



Bloor Homes Ltd

Land at Toton West, Broxtowe

Transport Assessment

December 2025



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Transport Assessment

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APPENDIX I Mitigation Model Output Reports

1. Introduction

1.1 Overview

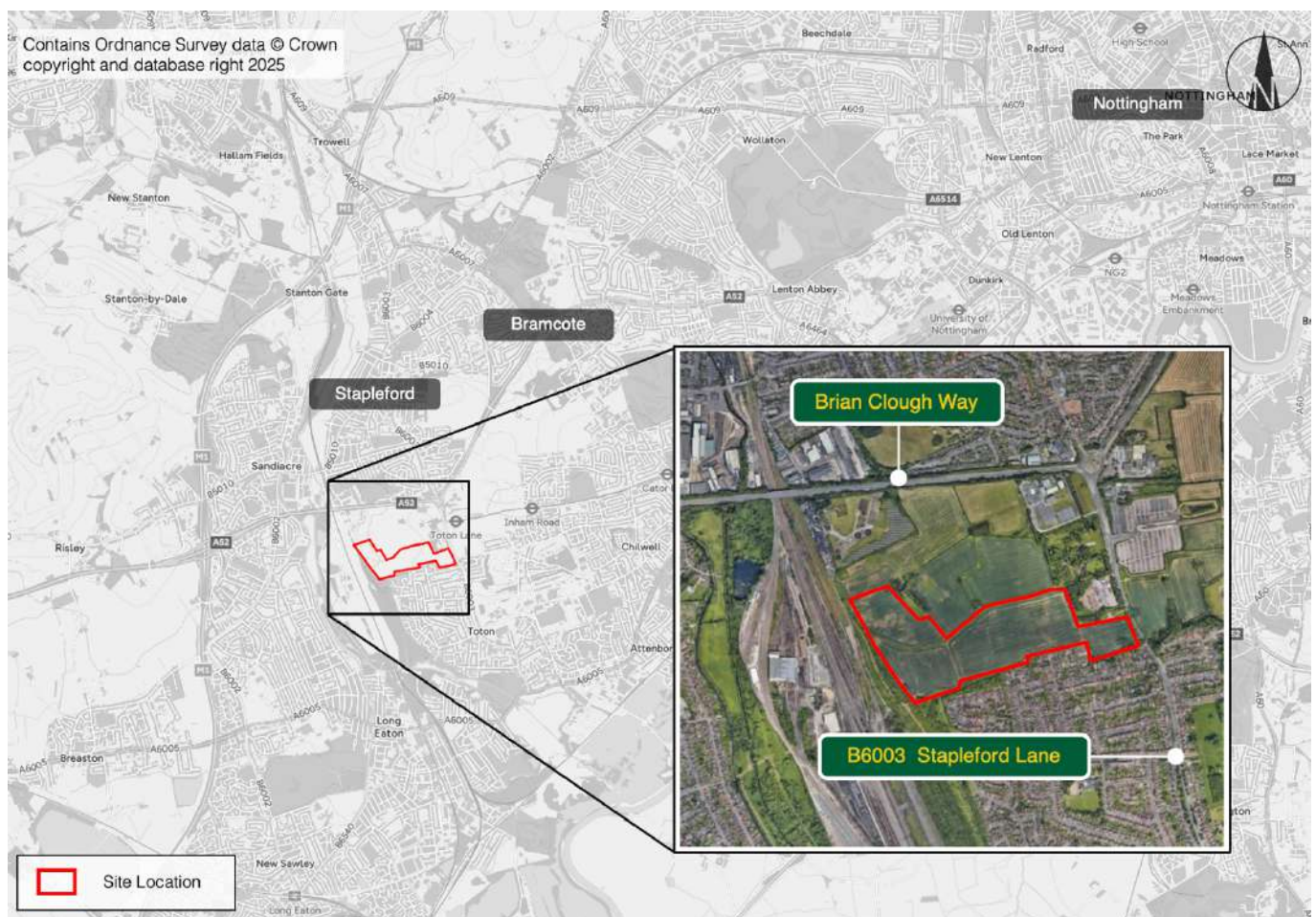
1.1.1 mode transport planning (mode) has been commissioned by Bloor Homes Ltd (Bloor) to prepare a Transport Assessment (TA) in relation to the live Outline Planning Application (Ref: 25/00371/OUT) for a residential development on land to the west of the B6003 Stapleford Lane in Broxtowe, Nottinghamshire.

1.1.2 The application is for the following:

“Outline Planning Application for the construction of a residential development of up to 420 residential dwellings and associated open space and infrastructure.”

1.1.3 An overview of the site's location is illustrated in **Figure 1.1** below. A copy of the site's masterplan is attached at **Appendix A**, for reference.

Figure 1.1 Site Location Plan



- 1.1.4 Vehicular access will be provided through the provision of a new signal-controlled crossroads with the B6003 Stapleford Lane. The site access would form the western arm of the crossroads junction, with the eastern arm providing opportunity for access to the allocated land at 'Toton East'.
- 1.1.5 The site is situated within Broxtowe Borough Council (BBC), who are the Local Planning Authority (LPA). Nottingham County Council (NCC) are the Local Highway Authority (LHA).

1.2 Planning History

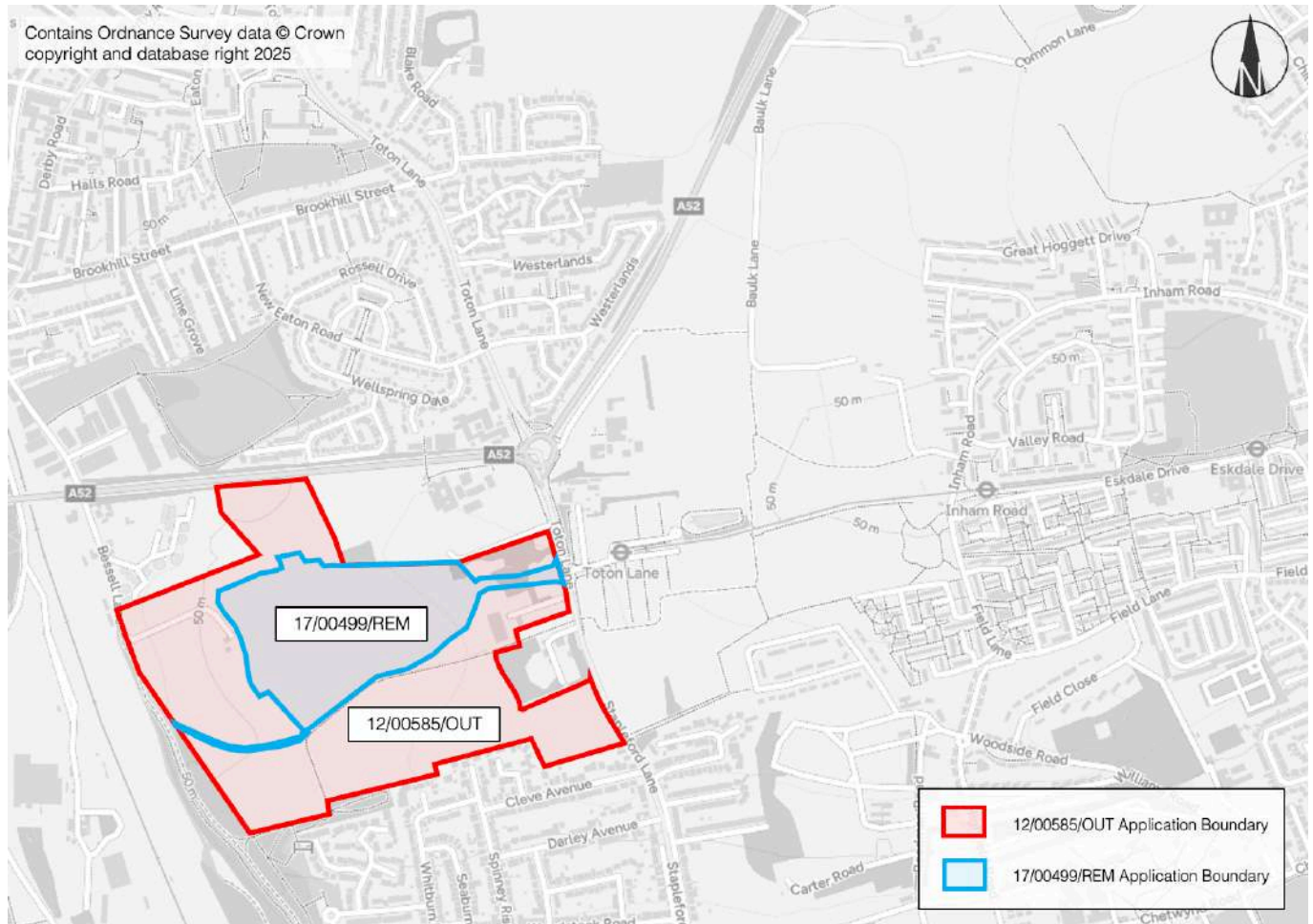
Historic Applications

- 1.2.1 An outline planning application, with points of access to be determined, was submitted at this location in October 2012 (Ref: 12/00585/OUT) for a mixed-use development incorporating a maximum of 500 dwellings, 380 sqm convenience store, two 95 sqm retail outlets, education floor space (maximum 2,300 sqm), day nursery (maximum 450 sqm), pub/restaurant, an 80 bed residential care facility, open space, plot for medical surgery (0.04 hectares) and plot for community use (0.08 hectares). Conditional permission was obtained in July 2016, with condition 20 setting out that highway mitigation would be required at J25 of the M1 and the Bardills roundabout prior to the occupation of any dwelling / unit on site:

"No permanent building erected pursuant to this permission shall be first occupied or brought into use unless works to M1 J25 and A52 Bardills junction (detailed in drawing NTT/301/106 P2 and NTT/301/102/P5) have been implemented and are fully operational. Unless an alternative trigger point has first been agreed in writing by the Local Planning Authority."

- 1.2.2 Following approval, a variation of condition 20 (of outline planning permission reference 12/00585/OUT) was submitted to BCC (Ref: 17/00131/ROC) (No occupation of buildings until works to M1 J25 and A52 Bardills junction have been implemented) to remove reference to the M1 J25 works and to alter the proposed trigger point for implementation of the A52 Bardills junction works to prior to occupation of the 200th dwelling. The variation of condition application was approved in June 2017.
- 1.2.3 Pertaining to the above approval and variation of condition 20, a subsequent reserved matters application (Ref: 17/00499/REM) was approved in 2018 for the erection of 282 dwellings and supporting infrastructure (land located directly to the north of the proposed development site). This site has since been sold by the previous landowners and now falls within the control of NCC. There is currently uncertainty relating to the delivery of development in this location. An overview of the historic planning history of the site is illustrated in **Figure 1.2**.

