with bus lanes both inbound and outbound each side of the junction. The Local Highway Authority is unlikely to want to improve this junction, such as by introducing signal control, as this would impede the through flow on the A5199.
- 12.10 The A5199/Oakland Road junction Circle E Figure 12-1 is predicted to be severely stressed in both AM and PM. This a priority T junction, with bus lanes both inbound and outbound each side of the junction. The Local Highway Authority is unlikely to want to improve this junction, such as by introducing signal control, as this would impede the through flow on the A5199.
- 12.11 The A5199/Victoria Park Road junction Circle F Figure 12-1 is predicted to be stressed in AM and severely stressed in PM. This is a four-arm signalised junction with several separate turning movements. The city council have aspirations to improve this junction as part of a scheme to open up the Putney Road link between the A5199 and the A426. There is highway land available on the east side of Welford Road and north side of Victoria Park Road in front of the Queen Elizabeth 1 and Wyygoston College where a further separate left turn lane into Victoria Park Road could be provided thus allowing two turn lanes into Victoria Park Road. There is also lane available (private land) on the west side of Welford Road and south side of Putney Road that could be used for a second left turn lane into Putney Road thus helping to reduce queuing inbound on the approach to the junction.
- 12.12 It is worthy of note in this report that the University of Leicester has aspirations to see University Road to be closed to through traffic, but have buses and cyclists

allowed, to enhance the campus. It is understood that the city council is generally in support of these aspirations but assessment of the proposals is required.

- 12.13 To help assess the capacity of the highway network links on the A5199 we have considered two links; one between Brinsmead Road and Chapel Lane and the other near Clarendon Park Road. The maximum predicted traffic flow on the first link is 1509pcu in PM 2031 southbound (2016 is 1388pcu, estimated capacity is 900pcu). The maximum predicted traffic flow on the second link is 1602pcu in PM 2031 southbound (2016 is 1481pcu, estimated capacity is 1000pcu). Our assessment indicates that the flow on the A5199 is predicted to be over the capacity between the A563 and Victoria Park Road hence it is suggested that further consideration is given to this issue in due course.
- 12.14 Our conclusions of the highway assessment in this area is that many junctions along the A5199 are predicted to be severely stressed and that there are some opportunities to improve some of the junctions. Note the A5199/Carlton Drive junction in Area 4 is predicted to be stressed in the AM and PM. Flows on the A5199 from the junction with the A563 Outer Ring Road to Victoria Park Road are generally predicted to exceed link capacity. However, the flows from the developments are not having a material impact in this Area when considering the overall predicted traffic volumes.
- 12.15 The modus operandi of the Area Traffic Control Network Management is to keep traffic on the A5199 moving and refrain from encouraging side road movements where appropriate. There is scope to install additional lengths of bus lane on existing carriageway on the outbound approach to the A563 Outer Ring Road and to strip widen on sections such as that between University Road and Victoria Park Road and Chapel Lane and Aberdale Road.
- 12.16 The strategy for this corridor in terms of catering for increased flows is likely to be to encourage more trips by bus through further bus priority improvements and demand management measures, walking and cycling.
- 12.17 ***It is recommended that as traffic generated by the developments has little impact on the A5199 that any issues arising due to the predicted growth in general traffic on this route are considered by the Local Highway Authorities in due course.***

## 13 Highway Network Area 9

Gartree Road from Great Stretton, Stoughton Road to the A6, Stoughton Drive South, Stoughton Road (Gartree Road to the A6), Manor Road.

