

Transport Overview Comparison of Potential 'Direction of Growth' Development at Oadby or Wigston

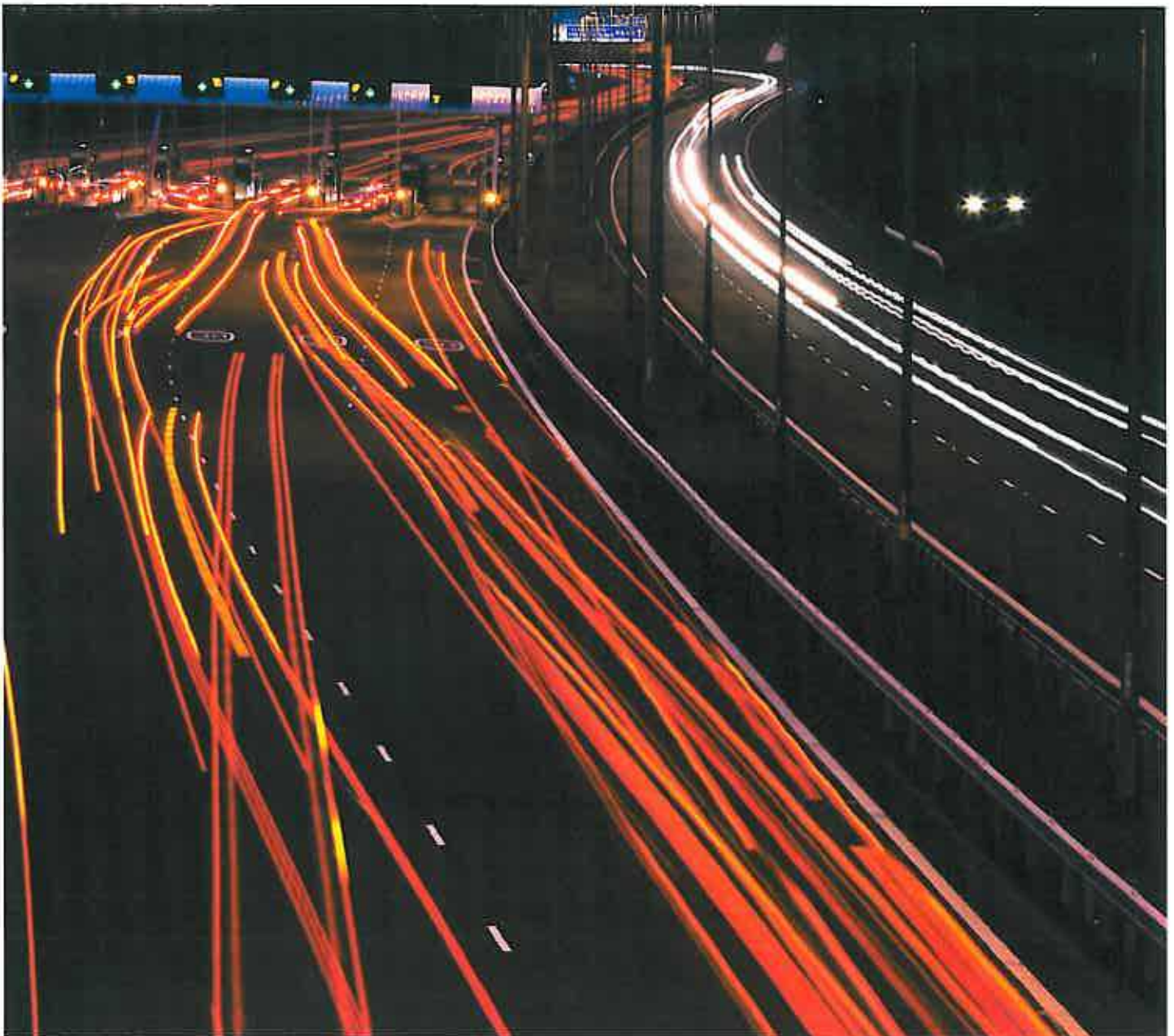


Table of Contents

1	Introduction	2
2	Consideration of Publication Draft and Arup Report.....	4
3	Wigston 'Direction of Growth' – Transport Overview	11
4	Transport Comparison of Potential 'Direction of Growth' at Oadby and Wigston	21
5	Summary and Conclusion	25
	Drawings	28
	Appendices	40
	Appendix A – Oadby 'Transport Overview', November 2009.....	42
	Appendix B – LCC Meeting Notes	44
	Appendix C – TRICS Outputs	46
	Appendix D – Wigston Census Data	48
	Appendix E – Wigston Traffic Survey Data	50
	Appendix F – Qualitative Comparison 'Transport'	52
	Appendix G – Qualitative Comparison 'Potential Access Strategy'	54

Capabilities on project:
Transportation

1 Introduction

1.1 Introduction

The 'Core Strategy Publication Draft Proposed Submission Document', was published by Oadby and Wigston District Council (OWDC) in October 2009. The OWDC Publication Draft promotes a 'direction of Growth' on land between Newton Lane and Welford Road to the south of Wigston, rather than on land at Cottage Farm, Oadby. The OWDC Publication Draft justifies development of a 'direction of growth' at Wigston, rather than at Oadby, on a number of grounds, including some relating to transport.

However, AECOMs clients, Bloor Homes Ltd and Wheatcroft & Son Ltd, wish to see the land at Cottage Farm, Oadby designated for development, rather than the land at Wigston. Accordingly, AECOM has been appointed by Bloor Homes Ltd and Wheatcroft & Son Ltd to undertake a transport comparison of both potential 'directions of growth' for residential development. This report considers the relative transport merits of development at the two competing sites.

It should be noted that a Transport Overview report for the proposed residential development on land at Cottage Farm, Oadby has been produced by AECOM (report dated November 2009) in support of the 'direction of growth', which should be viewed in conjunction with this report. For ease of reference, the Oadby Transport Overview report is included as **Appendix A** to this report.

This 'Transport Overview Comparison' report includes a transport overview of the 'direction of growth' at Wigston, undertaken to a similar level of detail as that provided for Oadby (see report in **Appendix A**), in order to enable the qualitative comparison of the two sites in transport terms set out in this report.

It should be noted that Arup prepared a 'Local Development Framework Evidence Base – Assessment of Highways and Transportation Implications' report, dated May 2009, on behalf of OWDC and Harborough District Council to consider development across both districts in transport terms. The Arup report forms the transport evidence base adopted by OWDC in selecting a 'direction of growth' at Wigston rather than at Oadby. Accordingly, this report includes a review, and comment on, the Arup report as it relates to the directions of growth at Oadby and at Wigston, as well as a review of the transport elements of the OWDC Publication Draft.