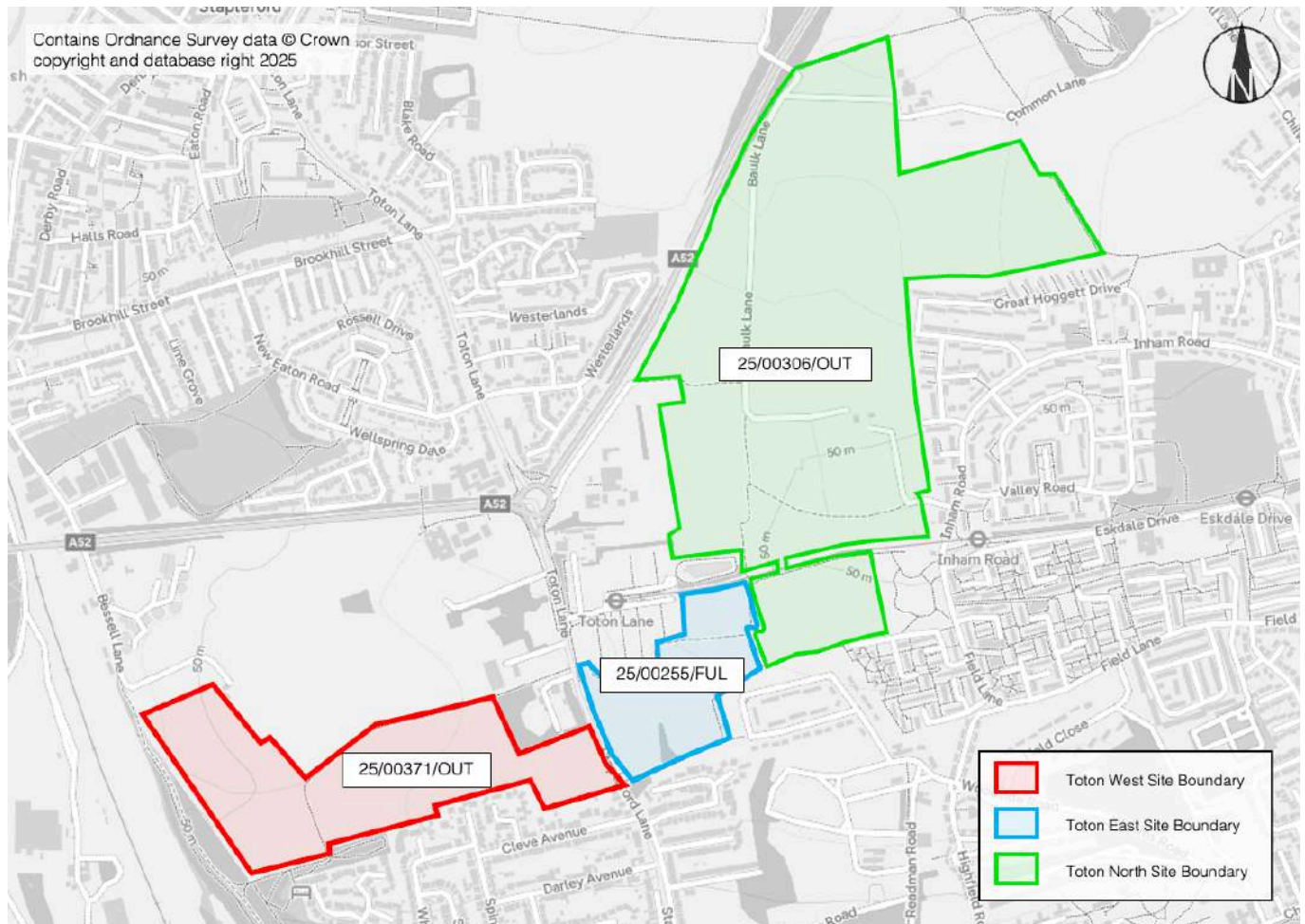
Figure 1.2 Historic Planning Applications



Live Applications

- 1.2.4 Wider planning aspirations endeavour to deliver land to the east of the B6003 Stapleford Lane (Toton East). In March 2025, a full planning application was submitted to BBC for the construction of 155 dwellings and associated open space and infrastructure (Ref: 25/00255/FUL). The application has been validated but has not yet received a decision.
- 1.2.5 An outline application has also been submitted on land between Teesdale Court to the south and the A52 Brian Clough Way to the northwest (Ref: 25/00306/OUT) for a residential development of up to 880 homes, link road with means of access only, a local centre, country park and educational provision (Toton North). Again, the application has been validated but has not yet received a decision.
- 1.2.6 An overview of the live planning applications for the proposed development, and on land to the east of the B6003 Stapleford Lane, is illustrated in **Figure 1.3**, below.

Figure 1.3 Live Planning Applications



1.2.7 It is the purpose of this TA to assess the merits of the proposed development at Toton West independently to the wider Toton development parcels located on land to the east of the B6003 Stapleford Lane.

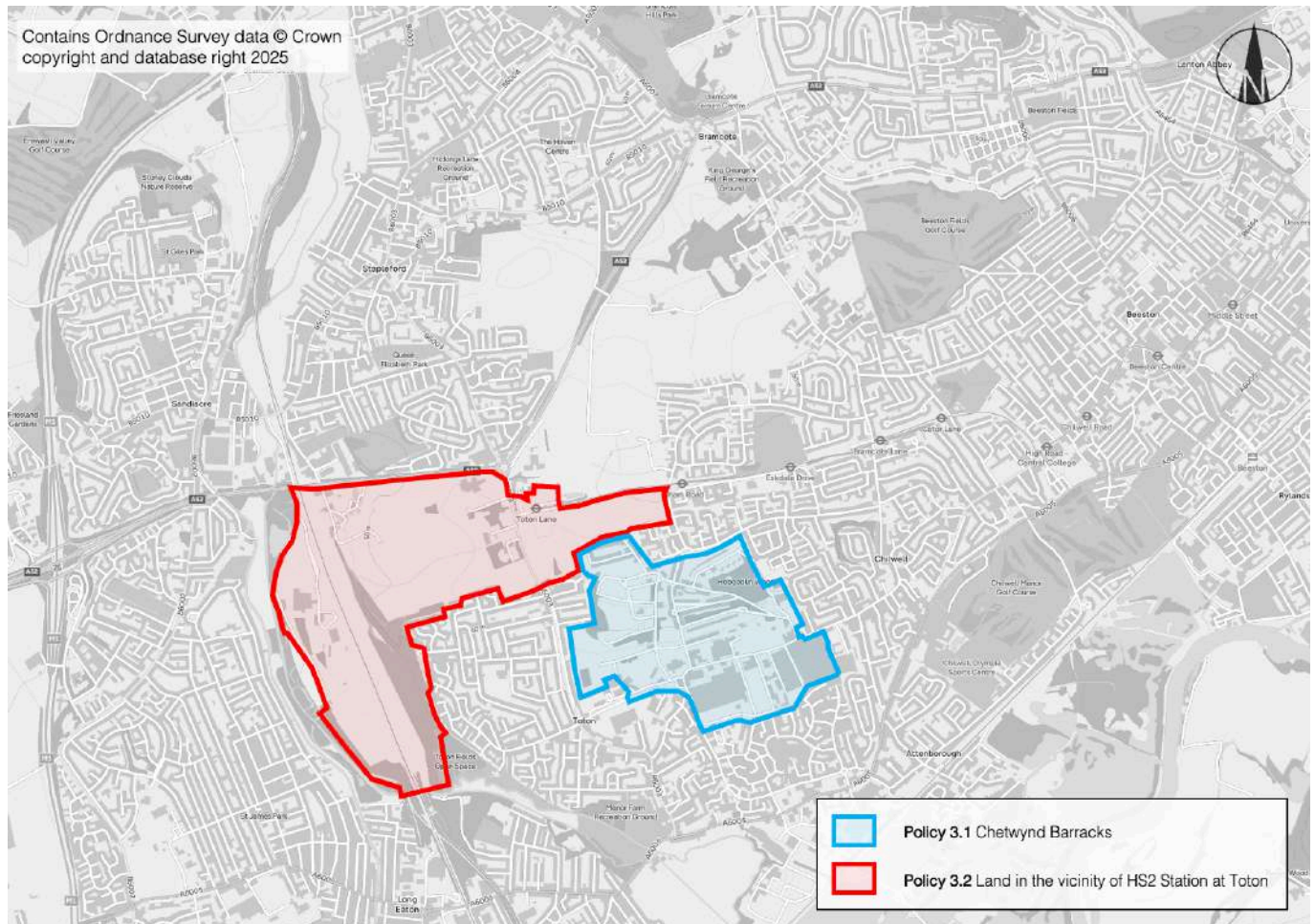
1.2.8 A separate TA Addendum is currently being prepared by mode on behalf of Bloor, which considers the cumulative impact of the entire Toton area development (encapsulating development at Toton West, Toton North and Toton East). Whilst the proposals within this TA do not prejudice the delivery of the other Toton sites, this application is intended to allow Toton West to be assessed on its own merits and impact.

1.3 Planning Policy Context

1.3.1 The site is located within land allocated for development, under Policy 3.2 (Land in the vicinity of HS2 Station at Stoton), as defined within the adopted BBC Part 2 Local Plan (2018-2028). The allocation comprises a major expansion of up to 3,000 homes, a minimum of 18,000sqm of mixed employment (Use Class B), the provision for an expanded or relocated George Spencer Academy and a new primary school.

1.3.2 An illustration of the allocated site is provided in **Figure 1.4** below.

Figure 1.4 Broxtowe Local Plan Site Allocation



1.3.3 As such, the proposals represent an important contribution to the residential allocation in this location, as identified within the adopted BBC Local Plan.

1.4 Report Purpose

1.4.1 This TA considers the transport issues at the site and identifies the likely impact of the proposed development with all modes of travel considered. It sets out the methodology for assessing the baseline conditions, the proposed development quantum and provides a summary of the various associated transport implications.

1.4.2 As aforementioned, a wider assessment is currently being progressed by mode, in which developments at Toton West, Toton East and Toton North will be cumulatively assessed, using the NCC approved East Midlands Gateway Model (EMGM). It is however the purpose of this TA to assess the proposals at Toton West independently to the wider site.

- 1.4.3 It should be noted that a Residential Travel Plan (RTP) has also been prepared and should be read in conjunction with the TA. The RTP sets out incentives to assist in increasing the use of active travel and public transport amongst residents of the site and therefore aims to reduce reliance on single occupancy vehicular trips.
- 1.4.4 The RTP will form a key component of the vision led approach to this application by helping ensure residents are fully informed of the opportunities to travel by means of travel other than single occupancy vehicular trips.

1.5 Report Structure

- 1.5.1 The TA has been prepared in accordance with Planning Practice Guidance (PPG): 'Travel Plans, Transport Assessments and Statements in Decision Taking' published by the Ministry of Housing Communities and Local Government (MHCLG).
- 1.5.2 Following this introduction, the TA is structured as follows:
- **Chapter 2:** Summarises the approach adopted towards the delivery of new communities and namely a vision and validate approach to transport assessment;
 - **Chapter 3:** Provides an overview of relevant national and local planning policies;
 - **Chapter 4:** Reviews the existing transport infrastructure in the area surrounding the site, with a focus on opportunities for travel via sustainable modes of travel;
 - **Chapter 5:** Outlines the development proposals and describes the means of access both for vehicles and NMUs;
 - **Chapter 6:** Provides an overview of the EMGM approved trip rates and resultant trip generation associated with the proposed development;
 - **Chapter 7:** Sets out the methodology to assess the development proposals and the results of the junction modelling assessments;
 - **Chapter 8:** Details the required junction capacity mitigation schemes required to support the development arising from the capacity assessment; and,
 - **Chapter 9:** Summarises and concludes the TA.