Spencefield Lane B667 (south of the A47) into Evington Lane into Evington Road to A6, Church Road, Shady Lane, Stoughton Lane, Thurnby Lane, Stoughton Road through to Thurnby. Church Lane and Gaulby Lane in Stoughton

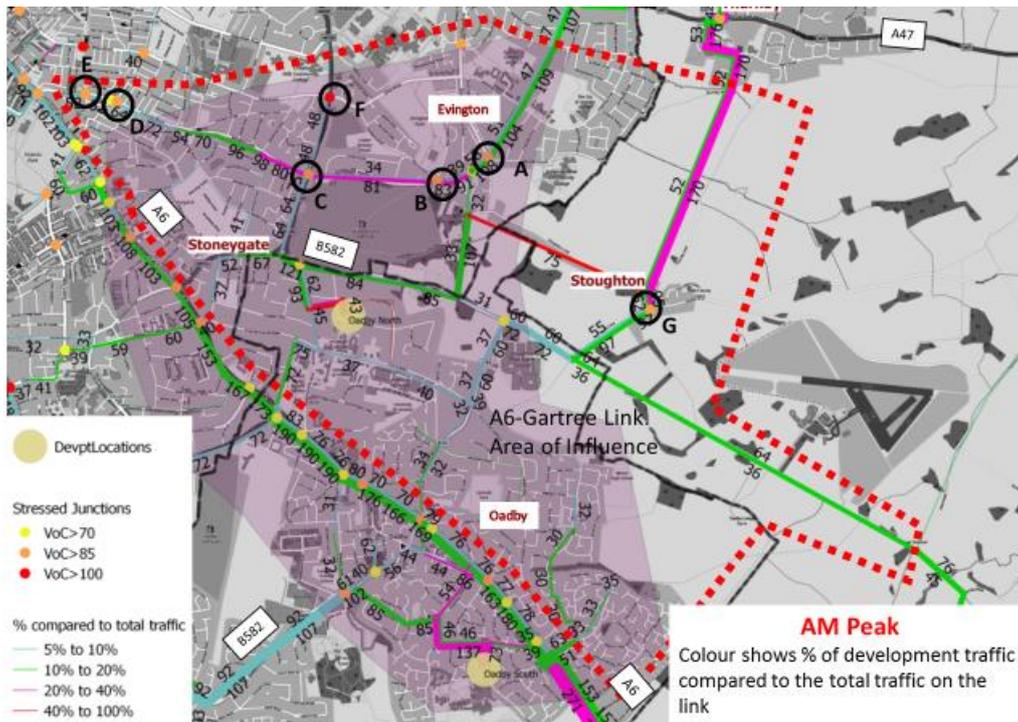
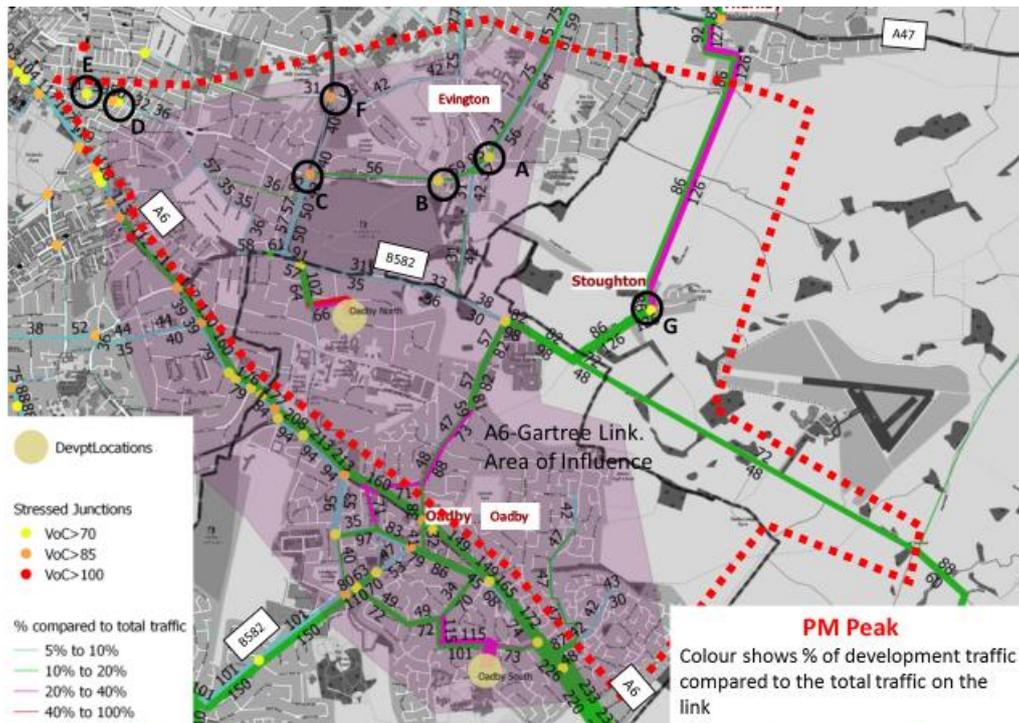
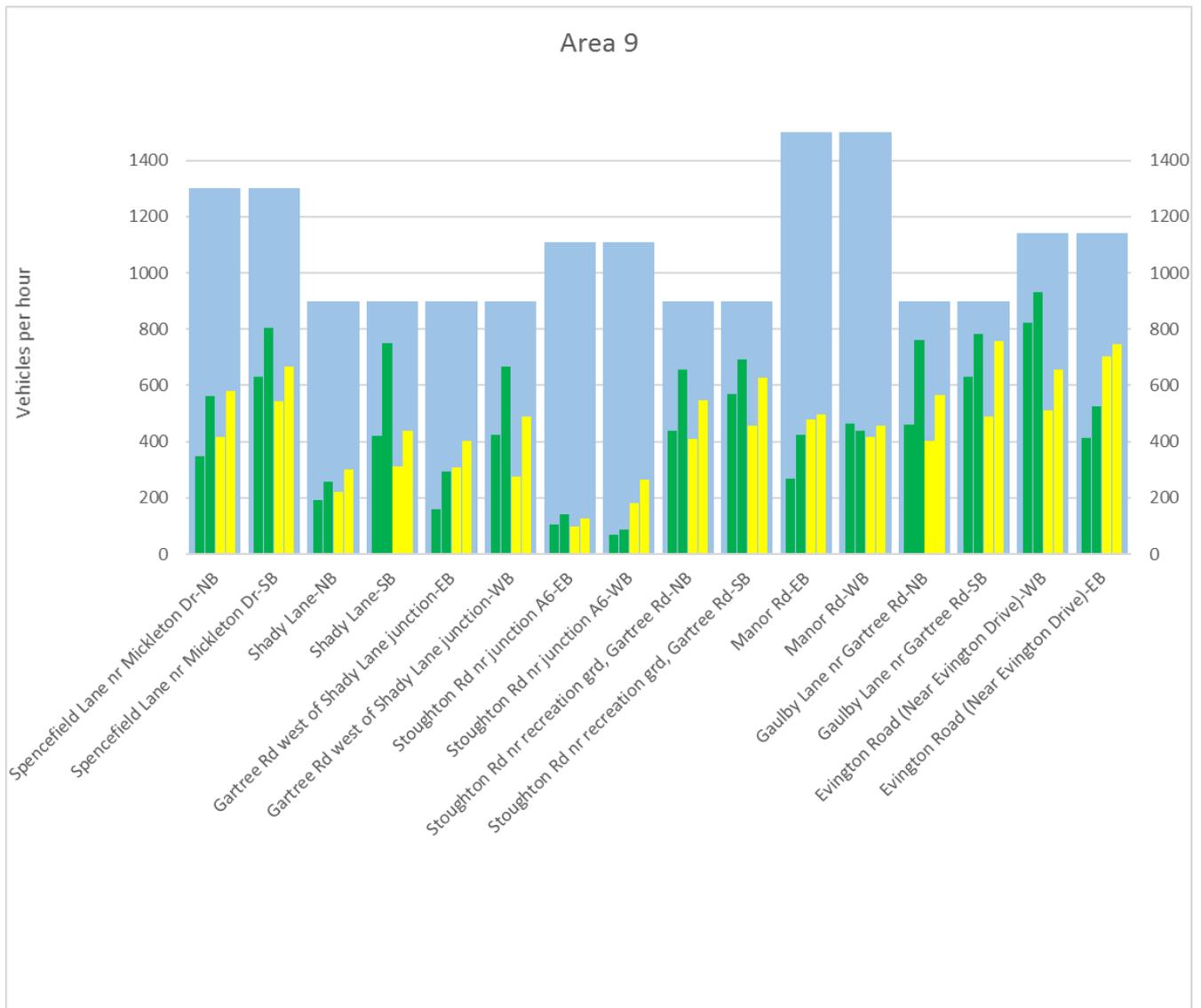