A meeting was held with Leicestershire County Council (LCC) on 4th November 2009 to understand LCC's views on the relative merits of 'direction of growth' at Oadby or Wigston in light of the Arup report. The meeting notes can be viewed in **Appendix B**.

It is intended that this report be submitted on behalf of Bloor Homes Ltd and Wheatcroft & Son Ltd in response to the OWDC Publication Draft, to support the designation of a 'direction of growth' at Oadby, rather than Wigston.

1.2 Report Structure

Following this introduction, the report is structured as follows:

- **Chapter 2** reviews the main transport elements relating to the 'directions of growth' at Oadby and Wigston in the OWDC 'Core Strategy Publication Draft Proposed Submission Document, October 2009' and the Arup 'Local Development Framework Evidence Base, May 2009' report.
- **Chapter 3** sets out a Transport Overview of the potential 'direction of growth' on land between Newton Lane and Welford Road, Wigston.
- **Chapter 4** sets out a qualitative comparison of the sustainable transport links and access strategies to both potential 'directions of growth' at Oadby and Wigston.
- **Chapter 5** summarises and concludes the report.

Capabilities on project:
Transportation

2 Consideration of Publication Draft and Arup Report

2.1 Introduction

This chapter sets out a summary, and AECOM's comments on, the main transport elements relating to the 'directions of growth' at Oadby and Wigston set out in the OWDC 'Core Strategy Publication Draft Proposed Submission Document, October 2009' and the Arup 'Local Development Framework Evidence Base – Assessment of Highways and Transportation Implications, May 2009' report.

This chapter is structured as follows:

- Section 2.2 sets out a summary of the relevant transport elements of the OWDC Publication Draft, October 2009.
- Section 2.3 sets out a summary of the relevant elements of the Arup report, May 2009.
- Section 2.4 sets out AECOM's interpretation and comments relating to the above documents as they relate to the 'directions of growth' in transport terms.

2.2 Summary of OWDC 'Core Strategy Publication Draft Proposed Submission Document', October 2009

This Publication Draft sets out the vision, spatial objectives and planning strategy for the borough up to 2026. The document has been reviewed by AECOM with regards to its transport elements in relation to the 'direction of growth' at Oadby and Wigston, and the relevant elements are summarised below.

The Publication Draft provides a review of accessibility and public transport services in Oadby and Wigston; this can be summarised as follows:

- Accessibility considered as being relatively poor, with limited bus services between South Wigston, Wigston and Oadby. Services to Leicester are relatively frequent and would benefit from improvements to service quality and interchange facilities.
- Access to the Leicester to Birmingham railway line via South Wigston Station, the line separates Wigston and South Wigston.
- Pressure for continued development of transport systems to alleviate current infrastructure issues, principally congestion and accessibility.

The document states that a 'direction for growth' to the south east of Wigston best fits the vision and objectives for the Borough of Oadby and Wigston. The document states that an assessment of highways and transportation identifies the south east of Wigston as having the potential to accommodate growth without significant negative impacts on the wider highway network.

The Publication Draft does not consider any benefits of the potential 'direction of growth' at Oadby; however it indicates that the benefits of providing the 'direction of growth' to the south east of Wigston in transport terms are as follows:

- Improvement to existing bus priority provision.
- Direct access to University, Hospital, major education facilities and employment.
- Direct links to Wigston Town Centre (local facilities). Reduces the need to travel as the Welford Road corridor is within comfortable walking and cycling distance of Wigston Town Centre.
- South Wigston railway station is in relatively close proximity, readily accessible by cycle.
- Additional traffic on Welford Road corridor does not impact upon existing air quality issues on London Road/A6 corridor although some impact on the 'Welford Road Air Quality Management Area' would be generated.

Capabilities on project:
Transportation

- Any development which produces significant new traffic generation onto Newton Lane would likely need to improve Newton Lane/Welford Road junction (limited scope for improvements). Therefore development with direct linkage to Welford Road would be advantageous.
- South east of Wigston would be closer to the state of the art facilities at the new South Leicestershire College in South Wigston from 2010.
- Infrastructure requirements can be established as part of regeneration and growth for Wigston Town Centre as well as the 'Direction for Growth'.
- Within easy walking distance of Kilby Bridge (relates to Strategic Objective of enhancing access to and understanding of the Grand Union Canal).
- Within easy walking distance of Special Scientific Interest and Barn Pool Meadow Local Wildlife Site.
- Reduce pressure on the A6.
- Wigston Town Centre Masterplan incorporates a proposal for a public transport interchange on Bull Head Street, will provide a transport interchange between Wigston Town Centre, an east west bus route to South Wigston and Oadby and a north bus route between the 'direction of growth' and Leicester.

2.3 Summary of Arup 'Local Development Framework Evidence Base – Assessment of Highways and Transport Implications', May 2009

The Arup report was produced to help inform the respective Local Development Frameworks (LDFs) for Oadby & Wigston Borough Council and Harborough District Council.

The document states that there are allocation opportunities for 'directions of growth' primarily off Welford Road and Newton Lane in Wigston and to the west of the A6 in Oadby.

A summary of the modelling strategy adopted by Arup is set out below:

- Potential impact of vehicular traffic from various development sites (including the 'directions of growth' at Oadby and Wigston) has been assessed by using Leicestershire County Council's Central Leicestershire Traffic Model (CLTM) ((model covers the Leicester Principal Urban Area (PUA)), but does not cover all of Harborough District.
- All major potential sites were included with the exception of sites within the scope of separate assessment work being undertaken related to the Pennbury Eco-town proposals. The potential 'direction of growth' developments on land at Cottage Farm, Glen Road, Oadby and land between Newton Lane and Welford Road, Wigston are included in the modelling assessment as mixed use developments.
- The 'East Midlands Regional Plan Proposed Changes, July 2008' was used to inform the total level of development to be assessed across the study area (sets out housing numbers, not employment). Employment was determined from discussions with relevant planning authorities with reference to available employment studies.
- Leicester and Leicestershire HMA Employment Land Study (PACEC, 2008) was used to derive level of employment for Oadby and Wigston Borough.
- Allocation of development to each area of search was undertaken based on the strategic priority and public transport accessibility score of potential sites/development areas.