2. Approach to New Sustainable Communities

2.1 Overview

- 2.1.1 This chapter sets out the intended approach towards the development of a vision for the site, in accordance with the requirements of the updated NPPF. This is predicated on a different approach to 'traditional' transport planning towards a "Vision and Validate" led ethos to movement and connectivity.
- 2.1.2 This will be embedded as a central theme amongst the proposed development, to provide a sustainable, long-term and clear direction of travel for addressing opportunities for the site, whilst considering local and national trends and best practice guidance.

2.2 Context

- 2.2.1 Since the "Traffic in Towns" report was first published in the 1960s the "Predict and Provide" approach has characterised the philosophy of transport planning in the UK; one of predicting future demand for car travel and providing the necessary related infrastructure to meet that demand, which has unwittingly led to a primary focus on the motor car.
- 2.2.2 Maintaining such an approach will ultimately lead to the continual expansion of potentially unsustainable highway infrastructure to meet the latent demand for car usage. As transport and town planning professionals, we are all striving for a cleaner, more sustainable approach to transport and our environment; a better approach to transport planning would therefore be to focus on opportunities created by a "*Vision and Validate*" or "*Decide and Provide*" approach, comprising the following:

Vision

Setting out and planning from the outset what we want 'inspiring, sustainable growth' to look like.

Validate

Utilising exemplar design and modal shift forecasting techniques to test that vision, ensuring that our efforts will lead us to the best ways of eventually achieving it.

2.3 The Industry View

- 2.3.1 The shift away from a 'Predict and Provide' methodology towards a 'Vision and Validate' approach is endorsed by various key industry organisations who collectively have published a wealth of guidance for those engaged in planning, master planning and transport assessment. Pertinent guidance documentation is as follows:

- CIHT – Better Planning, Better Transport, Better Place (2019);

- Town and County Planning Association – Guide 13 (2020);
- TRICS Consortium – Decide and Provide Guidance (2021);
- Department for Transport – Decarbonising Transport (2021); and
- CIHT/TPS – Vision Led Planning (2025)

2.3.2 Each document describes the desired shift in approach and importantly it is considered that the ‘*Vision and Validate*’ approach aligns with the NPPF requirement for sustainable transport issues to be considered at the earliest stages of plan-making/development proposals so that opportunities to promote walking, cycling and public transport are pursued.

2.3.3 The following guidance documentation provides a useful basis for the application of the paradigm shift in practical terms:

- Active Travel England Standing Advice Note: Active Travel and Sustainable Development (Oct 2023); and,
- DfT Circular 01/2022: Strategic Road Network and the Delivery of Sustainable Development (Dec 2022).

2.3.4 Both documents recognise the importance of sustainable travel in achieving various policy objectives with Active Travel England (ATE) identifying how the government’s gear change strategy has the objective of 50% of journeys in towns and cities being walked, wheeled, or cycled by 2030. NH also identify the importance of sustainable travel seeking an approach to transport assessment that favours trip containment and/or modal shift over new connections or Strategic Road Network (SRN) infrastructure.

2.3.5 The proposed development has been guided by these objectives to assess why people travel, the potential catchment of walking, cycling and public transport trips, what trip attractors are situated within these catchments and to review the sustainable travel network to link the attractors with the site (and vice versa).

2.4 Vision

2.4.1 The opportunity that the development presents is one of aspiration and opportunity to deliver the following vision:

“a new sustainable community with a real focus on realising a low carbon transport agenda at its very core. The intention is to promote sustainable forms of transport to residents and visitors at the site; to reduce the overall number of vehicle movements and increase sustainable travel to and from the site.”

2.4.2 Aside from the anticipated benefits in terms of addressing the impacts of traffic congestion, the strategy is intended to introduce several interrelated benefits in parallel, namely improved health, better air quality, improved highway safety, improved community cohesion and enhanced inclusiveness and mobility.

2.4.3 Our overarching mobility strategy will be focused around living locally, supported by active travel; “the low carbon 20-minute neighbourhood”, as shown in **Figure 2.1** below.

Figure 2.1 Low Carbon 20-minute Neighbourhood



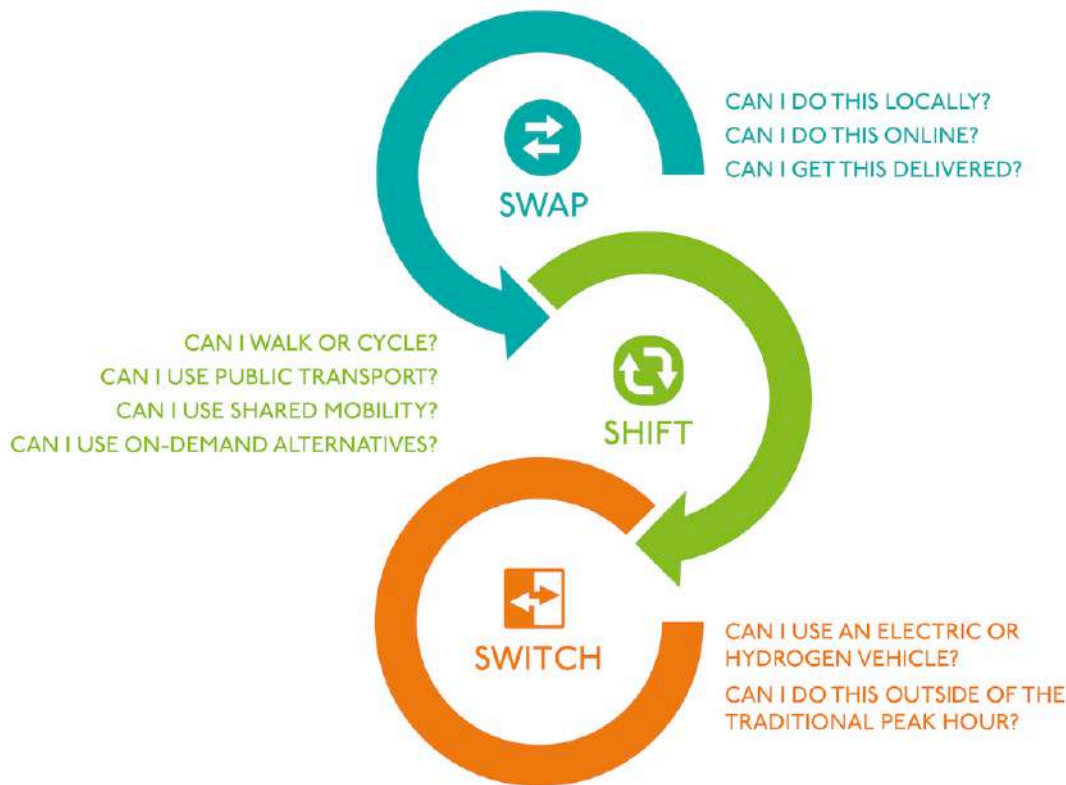
2.4.4 The 20-minute neighbourhood is all about living locally, giving people the ability to meet many of their daily needs within a 20-minute walk from home, with safe cycling and local transport options supplementing this. The aim is to encourage people to spend more time locally, using public open green space, cycling, and walking instead of using cars and connecting with neighbours. This will also help facilitate a low carbon strategy for the site, which mitigates the likely environmental impacts of the site through a reduction in transport emissions and energy use.

2.4.5 It is important to recognise that some trips will require people to travel further afield; however, the strategy seeks to provide opportunity for as many trips as possible to be met locally and via sustainable travel rather than through stymieing choice.

2.5 Validate

2.5.1 The use of the private car will still be necessary outside of the 20-minute neighbourhoods and strategic long-distance travel, will still form part of a weekly routine/requirement; however, the hierarchy of choice should be encouraged, through the implementation of a monitored Travel Plan, in the order outlined in **Figure 2.2** below; to embed the most sustainable transport decision making:

Figure 2.2 Hierarchy of Choice



2.5.2 To validate the vision, much local movement is envisaged to be by sustainable modes of transport, either through walking, cycling or on public transport. As technology advances, these traditional modes can be supplemented by the introduction of newer transport modes such as e-scooters and e-bikes.

2.5.3 It means that ultimately our validation would be a very low car environment, which will create pleasant open space, boost local economy, address overarching societal health issues and start to make a significant reduction on the overall carbon footprint of the proposed development.

2.6 Opportunities

2.6.1 The Vision and Validate approach is built around the premise that when the various transport initiatives gain traction and yield results in terms of uptake of sustainable transport, the requirement to address potential highways capacity issues becomes less onerous. Focussing on sustainable travel will have a range of benefits over and above the obvious positive impact in terms of reduced congestion levels as follows:

- Reducing the impact of the proposal on local road capacity;
- Reduction in potential number of additional vehicular trips, potentially reducing the requirement, scale and cost of off-site highway works;
- Reducing the likely environmental impacts of the site (transport emissions and energy use);
- Improving accessibility and tackling social exclusion;
- Improving access to public transport; and,
- Promotion of healthy lifestyles and wellbeing through more physical activity and use of active travel modes.

3. Policy Review

3.1 Overview

3.1.1 This chapter considers adopted national and local transport and land use policies as they relate to the development proposals. The following documentation has been considered:

- National Policy:
 - National Planning Policy Framework (2024);
 - National Planning Policy Guidance (2024); and,
 - Department for Transport (DfT) Circular 01/22 (2022).
- Regional Policy:
 - The Nottinghamshire Plan (2021-2031); and,
 - Nottinghamshire Local Transport Plan (2021-2031).
- Local Policy:
 - Broxtowe Borough Council Local Plan (2019);
 - Draft Greater Nottingham Strategic Plan (2025); and,
 - Toton and Chetwynd Barracks Strategic Masterplan SPD (2023).

3.2 National Policy

National Planning Policy Framework (2024)

- 3.2.1 The National Planning Policy Framework (NPPF) sets out the Government's key objectives for achieving sustainable development. The document was most recently revised in December 2024 and replaces the previous versions in response to the proposed reforms to the NPPF and other changes to the Planning system consultation. These have been combined into a single document to make the planning system more accessible, whilst still protecting the environment and promoting sustainable growth.
- 3.2.2 The NPPF sets out the government's planning policies for England, and how these are expected to be applied, stating that all developments generating significant amounts of movement should be supported by a TA or Transport Statement (TS), alongside a Travel Plan (TP). Within the NPPF, it is suggested that economic, social and environmental objectives should be at the heart of the planning process.