Figure 13-1: Traffic accessing the development locations in the Morning Peak Hour



**Figure 13-2: Traffic accessing the development locations in the Morning Peak Hour**

- 13.1 The maps Figure 13-1 and Figure 13-2 show the total forecast traffic levels accessing the 6 development locations within the study in the morning and evening peak hour. The colour denotes the proportion of this development traffic relative to the total traffic level in 2031 on each link. The red dashed line shows the extent of Area 9.
- 13.2 Figure 13-3 shows the estimated 2031 link volumes together with the estimated DMRB link capacities for selected links within the area.



**Figure 13-3: Highways Link Traffic volumes and estimated DMRB capacities**

**Blue:** estimated link capacity

**Green:** AM Peak (left column 2016, Right column 2031)

**Yellow:** PM Peak (left column 2016, Right column 2031)

13.3 The Oadby North development is modelled as joining where The Broadway joins Stoughton Drive South. Gartree Road is currently a very busy route as it forms an attractive alternative route for traffic from surrounding villages to avoid using London Road. Traffic is predominantly associated with the development at Scraftoft, however there is a smaller proportion of traffic from the Oadby North area

- 13.4 Results of the A6-Gartree Road Link study suggest that there would be reductions in traffic levels on Stoughton Road, Stoughton Drive South, Manor Road and Gartree Road but increases on Shady Lane and Spencefield Lane.
- 13.5 The city council is currently (August 2017) preparing plans for road safety improvements at St Paul's Catholic School on Spencefield Lane between the A47 and Downing Drive.
- 13.6 The Spencefield Lane/ Goodwood Road/Marydene Drive junction Circle A Figure 13-1 is predicted to be stressed in AM and VoC 70+ in PM. This is a four-arm signalised junction with some separate turning lanes. The junction is close to a large secondary school. There is highway land available on the north side of Spencefield Lane that could be used to create a separate left turn lane into Goodwood Road. There is also highway land available on the south side of Spencefield Lane that could be used to create a separate left turn lane into Marydene Drive from Spencefield Lane.
- 13.7 The Evington Lane/The Common/Main Street junction Circle B Figure 13-1 is predicted to be stressed in AM and VoC 70%+ in PM. This is a signalised T junction in Evington Village. It is a "busy" junction with a side road, Cordery Road, joining The Common close to the junction, a bus stop close by on Main Street and an entrance to a car park opposite The Common at the junction. The Common leads to local schools. There is a wide footway and land, most likely to be in the ownership of the city council, in front of the library on Evington Lane and The Common that could be used for a separate left turn lane into The Common. There is also a wide footway on Evington Lane in front of the shops part of which may be able to be used to create a new straight-ahead lane allowing a separate right turn into The Common to be created. This proposal may lead to the loss of some shopper car parking in front of the shops. There was a separate right turn into the Common but it was removed some time ago to allow a bus stop to be provided on the exit from the junction into Evington village.
- 13.8 The junction of Evington Lane and Wakerley Road Circle C Figure 13-1 is predicted to be stressed in both AM and PM. This is a four-arm signalised junction with some separate turning lanes. There is some land available on Wakerley for widening but the footways are narrow on Evington Lane leaving little scope for enhancement on Evington Lane.