Capabilities on project:
Transportation

- The following assessment scenarios were modelled for the Oadby and Wigston Borough. Housing units of 143 under 2016 low employment scenario, 593 – 2021 low employment scenario and 1043 in 2026 low/high employment scenario. The high employment scenarios are sensitivity tests and assume larger undeveloped urban fringe sites within Oadby and Wigston are brought forward as mixed use developments incorporating employment uses.
- Focus of study was to identify the impact of additional development as a result of the Regional Plan development levels. As a result, the impact of the relatively small level of development allocation proposed within Oadby and Wigston is small compared to the traffic impact effects which can be expected to occur regardless.
- Based on an inspection of access points it was concluded that the bulk of the traffic from the area of search in Wigston would actually access the network directly on to Welford Road.

The focus of the Arup study was to identify the impact of additional development as a result of the Regional Plan development levels. The study takes 2016 as a starting point for the traffic assessment, as known commitments and developments can be assumed to have been developed. As a result the impact of the small level of development proposed within Oadby and Wigston is small when compared to the traffic impact effects which can be expected to occur regardless.

Following the assessment the following traffic impacts have been noted:

- Largest impact on the A6 (worst case scenario), will be exacerbated to a limited degree by new development.
- The B582 east-west route, where the route crosses the main radial routes to/from the city. The South Leicestershire College influences current traffic operation, delays of ten seconds per vehicle in this area, considered that no significant new development that directly accesses this area should be considered.
- The B5418/A563 'Pork Pie' roundabout and routes to avoid this junction and the Welford Road/A563 by those crossing the outer ring road will also continue to experience congestion and relatively heavy use.
- The West Avenue/Shackerdale Road/Aberdale Road route, usage levels are expected to continue (will not increase significantly due to proposed level of development).
- The B582/A5199 Oadby Road/Bull Head Street roundabout where flow increase of over 5% on several arms in 2026 are predicted. (Mitigation measures not considered significant).
- Junction of London Road/New Street in Oadby Town Centre as traffic routes to A6.
- Capacity issues along Moat Street.

The document states that overall, in the Oadby and Wigston area, whilst it appears unlikely the levels of development tested will cause the operation of junctions to fail, there will inevitably be some adverse impacts in terms of congestion, delay and environmental impact.

The study also sets out the strategy to limit and mitigate transport impacts to Oadby and Wigston. It states that any developments located directly onto Newton Lane would be likely to need to improve Newton Lane/Welford Road junction (limited mitigation opportunity); therefore development with direct linkage to Welford Road would be advantageous for development to the south of Wigston.

The Arup report (pages 49 and 50) sets out the following benefits for a development off Welford Road (Wigston) and the A6 corridor (Oadby) respectively:

Capabilities on project:
Transportation

2.3.1 Development off Welford Road corridor has the following benefits.

- Better existing bus priority provision.
- Direct access to University, hospital, major education facilities and employment opportunities.
- Direct link to Borough's largest centre (Wigston), associated facilities. Urban fringe areas of Welford Road corridor are within comfortable walking and cycling distance of Wigston Town Centre.
- The borough's only rail station is within relatively close proximity and readily accessible by cycle.
- Additional traffic generation on Welford Road corridor does not impact upon existing significant air quality issues on London Road/A6 corridor. However, some impact on the Welford Road AQMA area would be generated.

2.3.2 Development off the A6 corridor would have the following benefits.

- Greater potential to introduce wider transport measures.
- The localised highway impacts of development of the scale required to meet Oadby and Wigston's Regional Plan allocation are likely to be smaller in comparison to development off the Welford Road corridor as the immediate highway network is less constrained. However, the corridor is significantly more constrained closer to the centre, making provision of physical capacity enhancements and bus priority measures harder or without acquisition of third party land.

The document also states that, whether development via the A6 or Welford Road corridor occurs, mitigation works should focus on the following:

- Improving the quality of public transport vehicles.
- Improving frequency of rapid limited stop services which directly serve the town centre, city centre and major attractions.
- Improving public transport interchange facilities at rail stations and in the town centres where opportunities to switch services are greatest.
- Improving bus stop quality and information provision.
- Ensuring that there is a good quality public transport service enabling circulatory movements between the main centres (include Oadby, Wigston, South Wigston town centres, if coordinated in wider PUA to General Hospital and Fosse Park area). Will minimise travel for bus users who travel to city centre to travel back out.

2.4 AECOM's Interpretation and Comments on the OWDC Publication Draft (October 2009) and the Arup Report (May 2009)

Further to the summaries of the two documents set out in the above sections of this report, AECOM makes the following comments.

- The Publication Draft does not consider or make reference to any benefits of the potential 'direction of growth' at Oadby. This could be considered insufficient in some respects, as it does not set out a transport comparison of the two competing 'directions of growth', and hence does not provide the reader with sufficient information to take an informed view.
- Both the Publication Draft and the Arup Report indicate that a benefit of providing a 'direction of growth' to the south east of Wigston is that it will have '*direct access*' to University, Hospital, major education facilities and employment opportunities. It is unclear as to what context '*direct access*' means as the potential 'direction of growth' in Wigston is not within recommended PPG 13 walking or cycling distance of the fore mentioned facilities. It should be noted that Chapter 4 of this report sets out a comparison of access from both 'directions of growth' to a number of key local and city-wide destinations and facilities. This sheds further light on this statement, which is not considered to provide the full picture in terms of accessibility. In fact, as demonstrated in chapter 4 of this report, based on a simple accessibility assessment methodology adopted by AECOM the Oadby site can be considered superior in a number of significant respects.
- The Publication Draft states that the 'direction of growth' to the south east of Wigston will reduce the need to travel as the Welford Road corridor is within comfortable walking and cycling distance of Wigston Town Centre. AECOM considers that this statement should be viewed in light of the fact that it is dependent upon where the walking and cycling distances are

Capabilities on project:
Transportation

measured from and where walking and cycling access points/links to the site are provided. It should also be noted that the 'direction of growth' at Oadby is located at a reasonable distance from a town centre (Oadby).