- 3.2.3 Under the 'Promoting sustainable transport' chapter of the NPFF, it is stated that transport issues should be considered from the earliest stages of plan-making and development proposals using a vision led approach (Para. 109). By doing this the potential impacts of development on transport networks can be addressed and the appropriate transport infrastructure can be implemented. By considering transport at the earliest stages, it allows the opportunity to promote walking, cycling and public transport, and to mitigate any problems.
- 3.2.4 Significant developments should be focused on being sustainable and this can be done through limiting the need to travel and offering a genuine choice of transport modes.
- 3.2.5 In regard to planning policies, in (Para.111) the NPPF states:
- *"Support an appropriate mix of uses across an area, and within larger scale sites, to minimise the number and length of journeys needed for employment, shopping, leisure, education and other activities;*
 - *Be prepared with the active involvement of local highways authorities, other transport infrastructure providers and operators and neighbouring councils, so that strategies and investments for supporting sustainable transport and development patterns are aligned;*
 - *Identify and protect, where there is robust evidence, sites and routes which could be critical in developing infrastructure to widen transport choice and realise opportunities for large scale development; and,*
 - *Provide for attractive and well-designed walking and cycling networks with supporting facilities such as secure cycle parking (drawing on Local Cycling and Walking Infrastructure Plans."*
- 3.2.6 Within the context of assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that (Para. 115):
- *"sustainable transport modes are prioritised taking account of the vision for the site, the type of development and its location;*
 - *safe and suitable access to the site can be achieved for all users;*
 - *the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code; and*
 - *any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree through a vision led approach."*
- 3.2.7 Within this context, new developments should (Para. 117):
- *"give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas... facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use.*
 - *address the needs of people with disabilities and reduced mobility in relation to all modes of transport;*

- *create places that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;*
- *allow for the efficient delivery of goods, and access by service and emergency vehicles; and*
- *be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations.”*

3.2.8 Paragraph 116 states that:

“Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network, following mitigation, would be severe, taking into account all reasonable future scenarios.”

3.2.9 Paragraph 118 of the NPPF concludes that all developments expected to generate significant amounts of movement should provide a Travel Plan, and applications should also be supported by a vision led Transport Statement or Transport Assessment so that the likely impacts of the proposal can be assessed and monitored.

3.2.10 Within the glossary of the NPPF, a ‘vision led approach’ is cited as being: *“an approach to transport planning based on setting outcomes for a development based on achieving well designed, sustainable and popular places, and providing the transport solutions to deliver those outcomes as opposed to predicting future demand to provide capacity (often referred to as ‘predict and provide’)”.*

3.2.11 This key revision of the NPPF provides explicit guidance to utilise a vision led approach to transport planning within planning applications. Whilst a vision led approach still makes assumptions on an unknown future, it allows more influence on the future vehicle trips to a site through the design of a settlement and the shaping of the transport needs for future users on the site. Thereby suggesting that planning and mitigation isn’t restricted to forecasting vehicular trips, but also to ensuring that infrastructure is provided and available to actively give individuals a genuine choice of means of transport, other than single occupancy vehicular trips.

3.2.12 The development proposals fully accord with a ‘vision led approach’, with the applicant committed to ensuring that the proposed scheme integrates with the key pedestrian infrastructure in the site’s vicinity along Church Road to ensure that future users of the site have infrastructure available to travel sustainably between the site and key nearby amenities.

3.2.13 The proposed development has been assessed in accordance with the NPPF guidelines, and this TA and the accompanying FTP demonstrate that the above objectives are satisfied by the development proposals.

Planning Policy Guidance (2024)

3.2.14 The Planning Policy Guidance (PPG) provides detailed advice to support the NPPF. The PPG contains further information for planners, developers and the public on the types of assessment required to support planning applications and the approach to considering applications on their various merits.

3.2.15 Planning Practice Guidance (PPG) was published in 2012 and most recently revised in 2024. The updated guidance aims to facilitate the development of a robust and well thought out site, enabling an assessment of the transport impacts of both existing and proposed developments. The guidance can inform sustainable approaches to transport. A strong assessment will establish evidence that may be useful in:

- Improving the sustainability of transport provision;
- Enhancing the levels of accessibility;
- Creating a choice amongst different modes of transport;
- Improving health and well-being;
- Supporting economic vitality;
- Improving public understanding of the transport implications of development;
- Enabling other highway and transport authority's/service providers to support and deliver the transport infrastructure that conforms to the Local Plan; and
- Supporting local businesses and the regional economy.

3.2.16 The proposed development has come forward in conformity with the principles set out in the PPG. It should also be noted that a separate RTP has been prepared to support the application; the RTP sets out a strategy to monitor the scheme and encourage residents on site to travel via sustainable means of transport, in lieu of using private vehicles.

3.2.17 Furthermore, in line with the PPG guidance, **Chapter 7** of this TA provides an assessment of the transport impact of the proposals through junction capacity assessments to assess the scheme against paragraph 116 of the NPPF.

DfT Circular 01/2022 - Strategic Road Network and the Delivery of Sustainable Development (2022)

3.2.18 DfT Circular 01/22 is the policy of the Secretary of State (SoS) in relation to the Strategic Road Network (SRN) and is applicable to the entire SRN. This document replaces the policies in DfT circular 02/2013 of the same title.

- 3.2.19 It is the intention that circular 01/22 be read in conjunction with the NPPF, planning policy for traveller sites, national planning policy for waste, planning practice guidance, national design guide, National Model Design Code, MfS, local transport note (LTN) 1/20 and all other material considerations when strategic policy-making authorities are making decisions on planning and development proposals under the Town and Country Planning Act 1990.
- 3.2.20 The circular describes at paragraph 12 how: *“New development should be facilitating a reduction in the need to travel by private car and focused on locations that are or can be made sustainable”* and at paragraph 13, it is set out that development should only be promoted: *“at locations that are or can be made sustainable and where opportunities to maximise walking, wheeling, cycling, public transport and shared travel have been identified.”*
- 3.2.21 The approach is intended to make efficient use of available capacity in the transport network, improve health and wellbeing and reduce the negative environmental impacts of development.
- 3.2.22 The circular at paragraph 15 describes how there needs to be a move away from: *“predicting future demand to provide capacity (‘predict and provide’) to planning that sets an outcome communities want to achieve and provides the transport solutions to deliver those outcomes (vision-led approaches including ‘vision and validate,’ ‘decide and provide’ or ‘monitor and manage’).”*
- 3.2.23 Paragraphs 16 and 17 describe how delivery of high-quality places and movement networks is fundamental to what the planning/development process should achieve. In regard to movement the process should ensure that developments optimise the potential of sites to support local facilities and sustainable transport networks both within and outside the site.
- 3.2.24 This is intended to ensure priority is given to pedestrian and cycle movements, and that well-considered parking, servicing and utilities infrastructure for all users is incorporated into development schemes.
- 3.2.25 Paragraph 19 states *“The company will need to be satisfied that all reasonable options to deliver modal shift, promote walking, wheeling and cycling, public transport and shared travel to assist in reducing car dependency, and locate development in areas of high accessibility by sustainable transport modes (or areas that can be made more accessible) have been exhausted before considering options for new connections to the SRN.”*
- 3.2.26 Paragraph 23 takes the principles of paragraphs 16 and 17 forward describing how development related capacity enhancements should be considered on a case-by-case basis where: *“The general principle should be accepted where proposals would include measures to improve community connectivity and public transport accessibility, and this will be weighed against any negative safety, traffic flow, environmental and deliverability considerations, impacts on the permeability and attractiveness of local walking, wheeling and cycling routes, and alternative options to manage down the traffic impact of planned development or improve the local road network as a first preference.”*

- 3.2.27 At paragraph 43 it is described how development promoters are encouraged to identify the forecast impacts of development proposals on the SRN and the potential means to enable a reduction in travelling by private car ahead of capacity enhancements.
- 3.2.28 For residential-led developments consideration should be given to home and street layouts, broadband, cycle parking, access to local amenities, mobility/micro-mobility hubs and EV parking.
- 3.2.29 The importance of Travel Plans is described as they represent an effective means in achieving enhanced sustainable transport.
- 3.2.30 Paragraph 45 describes how the development proposals will be considered when in accordance with an up-to-date development plan. In this instance the extent of considerations at planning application stage will normally be limited to agreeing the final form / phasing of any required mitigation, measures to reduce private car travel and reduce relevant environmental impacts.
- 3.2.31 Indeed, in accordance with the guidance established above, the site falls within allocated land in close proximity to the Toton Park and Ride Tram station and existing bus stops on the B6003 Stapleford Lane. A key component of the proposals will be the implementation of a site wide RTP which will continually promote active travel and the use of public transport for journey purposes.
- 3.2.32 Furthermore, in terms of access design (as explored in further detail within **Chapter 5** of this TA) signalised crossing facilities (Toucan crossings) will be provided on each arm of the crossroads junction which will ensure safe, permeable NMU connections across the B6003 Stapleford Lane.

3.3 Regional Policy

The Nottinghamshire Plan (2021-2031)

- 3.3.1 The Nottinghamshire Plan (TNP) was adopted in 2021 and sets out NCC 10-year vision for Nottinghamshire, creating a: *“healthy, prosperous and greener future for everyone.”* The TNP sets out a series of ambitions, those of relevance in transportation terms are as follows:
- 3.3.2 ‘**Ambition 8** – Improving transport and digital connections’ states that NCC have ambitions to:
- Invest in and improve the condition of the County’s roads and pavements;
 - Improve local and regional transport connections to make journeys easier;
 - Support people with transport options that are healthier and more sustainable;
 - Improve bus services;
 - Expand walking and cycling networks;
 - Keep our highways safe and reduce congestion;
 - Keep improving our school transport services; and,

- Increase coverage of Gigabit capable broadband across Nottinghamshire.

3.3.3 The success of the TNP will result in people being able to travel around the county easily and safely with more people able to walk, cycle and use public transport.

3.3.4 The proposals at Toton West directly accord and match the ambitions of the TNP, with the applicant committed to enable a high-quality connection between the site and the nearby Toton Lane Park and Ride station.

Nottinghamshire Local Transport Plan (2011-2026)

3.3.5 The third Local Transport Plan (LTP3) was adopted in April 2011 and sets out NCC's transport strategy across Nottinghamshire.

3.3.6 The LTP3 consists of two separate documents; the local transport strategy detailing how transport improvements will be delivered in the county; and an implementation plan setting out the types of measures and where investment will be prioritised to deliver the local transport strategy.

3.3.7 The LTP3 sets the overarching strategic transport goals for Nottinghamshire which are detailed as follows:

- Provide a reliable, resilient transport system which supports a thriving economy and growth whilst encouraging sustainable and healthy travel;
- Improve access to key services, particularly enabling employment and training opportunities; and,
- Minimise the impacts of transport on people's lives, maximise opportunities to improve the environment and help tackle carbon emissions.