- 13.9 The junction of Evington Road and East Park Road Circle D Figure 13-1 is predicted to be stressed in the AM and VoC70%+ in the PM. The junction is a signalised T junction is a busy retail area with very little, if any, scope for improvements.
- 13.10 The junction of Evington Road and St Stephens Road Circle E Figure 13-1 is predicted to be stressed in the AM and VoC70%+ in the PM. The junction is a simple priority T junction but is constrained in terms of space available for improvements.
- 13.11 The junction of Ethel Road and Wakerley Road Circle F Figure 13-1 is predicted to be severely stressed in AM and stressed in PM. The junction is a four arm signalised junction with some separate turning lanes. There is a considerable amount of highway land available on three of the four sides of the junction which could be used for improvements.
- 13.12 The junction of Church Lane and Gaulby Lane Circle G Figure 13-1 in Stoughton is predicted to be stressed in AM and VoC 70%+ in PM. However, due to the rural nature of the route through and in Stoughton it is likely that the county council Highway Authority will want to see development traffic discouraged from using this route, hence further traffic calming should be considered.
- 13.13 To help assess the capacity of the highway network links in this area we have considered several links ie on Spencefield Lane, Shady Lane, Gartree Road west of Shady Lane, Stoughton Road joining the A6, Stoughton Road joining Gartree Road, Manor Road, Gaulby Lane near Gartree Road and Evington Road near Evington Drive. The maximum predicted traffic flow on the Spencefield Lane link is 805pcu in AM 2031 southbound (2016 is 632pcu, estimated capacity is 1300pcu). The maximum predicted traffic flow on the Shady Lane link is 749 in AM 2031 southbound (2016 is 420pcu, estimated capacity is 900 pcu). The maximum predicted traffic flow on the Gartree Road west of Shady Lane link is 668pcu in AM 2031 westbound (2016 is 423pcu, estimated capacity is 900pcu). The maximum predicted traffic flow on the Stoughton Road joining the A6 link is 265pcu in PM 2031 westbound (2016 is 180pcu, estimated capacity is 1110pcu). The maximum predicted traffic flow on the Stoughton Road joining Gartree Road link is 693pcu in AM 2031 southbound (2016 is 567pcu, estimated capacity is 900pcu). The maximum predicted traffic flow on the Manor Road link is 496pcu in PM eastbound

(2016 is 478pcu, estimated capacity is 1530pcu). The maximum predicted traffic flow on Gaulby Lane near Gartree Road link is 760pcu in AM northbound (2016 is 460pcu, estimated capacity is 900pcu). The maximum predicted traffic flow on Evington Road is 930pcu in AM westbound (2016 is 824pcu, estimated capacity is 1140pcu). For this area of the network our assessment indicates that predicted flows can generally be accommodated on the links in the network.

- 13.14 Our conclusions of the highway assessment in this area is that mitigation measures are likely to be required for the highway network to accommodate the predicted growth to 2031.
- 13.15 Spencefield Lane/ Goodwood Road/Marydene Drive junction is predicted to be stressed but there are opportunities to improve capacity. The Evington Lane/The Common/Main Street junction is predicted to be stressed and whilst there is some land available for improving this junction it would be difficult without causing a detrimental impact on other aspects of the village operation.
- 13.16 The junction of Evington Lane and Wakerley Road is predicted to be stressed. There is some land available on Wakerley for widening but the footways are narrow on Evington Lane leaving little scope for enhancement on Evington Lane.
- 13.17 The junction of Evington Road and East Park Road is predicted to be stressed. There is very little, if any, scope for improvements. The junction of Evington Road and St Stephens Road is predicted to be stressed. The junction is a simple priority T junction but is constrained in terms of space available for improvements.
- 13.18 The junction of Ethel Road and Wakerley Road is predicted to be severely stressed. There is a considerable amount of highway land available on three of the four sides of the junction which could be used for improvements.
- 13.19 The junction of Church Lane and Gaulby Lane in Stoughton is predicted to be stressed. However, due to the rural nature of the route through and in Stoughton it is likely that the county council Local Highway Authority and Local Planning Authority would not want to see additional traffic on this part of the highway network.
- 13.20 For this area of the network our assessment indicates that predicted flows can be readily accommodated on the links in the network.
- 13.21 ***It is recommended that development traffic should be encouraged to use the classified road network and hence that mitigation is considered to facilitate***