- AECOM considers that the stated benefit in the Publication Draft that the 'direction of growth' to the south east of Wigston is within easy walking distance of Kilby Bridge, the Special Scientific Interest and Barn Pool Meadow Local Wildlife Site, should not be considered relevant in transport terms, as proximity to these facilities is unlikely to result in a meaningful change in overall travel modes of journeys to/from the site.
- AECOM considers that the Arup report is unclear as to the mechanism of the housing projections adopted for the Borough of Oadby and Wigston. Accordingly, it is unclear whether the various comments on traffic impact made in the report are relevant to the scales of development which it is proposed to designate as a 'direction of growth' in Oadby and Wigston. The Publication Draft states that locating the 'direction of growth' at Oadby would reduce pressure on the A6 corridor, however the Arup report can be noted to indicate that existing issues along the A6 corridor (on which the Oadby 'direction of growth' is situated) would only be "exacerbated to a limited degree".
- The document states that Wigston 'direction of growth' should be accessed via Welford Road, as an access located directly onto Newton Lane would be likely to need to improve Newton Lane/Welford Road junction (limited mitigation opportunity). Therefore, any potential access will be considered accordingly. As set out in Chapter 3 of this report, whilst it is considered that on balance a suitable access junction to the Wigston 'direction of growth' could be provided on Welford Road, there would be a number of issues which would need to be resolved with respect to the design of a suitable junction.
- The Publication Draft and the Arup report note that the borough's only rail station is within relatively close proximity and readily accessible by cycle. AECOM would point out that the station is not within PPG13 walking distance, that whilst it is within cycle distance, cycle routes are not provided along the full route to the station from the Wigston 'direction of growth', and that the station is served by a relatively infrequent level of rail services.
- The document states that Welford Road has better existing bus priority provision. Therefore, a review of the existing bus priority corridors of the A6 to the Oadby 'direction of growth' and A5199 Welford Road/Leicester to the Wigston 'direction of growth' has been undertaken. A summary of the existing routes can be viewed below.

Oadby, A6 Bus Corridor

- The majority of bus stops along the route are sheltered with timetable information. At Oadby Town Centre and upon approach to Leicester City Centre there are some bus stops with 'real time' service information
- There are no bus lanes on the route between the 'direction of growth' Oadby up to the junction of A6 London Road/Shanklin Drive on either side of the carriageway. A northbound bus lane commences approximately 15m north of the A6 London Road/Shanklin Drive junction which stops just before the A6 London Road/Knighton Drive/Elmsleigh Avenue crossroads junction. The northbound bus lane recommences north of the A6 London Road/Clarendon Park Road junction to the south of A6 London Road/Stanley Road junction. There were no obstructions in these bus lanes during a site visit in November 2009.

Wigston, A5199 Welford Road/Leicester Road Corridor

- The majority of bus stops along the route are sheltered with timetable information and 'real time' service information for northbound and southbound buses to/from Wigston to Leicester. There are bus lanes present along the route in both the northbound and southbound directions, the extents of which are detailed as follows. The northbound bus lane commences to the north of the A5199 Leicester Road/Kingston Avenue junction and stops before the A5199 Welford Road/Westbury Road junction (with some breaks in the route). A section of the bus lane could not be utilised during a site visit in November 2009 as there was parked vehicle in it along the section between the A5199 Welford Road/Knighton Fields Road and A5199 Welford Road/Westbury Road junctions. The southbound bus lane commences to the south of the A5199 Welford Road/Lytham Road junction and terminates to the north of the A5199 Welford Road/Chapel Lane junction. Some vehicle obstructions were observed.

Capabilities on project:
Transportation

Comparison

- It can be considered that the fundamental differences between the two corridors in terms of bus priority is the presence of more 'real time' information along the A5199 Welford Road/Leicester Road bus corridor and the presence of bus lane facilities in both directions, albeit these were observed to be intermittently obstructed during a site visit. There are fewer bus lane facilities on the A6 corridor, and these are provided in only one direction, however the facilities were observed to be clear during a site visit. Further, it should be noted that LCC is considering construction of a bus and cycle improvement scheme along the A6 Leicester Road. A bus lane is proposed on the southern side of the A6 Leicester Road, the city-centre bound side, and extends from the north of Oadby Court (50m east of Lyndon Drive) to approximately 40m west of Granville Avenue, the proposed cycle lane then continues from the bus lane up to approximately 30m from the A6 Leicester Road/A563 Palmerston Way roundabout. The proposed bus lane would recommence after the A6 Leicester Road/A563 Palmerston Way roundabout up to approximately 15m west of Glebe Road (located opposite), the proposed cycle lane then continues from the bus lane up to 15m east of Grenfell Road. Were this scheme to be provided, it would provide an improvement in bus priority provision on the A6 corridor.
- Accordingly, AECOM do not consider that the difference in bus priority provision on the two corridors forms a significant consideration in terms of which 'direction of growth' should be designated.
- With respect to the comments made in both the Publication Draft and the Arup report concerning air quality, AECOM notes that no information is provided to enable the reader to understand the relative level of importance of the "significant air quality issues on London Road/A6 corridor" and the impact on the "Welford Road Air Quality Management Area".

Based on a review of the Publication Draft and Arup report, AECOM considers that the relative transport benefits and dis-benefits of development of the competing 'directions of growth' have not been fully explored or considered. A number of points made could be considered to be inaccurate or to not show the full picture; hence the reader of the Publication Draft may not be presented with enough transport information to take an informed view in transport terms on the relative merits of the competing 'directions of growth'.

Capabilities on project:
Transportation

3 Wigston 'Direction of Growth' – Transport Overview

3.1 Introduction

The only publicly available transport information with respect to the Wigston 'direction of growth' is that within the 'Oadby & Wigston Core Strategy Publication Draft Proposed Submission Document, October 2009', and the Arup 'Local Development Framework Evidence Base', May 2009, report. However, there are no detailed transport studies, such as a Transport Assessment, publicly available which consider site specific issues such as sustainable accessibility or an access strategy for the 'direction of growth' at Wigston.

Accordingly, a 'Transport Overview' for the Wigston 'direction of growth', has been undertaken by AECOM and is set out in this chapter. The Transport Overview for Wigston set out in this chapter has been undertaken to a similar level of detail as that undertaken by AECOM for the 'direction of growth' at Oadby. The Transport Overview for Oadby is included at **Appendix A** to this report.

The information in this chapter, together with the Oadby Transport Overview provided as **Appendix A**, enables a qualitative transport comparison of the 'directions of growth' to be undertaken, as set out in Chapter 4.

3.2 Wigston 'Direction of Growth'

The OWDC Publication Draft supports the development of 452 dwellings on land between Newton Lane and Welford Road, Wigston, the Wigston 'direction of growth'. At this early stage, the exact numbers and types of dwellings which would form part of a planning application (should the site be designated) have yet to be determined.

Where the 'site' is referred to in the remainder of this chapter, it refers to the Wigston 'direction of growth'.

3.3 Site Details and Existing Transport Conditions

3.3.1 Site Location

The site is located on land between Newton Lane and Welford Road on the south eastern edge of Wigston as can be seen from **drawing number 60101892_WIG_001** at the rear of this report.

Wigston Town Centre is approximately 2km northwest of the site with Leicester located approximately 7km from the site.

The site is bounded by Newton Lane to the north, open fields and associated farming land to the east, a railway line (South Wigston to Market Harborough) to the south, a housing estate to the northwest and Welford Road to the southwest.