3.3.8 These transport goals are underpinned by 12 local transport objectives which identify how transport in the county will help support economic growth; protect the environment; improve health and safety; improve accessibility; and maintain and improve existing infrastructure:

- Objectives related to supporting economic growth:
 - **Objective 1:** Tackle congestion and make journey times more reliable;
 - **Objective 2:** Improve connectivity to inter-urban, regional and international networks, primarily by public transport;
 - **Objective 3:** Address the transport impacts of planned housing and employment growth;
 - **Objective 4:** Encourage people to walk, cycle and use public transport through promotion and provision of facilities; and,
 - **Objective 5:** Support regeneration.
- Objectives related to helping protect the environment:

- **Objective 6:** Reduce transport's impact on the environment (air quality, buildings, landscape, noise etc.)
- **Objective 7:** Adapt to climate change and the development of a low-carbon transport system
- Objectives related to improving health and safety:
 - **Objective 8:** Improve levels of health and activity by encouraging active travel (walking or cycling) instead of short car journeys
 - **Objective 9:** Address and improve personal safety (and the perceptions of safety) when walking, cycling or using public transport
- Objectives related to improving accessibility:
 - **Objective 10:** Improve access to employment and other key services particularly from rural areas
 - **Objective 11:** Provision of an affordable, reliable, and convenient public transport network
- Objectives related to maintaining and improving existing infrastructure:
 - **Objective 12:** Maintain the existing transport infrastructure (roads, footways, public transport services etc.).

3.3.9 NCC highlight that land-use planning is imperative to achieve the overall aims of the LTP such that they detail that it is preferable and more beneficial, if and where it is possible, to cut out congestion at source, by removing or reducing the need to travel. NCC's ambition, through control of land-use planning, seeks to:

- Reduce the need to travel, thereby reducing traffic growth;
- Promote a step change in the level of public transport; and,
- Only deliver highway capacity when all other measures have been exhausted.

3.3.10 In regard to congestion management, NCC set out that improving journey times will lead to reduced congestion and therefore, reduced CO2 emissions. NCC aim to reduce the need to travel across the borough and improve the existing transport networks to help reduce congestion across the local highway networks. Central to this strategy will be:

- Effective spatial planning – ensuring that the planning system takes full account of the potential consequences of development for transport; putting employment and housing development in appropriate locations and when necessary ensuring that sustainable public transport, cycling and walking facilities are funded by developers;
- Maximising new technology – using technology such as teleconferencing to transform the way people work; and use of information technology to enable people to access the goods and services they need without having to travel;

- Smarter travel choices – delivering a range of smarter choices measures to change personal behaviour and business practices, such as home working, and,
- Improving access to local centres – helping people to access their local shops and services, easily by walking, cycling or public transport instead of making short car journeys.

3.3.11 Firstly, the site has been allocated for housing within BBC's Local Plan and as such is considered an appropriate location for residential growth and development. Furthermore, given the close proximity to the Toton Park and Ride facility and existing bus stops on Stapleford Lane, the site is situated in a genuinely sustainable location.

3.3.12 As aforementioned, an RTP has also been prepared to support the application which will promote smarter travel choices amongst residents on site and ensure residents are informed on the opportunities to travel to and from the site via active travel or public transport.

3.3.13 Finally, in order to improve off site connections with the Toton Park and Ride facility, the proposals will involve the delivery of a 3.0m shared footway/cycleway along the eastern side of the B6003 Stapleford Lane which is accessible via the site access junction and continues to the emerging PRow Bridleway BW127 and pedestrian connection into the Toton Park and Ride facility. These proposals are explored in greater detail within Chapter 5 of this TA.

3.4 Local Policy

Broxtowe Borough Council Local Plan (2019)

3.4.1 Broxtowe Borough Council's Local Plan comprises two parts:

- Part 1 Local Plan: Core Strategy (2014); and,
- Part 2 Local Plan (2019).

3.4.2 Part 1 of the Local Plan sets out the vision, objectives, spatial strategy and the strategic policies for the borough up to 2028. Whilst Part 2 of the Local Plan includes specific site allocations to meet the housing need as set out in Part 1, as well as the policies against which planning applications will be accessed.

Part 1 Local Plan: Core Strategy

3.4.3 Broxtowe Borough Council, Gedling Borough Council and Nottingham City Council prepared an Aligned Core Strategy (ACS) to provide a consistent planning strategy. The ACS presents a series of spatial objectives which seek to deliver this vision and are consistent with local and national policies. The spatial objectives relevant to transportation and highways are outlined below:

i. Environmentally responsible development addressing climate change:

To reduce the causes of climate change and to minimise its impacts, through locating development where it can be highly accessible by sustainable transport, requiring

environmentally sensitive design and construction, reducing the risk of flooding, and promoting the use of low carbon technologies.

x. Excellent transport systems and reducing the need to travel:

To ensure access to jobs, leisure and services is improved in a sustainable way, reducing the need to travel especially by private car, by encouraging convenient and reliable transport systems, through implementing behavioural change measures, and encouraging new working practices such as use of IT and home working. To aid the planned growth, strategic transport improvements will be completed, including the expansion of the NET including new routes to Chilwell and Clifton and major highway network improvements including the Nottingham Ring Road scheme and widening of A453. Sustainable transport options linking the proposed HS2 hub station to the rest of Greater Nottingham will be explored including a NET extension.

3.4.4 The document also sets out policies for sustainable growth. Policy 2 sets out the spatial strategy for Broxtowe, including:

- A strategic location for growth on land east and west of Toton Lane including Toton Sidings in the vicinity of the proposed HS2 station at Toton, in Broxtowe. This will include a minimum of 500 homes with the appropriate mix of this and other development to be recommended by the Broxtowe HS2 Working Group and determined in Broxtowe's part 2 Local Plan.

3.4.5 Stating that: *"areas in the urban south of Broxtowe benefit from...having the most comprehensive public transport links particularly to Nottingham"*.

3.4.6 Further policies relevant to transportation and highways are outlined below:

- Policy 14: Managing Travel Demand:
 - 1. The need to travel, especially by private car, will be reduced by securing new developments of appropriate scale in the most accessible locations following the spatial strategy in Policy 2, in combination with the delivery of sustainable transport networks to serve these developments.
 - 2. The priority for new development is in firstly selecting sites already accessible by walking, cycling and public transport, but where accessibility deficiencies do exist these will need to be fully addressed. The effective operation of the local highway network and its ability to provide sustainable transport solutions or support economic growth should not be compromised.
 - 3. A hierarchical approach to ensure the delivery of sustainable transport networks to serve new development, in particular, Sustainable Urban Extensions, will be adopted which will seek to provide (in order of priority):
 - a) site specific and area wide travel demand management (measures to reduce travel by private car and incentives to use public transport, walking and cycling for appropriate journeys including intensive travel planning);
 - b) improvements to public transport services, walking and cycling facilities that are provided early in the build out period of new developments and that are sufficient to encourage sustainable modes of transport;

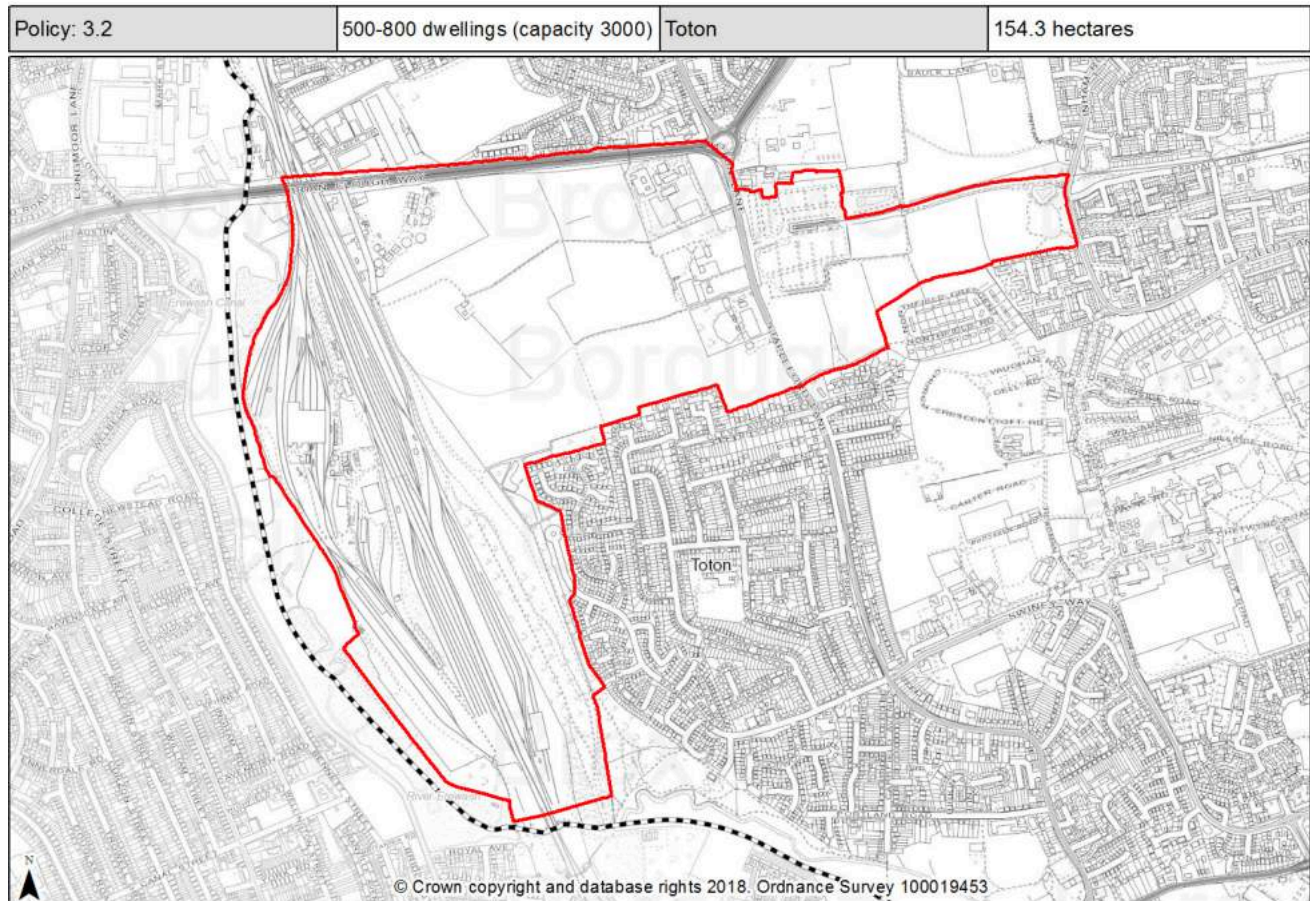
- c) optimisation of the existing highway network to prioritise public transport, walking and cycling facilities that are provided early in the build out period of new developments such as improved/ new bus and cycle lanes and measures to prioritise the need of pedestrians above the car; and,
 - d) Network Management measures then highway capacity enhancements to deal with severe impacts arising from residual car demand where the initiatives required under points (a) to (c) above are insufficient to avoid significant additional car journeys.
 - o 4. There will be a level of iteration between the stages of the hierarchy above to ensure their effective delivery having regard to the role and function of the highway network, and the implementation of the approach will have regard to the needs of people with mobility difficulties.
- Policy 15: Transport Infrastructure Priorities:
 - o 1. Where new development gives rise to the need for additional transport infrastructure, it should be prioritised in accordance with delivering the spatial strategy in Policy 2, the principles of travel demand management in Policy 14 and the priorities of the Local Transport Plans covering the plan area. The details and certainty of funding and timing are in the Infrastructure Delivery Plan.
 - o 2. New development, singly or in combination with other proposed development, must include a sufficient package of measures to ensure that journeys by non-private car modes are encouraged, and that residual car trips will not unacceptably compromise the wider transport system in terms of its effective operation.