***this for the Spencefield Lane/ Goodwood Road/Marydene Drive junction,  
Evington Lane/The Common/Main Street junction, Evington Lane/Wakerley  
Road junction and also the Ethel Road/Wakerley Road junction.***

## 14 Highway Network Area 10

**Scraptoft Lane, Station Road, Station Lane, Hamilton Lane, Dakyn Road, Nursery Road, Wicklow Drive, Ocean Road, Elmscroft Avenue, Colchester Road, Hungarton Boulevard.**

14.1 This area is considered out of scope as impact is predominantly from one development only (Scraptoft), impact of development traffic will be considered in the development Transport Assessment.

**14.2 It is recommended that mitigation measures are considered for the A47 as part of the Scraptoft development transport assessment work and that a sustainable accessibility strategy is included in this work.**

## 15 Overall Conclusion

15.1 Based on the work undertaken utilising LLITM traffic modelling and latest housing numbers we believe that the proposed growth can be accommodated on the highway network with appropriate mitigation, as identified as deliverable and proportionate through this study. The radial routes into the city are likely to require a combination of strategic policy interventions together with infrastructure improvements including further bus priority measures whereas in the county area there are more opportunities for infrastructure improvements including and sustainable travel modes infrastructure improvements and promotion of “smarter choices” options.

## 16 Mitigation required

16.1 A summary of the likely mitigation improvement schemes is provided in Table 2-1.

**Table 2-1 Mitigation Schemes**

Area	Potential Mitigation Schemes	Estimated Costs(excluding land, service diversions) and Risks	Comments
<b>Area 1</b> From the A6 Kibworth through Kilby to the edge of Countesthorpe and Hospital Lane to Blaby	A5199/Foston Road junction	Up to £300k land on Foston Road may be required	The Leicester Road/Hospital Lane should be reviewed following the recent improvements to optimise the junction, minor improvements may be required.
	Foston Road/Leicester Road junction	Up to £750k Land on Foston Road ownership and possible	