3.3.2 Local Highway Network

3.3.2.1 Welford Road

As set out in the meeting notes with LCC (see **Appendix B**), LCC stated that they would strongly prefer access from Welford Road to any potential development on the land, rather than from Newton Lane. A potential vehicle access strategy, developed further to discussion at the fore mentioned meeting is detailed later in this chapter.

Welford Road is located to the west of the development and provides the western frontage of the site to the south of Cooks Lane. The carriageway width varies in this vicinity between 6.5 to 7m with a footway present on the eastern side as can be seen from **Figure 3.1** overleaf.

Welford Road to the north of its roundabout with Guthlaxton Way (to the north of the site) has direct access to dwellings along the route to the centre of Wigston Town Centre where it connects to the A5199 Bull Head Street/B582 Moat Street/Newton Lane/Welford Road signalised junction. Footways are present on both sides of the carriageway along this section of Welford Road.

Capabilities on project:
Transportation

Welford Road is subject to a 30mph speed limit which becomes derestricted as it crosses Kilby Bridge (Grand Union Canal) to the south of the site.

Figure 3.1: Welford Road



3.3.2.2 Newton Lane

Newton Lane fronts the proposed development site to the north. Newton Lane is subject to a 30mph speed limit up to approximately 30m east of its junction with Guthlaxton Way where it becomes derestricted, just before the start of the north-western frontage of the site, as can be seen from **Figure 3.2** below.

Figure 3.2: Newton Lane



In the vicinity of the development site Newton Lane has no footways on either side of the carriageway. The carriageway width in this vicinity varies between 5 and 7.3m.

Before Guthlaxton Way (located to the east), Newton Lane provides direct access to dwellings and links to the A5199 Bull Head Street/B582 Moal Street/Newton Lane/Welford Road signalised junction to the west.

Capabilities on project:
Transportation

3.4 Pedestrian and Cycle Accessibility

As previously stated, in the vicinity of Welford Road and Newton Lane adjacent to the site, there is a footway on the eastern side of Welford Road but no footways are present on either side of the carriageway on Newton Lane.

To the southwest of the development Welford Road crosses the Grand Union Canal via Kilby Bridge. A public footpath link is present either side of the bridge to the Grand Union Canal towpath as shown by **Figure 3.3** below.

Figure 3.3: Kilby Bridge public footpath link



There are no cycle routes in the immediate proximity of the site. However, pedestrian/cycle links are provided on route to South Wigston Railway Station along B582 Station Road and Blaby Road which start approximately 2km from the potential Welford Road site access frontage. This cycle route provides a link to the South Midlands Cycle Route.

There are also cycle routes located to the north of Wigston Town Centre, located approximately 2km north of the potential Welford Road site access frontage. These on/off road cycle routes link to Wigston Town Centre (within the immediate vicinity), Oadby and Leicester.

The local footpath and cycle routes can be seen from **drawing number 60101892_WIG_002** at the rear of this report.

According to PPG 13, it is considered that walking and cycling have the potential to substitute for short car trips, particularly for those under 2km for walking and 5km for cycling. A review of distances to appropriate local facilities has been undertaken in light of PPG13 and the results are shown in **Table 3.1**. The local facilities and amenities can be seen from **drawing number 60101892_WIG_002** at the rear of this report.

Capabilities on project:
Transportation

Table 3.1: Walking and Cycling Catchment

Destination	Approx Distance (m) from site frontage	Approx Distance (m) from rear of site**	Walking Accessibility 2km	Cycling Accessibility 5km
Bus Stop*	670m	2070m	✓	✓
Little Hill Primary School	2000m	3400m	✓	✓
South Leicestershire College / Bushloe High School / Abington High School / Guthlaxton College	2400m	3800m	*	✓
Local Newsagents	1000m	2400m	✓	✓
Local Shops (includes a small supermarket and butchers) near A5199 Bull Head Street/Welford Road Signalised Junction	1300m	2700m	✓	✓
Wigston Town Centre (usual array of town centre shops and facilities)	1900m	3300m	✓	✓
South Wigston Town Centre (usual array of town centre shops and facilities)	3200m	4600m	*	✓
South Wigston Railway Station	3700m	5100m	*	✓
Leicester Railway Station	7000m	8400m	*	*

*It is normally considered that bus stops should be within 400m, the closest bus stops are not within this distance although accessibility could be improved to bus routes through the Guthlaxton Way estate via the provision of any footway links to/from the development proposal, although it should be noted that such links may require third party land.

**Distance measured from the rear of the site have assumed pedestrians and cyclist to travel via the potential access junction via Welford Road and therefore do not take into account any other potential pedestrian/cycle links which development of the site may provide.

As can be seen from **Table 3.1**, the proposed residential development is located in a position where a number of local facilities can be reached within an acceptable walking (2km) and cycling distance (5km), according to PPG13. However due to the size and shape of the site, dwellings located towards the rear of the development would be outside some of the acceptable thresholds for walking if additional cycle/footway accesses could not be provided.

3.4.1 Bus Accessibility

The main bus operator providing services in Wigston is Arriva Midlands, with Centrebus providing additional services. The locations of local bus stops and bus routes can be seen on **drawing number 60101892_WIG_003** at the rear of this report.

The nearest bus stops are located approximately 670m from the site frontage (Welford Road) located on Foston Gate serving 49 and 49B bus routes. **Table 3.2** overleaf presents a full list of services local to the site and Wigston along with their corresponding peak/off-peak frequencies.

Capabilities on project:
Transportation

Table 3.2: Local Bus Services

ROUTE OPERATOR	ROUTE	FREQUENCY OF SERVICE (MINUTES)			APPROXIMATE DISTANCE TO NEAREST BUS STOP FROM CENTRE OF SITE (METRES)
		Monday to Saturday		Sunday Bank Holidays	
		Daytime	Evenings	Daytime	
Bus services closest to site					
49 / Arriva	Leicester – Wigston Magna – Wigston Harcourt	30	60	60	1600m
49B / Arriva	Leicester – Wigston Magna - Fleckney	30	No Service	No Service	1600m
Wider area bus services					
45 / Gentrebuss	Oadby – Wigston Magna/South Wigston – Fosse Park via Countesthorpe, Blaby and Narborough	2 hourly	No Service	No Service	2700m
47 / Arriva	South Wigston/Wigston Magna - Leicester	15	30	30	2400m
48 / Arriva	Wigston Magna/South Wigston - Leicester	15	30	30	2400m

Source – LCC Wigston Bus Map and Guide September 2009.