Part 2 Local Plan

- 3.4.7 The Broxtowe Part 2 Local Plan provides the detailed development management policies and site allocations to accompany the Part 1 Local Plan. The policies and site allocations relevant to the development, and to transportation and highways are outlined below:
- 3.4.8 The site itself is allocated for development under Policy 3.2 of the Broxtowe Borough Council Local Plan, which covers land in the vicinity of the HS2 Station at Toton (Strategic Location for Growth):
- o **A:** Land allocated at Toton Strategic Location for Growth will be brought forward for the following development within the plan period. Development proposals will be required to be in general conformity with the Toton Strategic Location for Growth Illustrative Concept Framework (shown on Map 8):
 - i) Between 500 and 800 homes, (with an overall capacity of around 3,000 homes) which should be located at the south of the Strategic Location for Growth as identified on the Toton Strategic Location for Growth Illustrative Concept Framework (Map 8).
 - ii) Development proposals should comprise a blended density taking into account adjacent development (existing and proposed), topography and avoiding an inefficient use of land.
 - viii) Highway infrastructure must be considered in conjunction with requirements for the Chetwynd Barracks allocation (Policy 3.1) and wider area as progressed through the Gateway Study and transport modelling.

3.4.9 For completeness, an illustration of land which Policy 3.2 covers, is illustrated in **Figure 3.1**, below.

Figure 3.1 Local Plan Policy 3.2 Land Boundary*



*Map imagery taken from page 39 of Part 2 Local Plan 2018-2028

3.4.10 In relation to traffic, transport and connectivity Policy 3.2 outlines the importance of high-quality transport links to other nearby centres:

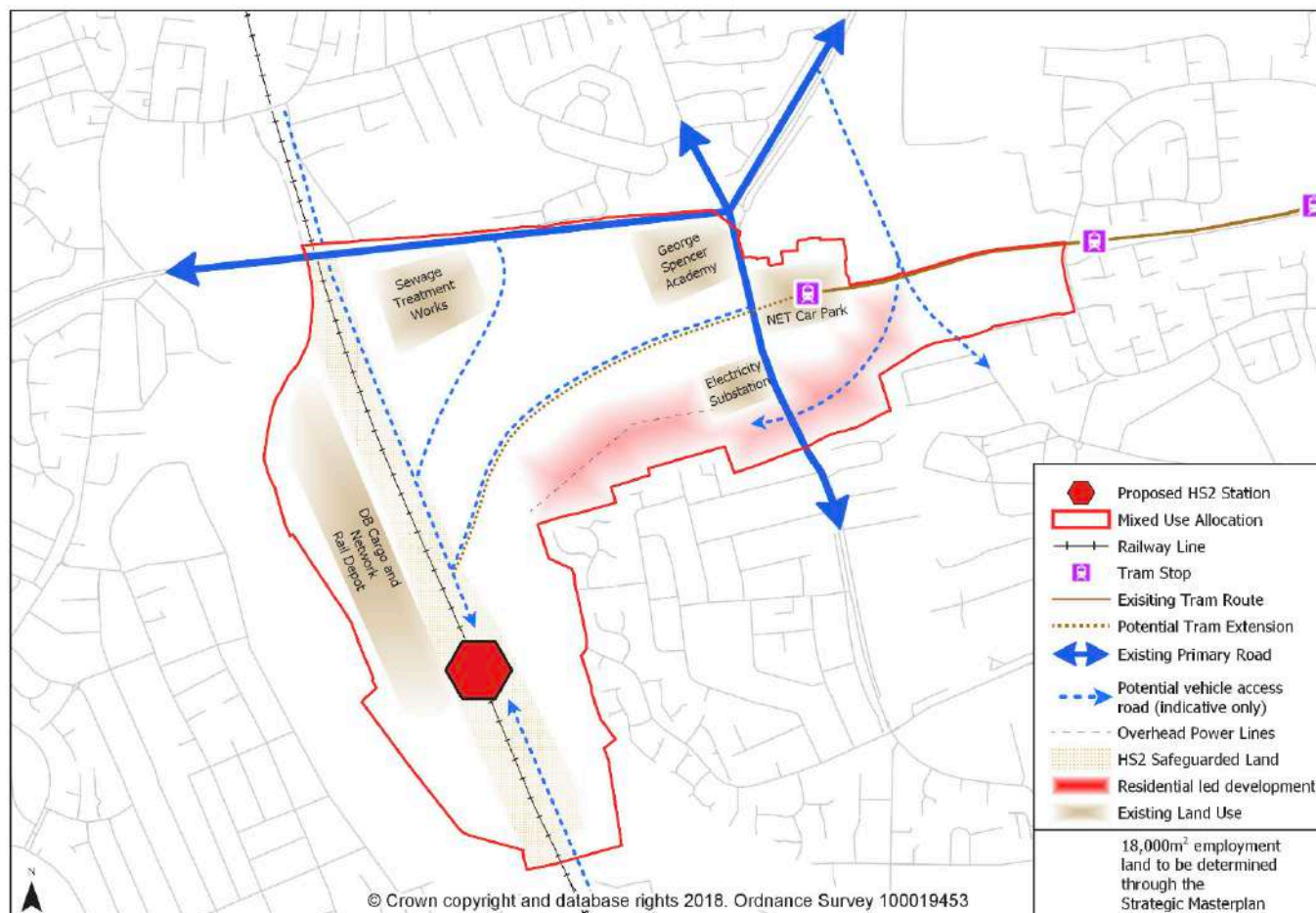
- iv) A system that flows well for all modes of transport including a multi-modal transport hub adjacent to the station and proper consideration of access both from Long Eaton and Stapleford, and how the site will connect and complement development at the Chetwynd Barracks site, including the necessary highway improvements to provide acceptable access to both sites. This will include good connectivity for cycling and pedestrians from the northern end of Chetwynd Barracks to access the tram and HS2 station via a network of interconnected Green Infrastructure. It will also enable the provision of high-quality transport links to the other nearby centres in Broxtowe and Erewash, the three city centres of Derby, Leicester and Nottingham, the airport and strategic rail connected development at Roxhill in Leicestershire to the south, and towns in East Derbyshire and West Nottinghamshire to the north.
- v) Maximise the potential for trips to and beyond the station to be achieved through non-private car modes of transport. This should include:
 - a) Tram extension to HS2 station which should be designed to facilitate its further extension over the HS2 Station and which should be complete prior to the opening of the station. It should be designed in such a way as to allow for its potential extension

to Long Eaton, Derby and East Midlands Airport. This will need to include access provision over the station of sufficient size to accommodate different modes of transport which, in addition to the tram, would be bus, car, cycle and pedestrian.

- b) Safe and attractive pedestrian and cycling links between new and existing communities including Toton, Long Eaton, Stapleford and Sandiacre utilising attractive routes though the location to the HS2 hub and neighbouring areas.
- o vi) A hierarchy of attractive routes and interconnected places should be created. Green routes should be provided and, where necessary, preserved and enhanced to assist with this including the Erewash Valley/Canal and additional green space to the north of existing settlements at Toton and Chilwell and to the south of Stapleford.
- o vii) Pedestrian access should be provided to the station from the east with an additional secondary western access. This should include a safe route either over or under the station.
- o viii) In terms of cycling provision, development should be compatible with future north-south and east-west segregated cycle routes. Cycling should be made a viable option for accessing the hub from within a five mile radius. NET extensions should incorporate a tram-side shared path (to extend to Derby if the tram is extended this far).
- o ix) Bessell Lane should be incorporated in plans to access the station and significant improvements will need to be made to the quality of the public realm to encourage better connections to Stapleford District Centre and to ensure the quality of the cycling provision on this north-south route including extension of Midland Street, Long Eaton. On a wider scale the plan to open Bennerley Viaduct should be taken into account with its potential to create wider major leisure routes attracting visitors to use Toton Hub as a starting point for cycling tours. A link should be provided to national cycle route 6 along the Erewash Canal directly to the HS2 Hub station and cycle storage should be provided at the station.
- o x) Private vehicle access to the station to be provided via the A52, terminating in ideally underground parking or failing this a multi-storey car park to serve the station.
- o xi) Good quality transport links from the HS2 station to nearby town centres including a north/south link road to provide local vehicle, walking and cycling access to the station and to facilitate through bus services.
- o xii) Onward rail service connections to other principal East Midlands Stations including Ilkeston Station.
- o xiii) Prevent overspill parking in existing residential areas when the station is operational. This may include Toton to become a 'residents only parking' area to mitigate issues with Station/Tram traffic.

3.4.11 Although the HS2 station is no longer proposed, the principles for traffic, transport and accessibility remain pertinent. The illustrative concept framework for the Toton strategic location for growth is shown **Figure 3.2** below.

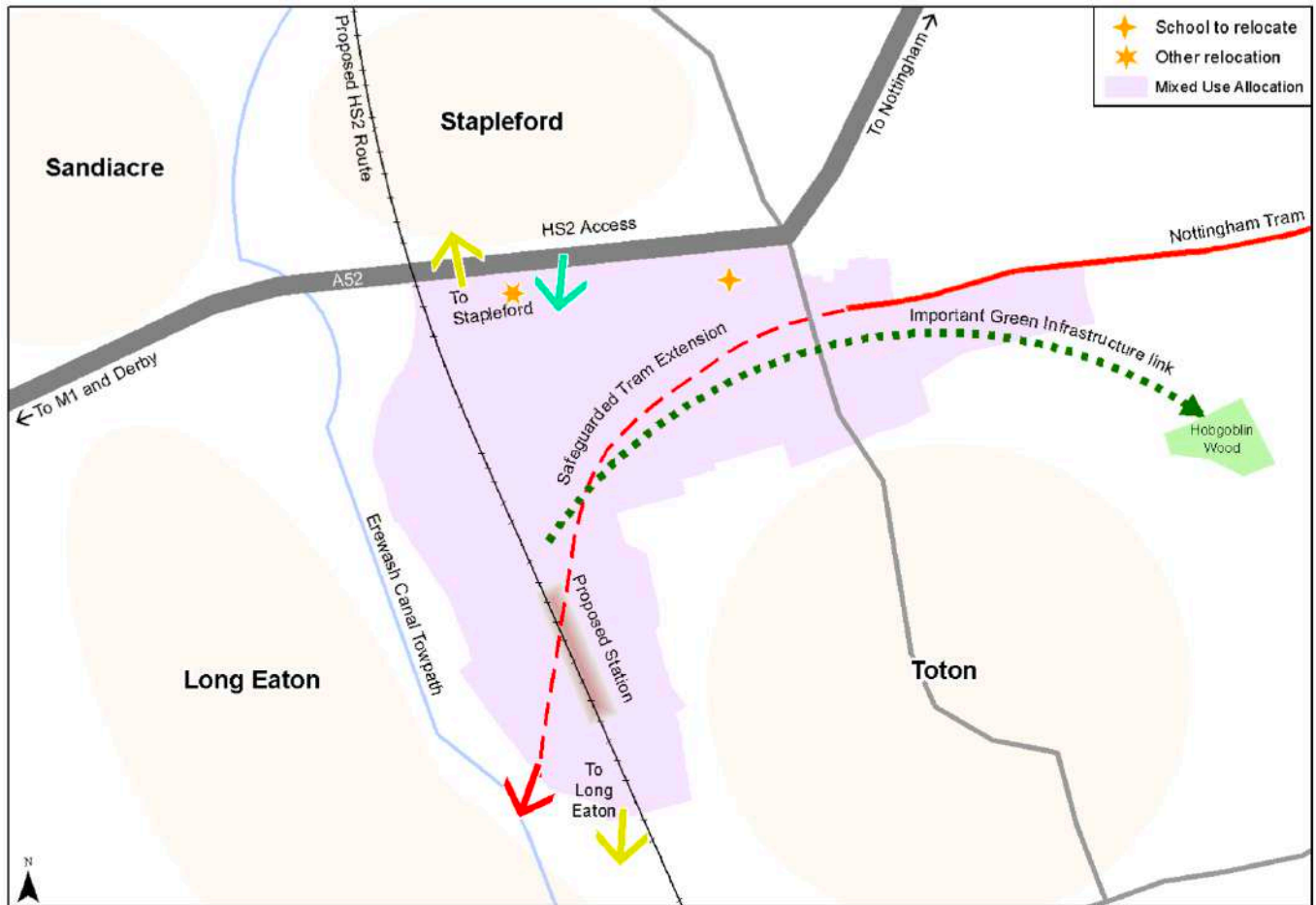
Figure 3.2 Toton strategic location for growth illustrative concept framework*