		development adjacent to this junction	
<b>Area 2</b> From Great Glen roundabout on A6 through Newton Harcourt to Newton Lane/A5199 junction (excluding his junction).	Station Road/Newton Lane junction	Up to £300k	It is recommended that the two highway authorities work together to encourage as much additional traffic to use the A6 corridor instead of less suitable local rural parts of the network.
<b>Area 3</b> A5199 from Kilby/Countesthorpe "turns" to junction with Newton Lane.	Covered in the Wigston development Transport Assessment	Not Applicable	Area out of scope of this study
<b>Area 4</b> Wigston town centre - Stonesby Ave/Aylestone Lane B5148, Leicester Road, Wakes Road, and Long Street, Bull Head Street, Moat Street, Station Road, Blaby Road and on the A5199 from Newton Lane to A563.	Some of the following locations, mitigation should be determined to improve the operation of the area as a whole in the context of this areas role as a local centre; Stonesby Avenue/Windley Road junction Stonesby Avenue/Glenbourne Road junction Aylestone Lane/Shackerdale Road junction Aylestone Lane/West Avenue junction Moat Street/Long Street junction Station Road/Pullman Road junction Blaby Road/Landsdowne Grove junction Newton Lane/A5199 junction A5199/Kelmarsh Avenue junction A5199/Carlton Drive junction Wakes Road/A5199 junction (McDonald's roundabout)	£2m to £4m to fund improvements to some of the junctions listed (not including land or utility diversion costs).  Main risks are land acquisition and public utility diversion works.  In particular, the Newton Lane/A5199 junction would have significant public utility apparatus implications and hence costs.	It is recommended that consideration is given to creating a cycling expressway along the A5199 in this area and along the A5199 to Victoria Park Road (and Victoria Park) to help accommodate growth in traffic.  It is recommended that further consideration, by way of a specific transport study, is given to options for routing of traffic in and around Wigston and improving bus, walking and cycling facilities and routes, to maximise the proportion of trips being made by sustainable travel modes and to help increase footfall in the town centre, prior to designing specific infrastructure improvements.
<b>Area 5</b> Oadby Town Centre – London Road, Leicester Road, The Parade, New Street B582, on Rosemead Drive and Briar Walk, Brabazon Road.	B582 Wigston Road/Brabazon Road junction  Wigston Road/London Road mini roundabout junction	£0.5m to £1.5m (not including land or utility diversion costs).  Main risks public utility diversion works	The design of the B582 Wigston Road/Brabazon Road junction improvements should consider the impact of the possible A6 – Gartree Link Road should it be proposed to be constructed
<b>Area 6</b> A6 - from Kibworth to Leicester Railway Station.	Leicester Road/Main Street junction – covered in the Kibworth Transport Assessment	Not Applicable	It is recommended that a route study is commissioned to help develop a strategy, which ensures the A6 corridor operates as efficiently and effectively as possible, to accommodate the predicted growth in traffic generally to 2031 as well as from the

			developments under consideration in this study. This study should take account of, and possibly influence, the Local Highway Authorities' transport policy measures for the city centre and key radial routes, such as a city centre low emission zone and cycling "super highways", which may impact/influence traffic levels on the A6. The study could also investigate bus measures such as park and ride and express bus services, "quiet roads" cycle routes and junction improvements mitigation measures.
<b>Area 7</b> Outer Ring Road A563 - from the A6 to the A426.	None specifically required as a result of developments in Oadby and Wigston and Harborough	Not Applicable	It is recommended that due to traffic generated by the developments having little impact on the A563 Outer Ring Road that any issues arising due to the predicted growth in general traffic are considered by the Local Highway Authorities in due course.
<b>Area 8</b> A5199 – from A563 to Victoria Park Road.	None specifically required as a result of developments in Oadby and Wigston and Harborough	Not Applicable	It is recommended that as traffic generated by the developments has little impact on the A5199 that any issues arising due to the predicted growth in general traffic on this route are considered by the Local Highway Authorities in due course.
<b>Area 9</b> Gartree Road from Great Stretton, Stoughton Road to the A6, Stoughton Drive South, Stoughton Road (Gartree Road to the A6), Manor Road. Spencefield through to Evington Road to A6, Church Road, Shady Lane, Stoughton Lane, Thurnby Lane, Stoughton Road through to Thurnby. Church Lane and Gaulby Lane in Stoughton	Spencefield Lane/ Goodwood Road/Marydene Drive junction  Evington Lane/The Common/Main Street junction  Evington Lane/Wakerley Road junction  Ethel Road/Wakerley Road junction.	£2m to £4m to fund improvements to some of the junctions listed (not including land or utility diversion costs).  Main risks are public utility diversion works.	Due to the rural nature of the route through and in Stoughton it is suggested that development traffic should be discouraged from using the area.
<b>Area 10</b> Scraptoft Lane, Station Road, Station Lane, Hamilton Lane, Dakyn Road, Nursery Road, Wicklow Drive, Ocean Road, Elmscroft Avenue, Colchester Road, Hungarton Boulevard.	Covered in the Scraptoft development Transport Assessment	Not Applicable	Area out of scope of this study