It can be seen in **Table 3.2** and from **drawing number 60101892_003** that there is bus service provision within the vicinity of the development. The nearest bus stops located approximately 670m from the site frontage or 1600m from the centre of the site. Therefore although this provision is within PPG13 recommended walking distance of 2km, it is normally considered that a local bus stop should be within 400m.

It is however considered due to the size of the potential development that a re-routing of a local bus route and/or provision of additional services would be necessary and therefore this would improve accessibility by bus to the development. This would be subject to discussion with local bus operators to determine if a service could be re-routed and the capacity of local bus services to facilitate the development.

3.4.2 Rail Accessibility

The nearest rail station is South Wigston Railway Station located approximately 3700m from the Welford Road development frontage, which is within the recommended PPG 13 cycling distance of 5km (although outside of PPG13 walking distance). The railway station can also be reached via the number 48 (47 for return journey) bus service. South Wigston Railway Station is located on the Birmingham to Peterborough Line and is located to the south of Leicester station. The services run to Leicester (northbound) and to Birmingham New Street (southbound). Each direction is generally served every two hours, although there are some additional services at peak times.

Leicester Railway Station is located approximately 7km north of the site. There are train links directly to London, Birmingham, Derby, Lincoln, Sheffield, Nottingham and Stanstead Airport. The trains to London, Birmingham and Lincoln leave approximately every half an hour during weekday daytime and the other trains leave at least hourly. Although the railway station is not ideally located in terms of accessibility by foot or cycle, the 47 (48 for return journey) and 49 bus services, can be used to reach the railway station. The number 49 bus would require an additional 400m walk to the station, whereas the 47 and 48 bus services stop within approximately 100m of the station.

Capabilities on project:
Transportation

3.5 Potential Site Access Strategy

3.5.1 Vehicle Access Strategy

3.5.1.1 Newton Lane Access Strategy

As set out earlier in this chapter, Newton Lane fronts the proposed development site to the north. It is considered that a potential site access from Newton Lane could be possible in highway design terms. However, during discussion (see **Appendix B**), LCC stated that they would strongly prefer access from Welford Road via a single roundabout to serve the site (with two site access arms).

It is also indicated within the OWDC Publication Draft (October 2009) and the Arup report (May 2009), that any development which produced significant new traffic generation onto Newton Lane would be likely to need to improve the Newton Lane/Welford Road junction for reasons of capacity, and that the junction is considered to have limited scope for improvements.

Therefore development with direct linkage to Welford Road, rather than Newton Lane, is considered to be desirable.

3.5.1.2 Welford Road Access Strategy

As part of this Transport Overview, a preliminary horizontal design of a potential roundabout access junction at Welford Road has been designed in accordance to DMRB TD16/07 Geometric Design of Roundabouts. The preliminary design can be seen in **drawing number 60101892_WIG_010**.

As shown, the roundabout has 4 arms, two of which are site access arms into the developable area (as per LCC's suggestion). This provision can be considered to accord with LCC's "Highways, Transportation and Development" (HTD) document, which states that, 'no more than 150 dwellings should be accessed from a single point of access' (the indicative development proposal consists of 452 dwellings).

The preliminary design has considered a roundabout at the southern end of the development frontage in order to avoid impact on an existing stream, however, subject to further design considerations, the roundabout could be located at any point up to around 100m further north along the Welford Road site frontage.

A number of several concerns can be identified with regards to the preliminary design shown in **drawing number 60101892_WIG_010**, as outlined below:

- The approach from Welford Road, southern arm, may not have adequate forward visibility for vehicles travelling to/from the roundabout and would have to be reviewed in more detail;
- The Welford Road, northern arm alignment impedes upon an existing bridge across a stream, which can be seen from **figure 3.4** overleaf.
- It is assumed that the existing garage at the southern end of the Welford Road site frontage could be removed, as it is understood to lie within the site boundary. If this was not the case then the roundabout would need to be moved further north, thus further impacting more on the existing bridge and stream.
- The automatic traffic count (ATC) data purchased from LCC, and used to inform the design of the roundabout, relates to a survey site on Welford Road to the north of Welford Road/Guthlaxton Road roundabout. Therefore, the traffic to the south of the roundabout may be lower than that anticipated, thus resulting in an 'over design' of the potential access junction in capacity terms. However, given that two site access arms are required, it is considered unlikely at this stage that a significantly smaller roundabout junction could be provided.

Capabilities on project:
Transportation

Figure 3.4: Welford Road – bridge across stream



The potential Welford Road roundabout access junction has been subject to capacity analysis using ARCADY software under 2025 future year with proposed development traffic flow conditions (the traffic flow methodology is detailed later in this chapter). It was found that the access junction would operate within capacity in both the morning (0800-0900) and evening (1700-1800) peak periods, although as stated in section 3.5 no committed developments have been included within the assessments.

3.6 Traffic Generation, Distribution and Assessment Scenarios

3.6.1 Proposed Development Person/Vehicle Trip Generation

Based on the approach set out in 'Guidance on Transport Assessments (GTA)', Department for Transport (DfT), March 2007, person trip rates have been derived for the development proposals. The methodology which has been adopted to determine person trips rates is the same as that adopted for the Oadby Transport Overview report included in Appendix A, and is fully detailed in that report.

The person trip rates per dwelling for the morning and evening peak hours for the Wigston site are summarised in Table 3.3. The person trips derived from TRICS include trips made by all transport user groups including pedestrians, cyclists, public transport users and car drivers. Full TRICS outputs are included in Appendix C.

Table 3.3: Person Trip Rates (per Dwelling)

	Morning Peak Hour			Evening Peak Hour		
	Arrive	Depart	Total	Arrive	Depart	Total
Private Housing	0.246	0.942	1.188	0.686	0.440	1.126

Source: TRICS Database 2009(b)

The associated person trips for 452 dwellings are provided in Table 3.4 below.

Table 3.4: Predicted Development Person Trip Generation

	Morning Peak Hour			Evening Peak Hour		
	Arrive	Depart	Total	Arrive	Depart	Total
Total Person Trips, 452 Dwellings	111	426	537	310	199	509

Source: TRICS Database 2009(b)

The modal split percentages have been obtained from 2001 census "Journey to Work" data for specific local ward areas as set out overleaf. A plan of the output area along with the full census analysis is provided in Appendix D.

Capabilities on project:
Transportation

- Walk – 4%.
- Cycle – 3%.
- **Car driver – 76%.**
- Car Passenger – 7%.
- Train – 0%
- Bus – 8%.
- Other (including home working, taxi, train, motorbike etc) – 1%.

The above modal split percentages have been applied to the person trips derived from TRICS to identify the number of trips to and from the proposed development during the morning and evening peak hours by mode of transport. **Table 3.5** summarises these results below.