*Map imagery taken from page 39 of Part 2 Local Plan 2018-2028

3.4.12 The key local connections for the Toton strategic location for growth are shown **Figure 3.3** below.

Figure 3.3 Key local connections*



*Map imagery taken from page 43 of Part 2 Local Plan 2018-2028

- **Policy 17 Place-making, Design and Amenity:**
 - For all new development, permission will be granted for development which, where relevant:
 - b) Provides, or is close to, community facilities;
 - c) Has good access to public transport;
 - f) Creates well-defined streets and spaces;
 - g) Makes it easy to find your way around;
 - h) Encourages low vehicle speeds;
 - i) Provides sufficient, well-integrated, parking and safe and convenient access;
 - j) Provides attractive, clearly-defined and safe private and public spaces;
 - m) Enables convenient use by people with limited mobility;
 - n) Encourages walking and cycling; and,

r) Ensures that the development would not prejudice the satisfactory development of a larger area.

3.4.13 As demonstrated within **Chapter 4** of this TA, the site is well located in regard to nearby public transport accessibility. A pair of bus stops are located on the B6003 Stapleford Lane, c. 170m to the south of the proposed site access location, enabling access to the no. 510 and 517 services which offer hourly buses between Stapleford and Beeston Interchange. Furthermore, the Toton Lane Tram Stop is located c. 450m to the north of the proposed site access, providing frequent tram connections into Nottingham City Centre, via Beeston and the University of Nottingham main campus.

3.4.14 As aforementioned, this TA considers development at Toton West on its own merits, independently of the wider Toton development plans. However, the access into the site has been considered and future proofed to allow access into Toton East and the scheme itself will not prejudice the wider development aspirations for the area. A separate cumulative assessment is currently being undertaken by mode for the entire Toton development area, which will utilise the EMGM and ensure that the operation of the local network is assessed in relation to the delivery of all three Toton sites.

- **Policy 26 Travel Plans:**

- All developments of 10 or more dwellings or 1,000 square metres or more gross floorspace will be expected to submit a Travel Plan with their application.

3.4.15 In accordance with Policy 26, a bespoke RTP has been prepared and can be viewed as part of the suite of documents submitted as part of this planning application. The RTP promotes active travel and public transport movements from the site and sets out a methodology of monitoring travel choices of residents on site, before outlining a suite of actions to reduce single occupancy vehicular trips.

Draft Greater Nottingham Strategic Plan (2025)

3.4.16 Greater Nottingham is made up of the administrative areas of Broxtowe, Erewash, Gedling, Nottingham City and Rushcliffe Council and the Hucknall part of Ashfield Council. These authorities (with input from Derbyshire and Nottinghamshire County Councils) are known as the Greater Nottingham Planning Partnership, which was established in 2008. The partnership's aim is to prepare statutory strategic development plans which are consistent and provide a coherent policy framework across the area.

3.4.17 Strategic policies for the Greater Nottingham area are currently set out in the adopted Core Strategies for the Greater Nottingham authorities. Collectively (given a common evidence base) these are referred to as the 'Aligned Core Strategies'. However, the core strategies are in need of updating and it is the aspirations of the aligned authorities to produce a new core strategy document, which will supersede the previous aligned core strategies (for Broxtowe, Rushcliffe and Nottingham City) and come forward as the new local plan for these areas to guide development between 2023 and 2041.

3.4.18 Policy 3 'Housing Target' sets out the residential growth aspirations across the collective authorities. Strategic sites are set out, located in or adjoining to the existing main built up areas of Nottingham, including land at Toton West, which is directly considered under Policy 21 'Strategic Allocation Toton and Chetwynd Barracks':

"266 hectares of land at Toton and Chetwynd Barracks is allocated for mixed use development including 4,800 dwellings, at least 32,000 square metres of business and industrial floor space, two local centres, community facilities, transport infrastructure and at least 16 hectares of open space."

3.4.19 The total housing target between 2023 and 2041 for the collective authorities is a minimum of 47,600, with the majority of Broxtowe's housing target to be provided within or adjoining the main built-up area of Nottingham in order to accord with Policy 2 'Spatial Strategy'. The proposals therefore present an opportunity to deliver housing in an allocated, strategic site.

3.4.20 The Draft Greater Nottingham Strategic Plan (DGNSP) provides further support of development in the Toton area, setting out that: *"the potential new transport infrastructure at Toton / Chetwynd would add significantly to the transport and economic sustainability of this area for new development."*

3.4.21 The DGNSP isn't yet adopted; however, in March 2025, a new Regulation 19 Publication Draft consultation was carried out and the ambition of the local authorities is to submit the Draft document to the Planning Inspectorate for review, prior to the end of the year. Given the plan is in the later stages of a path to adoption, it has been considered pertinent within this TA and the future year of the plan (2041) has been considered as the future horizon year for capacity assessments presented within **Chapter 7**.

Toton and Chetwynd Barracks Strategic Masterplan SPD (2023)

3.4.22 The Toton and Chetwynd Barracks Strategic Masterplan SPD was adopted by BBC's cabinet on 15 February 2023. Policy 3.2 (Part B) requires that a Strategic Masterplan should be prepared for the Toton Strategic Location for Growth for development expected to be delivered beyond the current Part 2 Local Plan period. The masterplan will form a material consideration in determining planning applications for the development of the sites; with the key purpose of the masterplan set out establish:

- A vision and key development principles for the two sites;
- Location for different land uses and design principles for future development;
- The transport and open space networks needed to support development;
- New community facilities (schools, healthcare facilities, retail provision) required to support existing communities and new residents;
- Key character areas to guide development and land uses in different parts of the sites;

- Phasing of development and infrastructure so that they come forward at the right time.

3.4.23 The masterplan seeks to serve the needs of the new community as well as set a new standard in terms of quality, lifestyles and identity fostered by new development of this scale.

3.4.24 With regards to movement, access and connectivity, the document states that:

- Toton and Chetwynd Barracks benefit from good access to strategic transport networks – notably the A52 (linked to Junction 25 of the M1 a short distance to the west), A6005 Nottingham Road corridor and proximity to Nottingham's high-frequency NET tram system;
- However, these strategic transport networks plus the Erewash Valley Railway Line have resulted in Toton and Chetwynd Barracks being severed from the wider area, resulting in the sites becoming less accessible, in particular by walking and cycling;
- Within the highway network, the only north-south route through the Masterplan area is the relatively congested Toton Lane/Stapleford Lane corridor where Bardills Island has particular capacity challenges. There are currently no east-west public highway routes. This means that Chilwell and Long Eaton are particularly isolated from parts of the Masterplan area;
- There are a number of other dead-ends and restricted access points into the Masterplan area including Bessell Lane, the access into Toton TMD to the west of the Erewash Valley Railway Line, and into Chetwynd Barracks from Swiney Way (south) and Chetwynd Road (east);
- There are existing walking and cycling routes through Toton; and along the Erewash Canal (including National Cycle Network Route 67) that do not cross the Erewash Valley Railway Line. Chetwynd Barracks is inaccessible on foot or by bike because of the current military uses; and,
- Existing bus and tram stops provide access within acceptable walking distance (300m and 400m respectively) to the edges of each site. The lack of through routes mean the centre of each site is outside these catchments. There are opportunities to improve accessibility to the centres through a combination of public transport improvements;

3.4.25 The document also sets out a series of visions and principles, with those pertinent to highways and transportation set out below:

- Create a vibrant interchange around the railway station providing a distinctive sense of arrival to the area. This should be complemented by excellent public transport, active travel and digital connectivity, which link existing and new communities to the station and each other and reduce reliance on private vehicles; and,
- The unique opportunities at Toton and Chetwynd Barracks will be harnessed to create a next-generation community, and a beacon for innovation. A pioneer for great place-making, it will showcase new clean and green ways of living, working and learning including as an internationally significant exemplar net-zero carbon community. The development will provide excellent connectivity through new public transport, digital infrastructure and walking and cycling links, accessible to all. The unique history of the area and the diverse landscapes of the Erewash river valley will support the creation of a place rooted in its past but looking to the future.

3.4.26 The document also outlines a movement framework plan, informed by the Policy 3.1 and Policy 3.2 of the Part 2 Local Plan. The movement framework embeds sustainable transport choices, including through the following key proposals:

- A railway station the NET tram system being extended from its current terminus at Toton Lane to the site of the railway station before going towards Long Eaton town centre;
- The NET extension, new bus terminus and taxi ranks would complement the railway station, forming key elements of a vibrant interchange;
- New and extended bus routes will be provided to Toton and Chetwynd Barracks. This includes 'bus gate' restrictions within Chetwynd Barracks to enable buses to serve the site and Chilwell without creating rat-runs for drivers;
- A comprehensive and accessible network of walking and cycling routes between Toton, Chetwynd Barracks, existing communities and the railway station;
- This includes new links that are aligned with our proposals for the green infrastructure network and the D2N2 Local Cycling and Walking Infrastructure Plan;
- Southern access point to bring Attenborough Station within walking distance of future residents; and,
- The consideration of potential routes for equestrian users.

3.4.27 The proposals have been designed with the principles of the Toton Strategic Masterplan in mind.

3.5 Policy Summary

3.5.1 In summary, the planning policy described above seeks to ensure that the impacts of the proposed development are properly considered and mitigated via the preparation of appropriate transportation reports to accompany the planning application, and where necessary, the provision of mitigation in order to temper the impacts of a given development.