Table 3.5: Total Trips by Transport Mode

Transport Mode	AM Peak (0800-0900)			PM Peak (1700-1800)		
	In	Out	Total	In	Out	Total
Walk	6	21	27	15	10	25
Cycle	4	15	19	11	7	18
Car Driver	84	322	406	235	150	385
Car Passenger	7	29	36	21	13	34
Train	0	1	1	1	0	1
Bus	9	35	44	25	16	41
Other	1	4	5	3	2	5

Table 3.5 shows that the development is proposed to generate 84 vehicle arrivals and 322 vehicle departures in the morning peak, and 235 vehicle arrivals and 150 vehicle departures in the evening peak.

3.6.2 Trip Distribution

In order to provide a robust assessment it has been assumed that all trips will travel to/from the town centre of Wigston via Welford Road.

The distributed development vehicle trips can be seen in the following drawings:

- **Drawing number 60101892_WIG_004** – Proposed Residential Development Trips, AM (0800-0900) and (1700-1800) Peaks, Proposed Roundabout Access Junction Trip Distribution.

3.6.3 Assessment Years

Automatic traffic count survey (ATC) data was obtained from Leicestershire County Council along Newton Lane and Welford Road in Wigston. The Newton Lane survey was undertaken in April 2008 to the north of Glen Road. The Welford Road survey was undertaken in April 2009 to the north of the Welford Road/Guthlaxton Way roundabout. The survey data can be seen in **Appendix E**.

The classified vehicle data has been converted into PCUs (passenger car units) and is summarised in **drawing number 60101892_WIG_005** for both the morning (0800-0900) and evening peak (1700-1800) hour periods.

The development has been given an assumed opening year of 2015 and junction capacity assessments of the potential access strategies have been conducted for 10 years after opening (2025) for the morning and evening peak hours.

NRTF low growth factors have been used to growth up the base traffic flows to the above years (2008 to 2015, 1.083, 2009 to 2025, 1.070, 2008 to 2025, 1.164 and 2009 to 2025, 1.151), the resultant traffic flows can be seen in the following drawings:

Capabilities on project:
Transportation

- **Drawing number 60101892_WIG_006** – 2015 Opening Year Traffic Flows (PCUs), AM (0800-0900) and PM (1600-1700) Peaks.
- **Drawing number 60101892_WIG_007**– 2025 Future Year Traffic Flows (PCUs), AM (0800-0900) and PM (1600-1700) Peaks.

3.6.4 Committed Developments

At this stage, traffic flows relating to any committed development proposals in the area have not been considered. Similarly, the predicted future traffic conditions do not take account of any development sites which could be incorporated within the emerging core strategy for Oadby & Wigston or Harborough.

3.6.5 Future Year Traffic Flows

The traffic flow scenarios can be seen from the following drawings:

- **Drawing Number 60101892_WIG_008** – 2015 Opening Year with development Trips (0800-0900) and PM (1600-1700) Peaks, Proposed Welford Road Roundabout Access Junction;
- **Drawing Number 60101892_WIG_009** – 2025 Future Year with development Trips (0800-0900) and PM (1600-1700) Peaks, Proposed Welford Road Roundabout Access Junction.

In order to consider a worst case scenario, the 2025 future year traffic flow scenarios have been used for the capacity assessment of the potential site access roundabout junction. As set out earlier in this chapter, detailed capacity assessment has indicated that the access junction would operate within capacity in both the morning and evening peak hour periods, although as also stated earlier, no committed developments have been included within the assessments.

Capabilities on project:
Transportation

4 Transport Comparison of Potential 'Direction of Growth' at Oadby and Wigston

4.1 Introduction

This chapter sets out a qualitative comparison of sustainable transport links and access strategies for both competing development 'direction of growth' sites, at Cottage Farm, Oadby and at land between Newton Lane and Welford Road, Wigston.

This process has been undertaken to inform the reader of the relevant benefits and dis-benefits of transport access to the two competing 'direction of growth' sites.

This chapter draws on various information including the Transport Overview for land at Cottage Farm, Oadby (see **Appendix A**) and the Transport Overview for land south of Wigston set out in Chapter 3 of this report.

4.2 Qualitative comparison of Sustainable Transport and Local Linkages to Facilities and Amenities

A qualitative comparison of the existing sustainable transport (walking, cycling and public transport) accessibility and linkage to key local facilities and amenities has been conducted for the two competing 'direction of growth' sites at Oadby and Wigston.

This chapter sets out the results of the qualitative comparisons, which can be viewed in **Appendix F**. The assessment criteria which has been adopted is similar in scope to that adopted by many local highway authorities when making initial accessibility assessments of development sites.

4.2.1 Walking and Cycling Accessibility

Walking and cycling accessibility has been considered with respect to the following key destinations, services, and facilities.

- . To the nearest bus stop.
- . To the nearest railway station.
- . Hospital.
- . GP Surgery/Medical Centre.
- . Primary School.
- . Secondary School.
- . Further Education.
- . Local Employment.
- . Leicester City Centre.
- . Supermarket.
- . Local shop (e.g newsagents).
- . Town Centre.

Based on the qualitative comparison of sustainable transport and local linkages to facilities and amenities from the two prospective 'direction of growth' developments in Oadby and Wigston, set out in **Appendix F**, the following conclusions can be drawn.

- . The Oadby 'direction of growth' has greater opportunities for accessibility by foot when compared to the Wigston 'direction of growth'.
- . The 'directions of growth' have a similar level of accessibility by cycle, although Oadby scores slightly higher.

4.2.2 Public Transport Accessibility

Public transport accessibility has been considered with respect to the following:

- . Bus frequency of principal service from nearest bus stop.
- . Number of bus services, servicing different localities, stopping within 400m of main entrance to site.
- . Travel time to nearest Hospital from local applicable bus service.
- . Travel time to Leicester City Centre/University of Leicester/Leicester Railway Station from local applicable bus service.

Capabilities on project:
Transportation

- Train frequency from nearest 'accessible' (within PPG 13 walking 2km and cycling 5km distance) station (mon-sat daytime).

Based on the qualitative comparison of public transport access from the two prospective 'direction of growth' developments in Oadby and Wigston, set out in **Appendix F**, it can be considered that the Oadby 'direction of growth' has greater opportunities for accessibility via public transport when compared to the Wigston 'direction of growth'.

4.2.3 Accessibility by Private Car

A review has also been considered with regards to travel by car to a number of key services and facilities, as included in **Appendix F**. It can be noted that the 'direction of growth' at Wigston scores slightly better than Oadby in terms of car accessibility, however the difference in scores is marginal, and it is considered that access by sustainable modes should carry far more weight when considering the relative merit of the sites.

4.3 Qualitative Comparison of Potential Site Access Strategies

A qualitative comparison has been undertaken of the potential site access strategies set out in both the Oadby Transport Overview (see **Appendix A** – the roundabout option has been considered) and Wigston Site Access Strategy (see chapter 3). The qualitative comparison has considered the following assessment criteria and can be viewed in **Appendix G**.

- Design Standards (preliminary horizontal design).
- Design Constraints.
- Operational capacity.
- Land Take from the development site required to provide the main junction circulatory (not taking into account potential earthworks such as embankments due to topography).
- Potential Cost (indicative comparison between schemes based on scale).
- Pedestrian and Cycle Links.
- Potential for Public Transport re-routing.
- Emergency Access.

Based on the qualitative comparison included in **Appendix G**, it can be concluded that the potential access strategy for the 'direction of growth' in Oadby is slightly more advantageous overall when compared to that for the Wigston 'direction of growth'. The main advantages of the potential access strategy for the 'direction of growth' at Oadby over that for Wigston are detailed below:

- It is envisaged that there would be fewer design constraints for the Oadby access strategy, thus resulting in a potentially lower scheme construction cost and giving more certainty over the deliverability of the access. This is because the potential Wigston access strategy may be impeded upon an existing bridge across a stream.
- The land requirements from the site of the potential Oadby access strategy would be slightly lower than for Wigston
- The Oadby access strategy would have a direct link to an existing pedestrian/cycle link on the A6, therefore providing an opportunity to reduce private car use and increasing the use of sustainable modes of transport.

4.4 Conclusion

The following conclusions can be drawn from the qualitative transport comparisons included in **Appendices F and G** and summarised in this chapter:

- The Oadby 'direction of growth' has greater opportunities for accessibility by foot when compared to the Wigston 'direction of growth'.
- The 'directions of growth' have a similar level of accessibility by cycle, with Oadby scoring slightly higher.
- The Oadby 'direction of growth' has greater existing opportunities for accessibility via public transport when compared to the Wigston 'direction of growth'.

Capabilities on project:
Transportation

- Whilst the 'direction of growth' at Wigston scores slightly better than Oadby in terms of car accessibility, the difference in scores can be noted to be marginal. It is also considered that access by sustainable modes should carry far more weight when considering the relative merit of the sites.
- The potential access strategy for the 'direction of growth' in Oadby is slightly more advantageous when compared to that for the Wigston 'direction of growth'.

Accordingly, it can be concluded that the 'direction of growth' at Oadby is more advantageous in transport terms overall than that at Wigston when considered against the adopted assessment criteria. It is considered that the assessment criteria adopted for each mode/element are simple, transparent, and appropriate for use in considering the relative transport merits of each 'direction of growth'.

Capabilities on project:
Transportation

5 Summary and Conclusion

5.1 Introduction

The 'Core Strategy Publication Draft Proposed Submission Document', was published by Oadby and Wigston District Council (OWDC) in October 2009. The OWDC Publication Draft promotes a 'direction of growth' on land between Newton Lane and Welford Road to the south of Wigston, rather than on land at Cottage Farm, Oadby. The OWDC Publication Draft justifies development of a 'direction of growth' at Wigston, rather than at Oadby, on a number of grounds, including some relating to transport.

This report considers the relative transport merits of development at the two competing sites with the intention that this report be submitted on behalf of Bloor Homes Ltd and Wheatcroft & Son Ltd in response to the OWDC Publication Draft, to support the designation of the 'direction of growth' at Oadby, rather than Wigston.

Arup prepared a 'Local Development Framework Evidence Base – Assessment of Highways and Transportation Implications' report, dated May 2009, on behalf of OWDC and Harborough District Council to consider development across both districts in transport terms. The Arup report forms the transport evidence base adopted by OWDC in selecting a 'direction of growth' at Wigston rather than.

5.2 Review of Documentation

Further to a review of the Publication Draft and the Arup report, AECOM considers that the relative transport benefits and dis-benefits of development of the competing 'directions of growth' have not been fully explored or considered. A number of points made could be considered to be inaccurate or to not show the full picture; hence the reader of the Publication Draft may not be presented with enough transport information to take an informed view in transport terms on the relative merits of the competing 'directions of Growth'.

5.3 Transport Overview – Wigston

A Transport Overview report for the 'direction of growth' at Cottage Farm, Oadby has been produced by AECOM (report dated November 2009) in support of the designation of that 'direction of growth', which should be viewed in conjunction with this report. For ease of reference, the Oadby Transport Overview report is included as **Appendix A** to this report. A transport overview of the 'direction of growth' at Wigston has been undertaken to a similar level of detail as that provided for Oadby to enable the qualitative comparison of the two sites in transport terms.

5.4 Transport Comparison

A qualitative comparison of the existing sustainable transport (walking, cycling and public transport) accessibility and linkage to key local facilities and amenities and potential site access strategies has been conducted for the two competing 'direction of growth' sites at Oadby and Wigston.

The following conclusions have been drawn from the qualitative transport comparisons:

- The Oadby 'direction of growth' has greater opportunities for accessibility by foot when compared to the Wigston 'direction of growth'.
- The 'directions of growth' have a similar level of accessibility by cycle, with Oadby scoring slightly higher.
- The Oadby 'direction of growth' has greater existing opportunities for accessibility via public transport when compared to the Wigston 'direction of growth'.
- Whilst the 'direction of growth' at Wigston scores slightly better than Oadby in terms of car accessibility, the difference in scores can be noted to be marginal. It is also considered that access by sustainable modes should carry far more weight when considering the relative merit of the sites.
- The potential access strategy for the 'direction of growth' in Oadby is slightly more advantageous when compared to that for the Wigston 'direction of growth'.

5.5 Conclusion

In conclusion it is considered that the decision by OWDC to propose designation of the 'direction of growth' at Wigston, rather than at Oadby, in the 'Core Strategy Publication Draft Proposed Submission Document, October 2009', has not been sufficiently

Capabilities on project:
Transportation

justified in transport terms. It has been demonstrated in this report, further to a number of simple assessments, that the 'direction of growth' at Oadby can be considered more advantageous in transport terms overall than that at Wigston when considered against the assessment criteria adopted. It is considered that the assessment criteria adopted for each mode/element are simple, transparent, and appropriate for use in considering the relative transport merits of each 'direction of growth', and accordingly, it is respectfully suggested that the transport merits of both sites be considered in more detail prior to a 'direction of growth' being designated.