3.5.2 The planning policy described above also seeks to ensure that development is located to ensure those accessing the site are provided with genuine modal choice, by situating development in locations that reduce the need to travel, reduce average journey lengths and benefit from local infrastructure to enable the use of mode of transports other than the single occupancy, combustion engine private car.

3.5.3 This TA has been prepared in line with the current best practice guidance and methodology, including the relevant national and local planning policy reviewed in this chapter.

4. Existing Conditions

4.1 Overview

4.1.1 This chapter details the existing transport conditions surrounding the development site. It provides a review of the existing pedestrian, cycle and public transport facilities and surrounding amenities, as well as an assessment regarding the safety of the local highway network.

4.1.2 Paragraph 110 of the National Planning Policy Framework (NPPF) (2024) states:

“Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes.”

4.1.3 The NPPF defines sustainable transport modes as including walking, cycling, low and zero emission vehicles, car sharing and public transport.

4.2 Highway Network

4.2.1 An overview of the highway network in close proximity to the site is illustrated in **Figure 4.1** below.

Figure 4.1 Highway Network



B6003 Stapleford Lane / Toton Lane

- 4.2.2 The B6003 Stapleford Lane forms the southern arm of the Bardills roundabout and runs in a north to south alignment, connecting the settlements of Stapleford and Toton. It is subject to a posted speed limit of 30mph and has street lighting along its entire length.
- 4.2.3 The B6003 Stapleford Lane benefits from footways on both sides of the carriageway and there are signalised crossing facilities on every arm of the Toton Lane Park and Ride access junction to enable safe, permeable movements across the B6003.

A52 Brian Clough Way

- 4.2.4 The A52 Brian Clough Way is a dual-carriageway that forms part of the Strategic Road Network (SRN). The road is a key arterial route between Derby in the west to Nottingham in the north-east. For the majority of its length, the road is subject to national speed limit (70mph).
- 4.2.5 The A52 Brian Clough Way can be accessed via the Bardills Roundabout, located north of the site along the B6003 Toton Lane. On each approach to the roundabout the speed limit reduces to 40mph. Pedestrian footways, street lighting and multiple pelican crossings are in place at the roundabout to allow pedestrian movement across the A52 Brian Clough Way.

M1

- 4.2.6 Junction 25 of the M1 is located to the northwest of the site and enables access to the SRN via the A52 Brian Clough Way. To the north, the M1 provides onward connections to Mansfield, Sheffield Leeds and Doncaster and to the south, provides connections to East Midlands Airport, Leicester, Northampton, Luton and London.

Cleve Avenue, Whitburn Road & Epsom Road

- 4.2.7 These residential roads are located to the south of the site boundary and operate at a 30mph posted speed limit. The roads benefit from regular street lighting and c.2.0m footway provision on both sides of the carriageway.
- 4.2.8 There is an existing pedestrian connection between the existing Public Right of Way (PRoW) FP17 located at the southwest of the site and pedestrian provision at the Epsom Road / Banks Road roundabout.
- 4.2.9 Epsom Road is divided by a modal filter barrier, prevent vehicular traffic and only allowing pedestrian movement across. Street lighting and footways are provided throughout and provide onward pedestrian connections to the B6003 Stapleford Lane.

4.3 Collision Data Assessment

- 4.3.1 PPG guidance states that TAs should consider the most recently available three-year period of collision data unless a high collision rate has been identified. To provide a robust assessment of highway safety in the vicinity of the site, Personal Injury Collision (PIC) data has been obtained from Via East Midlands (who work on behalf of NCC) for the most recently available 5-year period (2nd November 2020 to 31st May 2025).
- 4.3.2 Collisions have been categorised as 'slight', 'moderately serious', and 'fatal'. The data obtained doesn't contain causation factors and as such, this assessment is limited to identifying if there are existing patterns or clusters of collisions in certain locations.
- 4.3.3 An overview of the study area, along with the recorded PICs is displayed in **Figure 4.2**, with the data summarised by junction and link in **Table 4.1**. The full collision records obtained from Via East Midlands are attached at **Appendix B**, for reference.

Figure 4.2 PIC Study Area

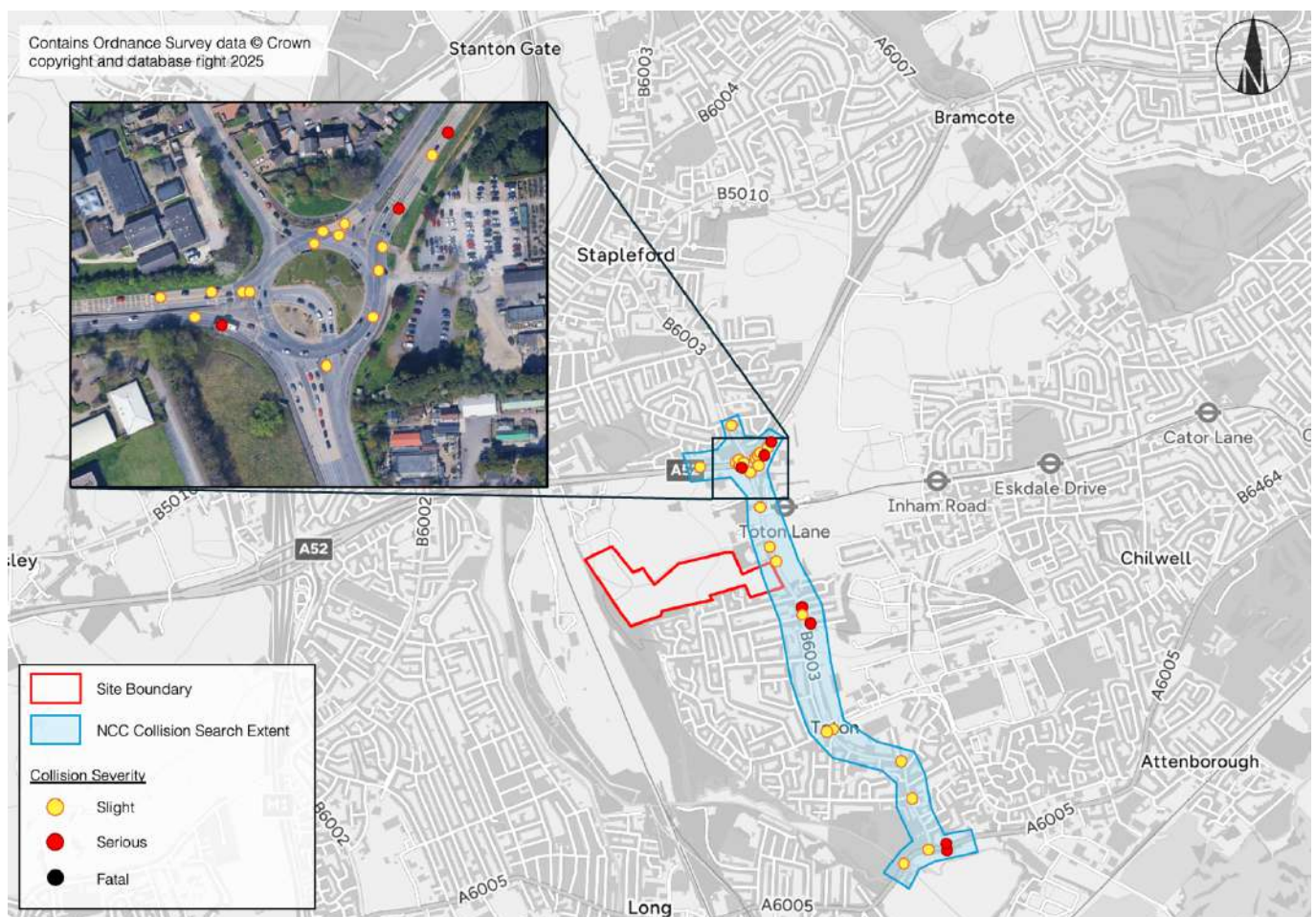


Table 4.1 Collision Data

Study Area (Links / Junctions)	Collision Severity			Sensitive Highway Users	
	Slight	Moderately Serious	Fatal	Pedestrians	Cyclists
Bardills Roundabout (Junction)	16	3	0	0	0
B6003 Stapleford Lane between Bardills Roundabout and Toton Lane P&R (Link)	1	0	0	0	0
B6003 Stapleford Lane between Toton Lane P&R and Swiney Way / B6003 Stapleford Lane / Banks Road Crossroads (Link)	3	2	0	2	0
Swiney Way / B6003 Stapleford Lane / Banks Road Crossroads (Junction)	2	0	0	0	0
B6003 Stapleford Lane between Swiney Way Crossroads and B6003 Stapleford Lane / A6005 Nottingham Road junction (Link)	2	0	0	0	0
A6005 Nottingham Road / High Road junction	2	2	0	0	0
Total	26	7	0	2	0

4.3.4 In total, 33 collisions have been recorded across the study area, with 26 collisions being classified as 'slight', 7 as 'moderately serious' and 0 as 'fatal'.

Bardills Roundabout

4.3.5 As identified in **Table 4.1**, 19 collisions (16 'slight' and 3 'moderately serious') have occurred on the approach to or on the Bardills Roundabout. Whilst collisions are identified at this junction, it should be noted that relative to the number of vehicular movements at this junction, the rate of collisions is considered to be low. Furthermore, as illustrated in **Figure 4.2**, recorded collisions are spread across the junction circulatory / respective approach arms rather than concentrated locations or approaches. It should be noted that no fatal collisions have occurred in this location.

B6003 Stapleford Lane

4.3.6 As presented in **Figure 4.2**, 5 collisions (3 'slight' and 2 'moderately serious') have occurred on the B6003 Stapleford Lane between the Toton Park and Ride Junction and the B6003 Stapleford Lane / Swiney Way / Banks Road crossroads junction. In this regard it should be noted that this is a key arterial route which is subject to high volumes of traffic, and as such, 5 collisions across a five-year assessed period are not considered to represent highway safety concerns. Furthermore, it should be noted that this section of the B6003 is over a kilometre in length and upon review, three of these collisions occurred in proximity or at junctions with side roads.

4.3.7 Notwithstanding the above, two 'moderately serious' collisions have occurred involving pedestrians, with one collision occurring in proximity to the junction between the B6003 and Darley Avenue and the other in proximity to the junction between the B6003 and Wellbeck Gardens.

4.3.8 Upon review of Google Streetview, there are no formal crossing facilities for pedestrians in these location to allow safe controlled access across the B6003. As discussed further in **Chapter 5**, the proposed site access signalised crossroad junction will benefit from signalised crossing facilities on all arms and will provide safe controlled crossing opportunities for pedestrians at this location, facilitating both journeys to the Toton Lane Park and Ride station to the north and amenities to the south. As such, pedestrians will be able to safely access the footway on the eastern side of the B6003, thus negating the need to cross the B6003 to the south in the locations where the recorded collisions occurred.

Summary

4.3.9 Whilst all collisions are regrettable, especially those resulting in injury, no trends are identified within the study area; with the majority of collision recorded on major local routes, which are subject to high volumes of traffic movements. In light of this, there are not considered to be any inherent highway safety issues on the local highway network adjacent to the site which would likely be exacerbated by the development proposals.

4.4 Walking and Cycling

Walking

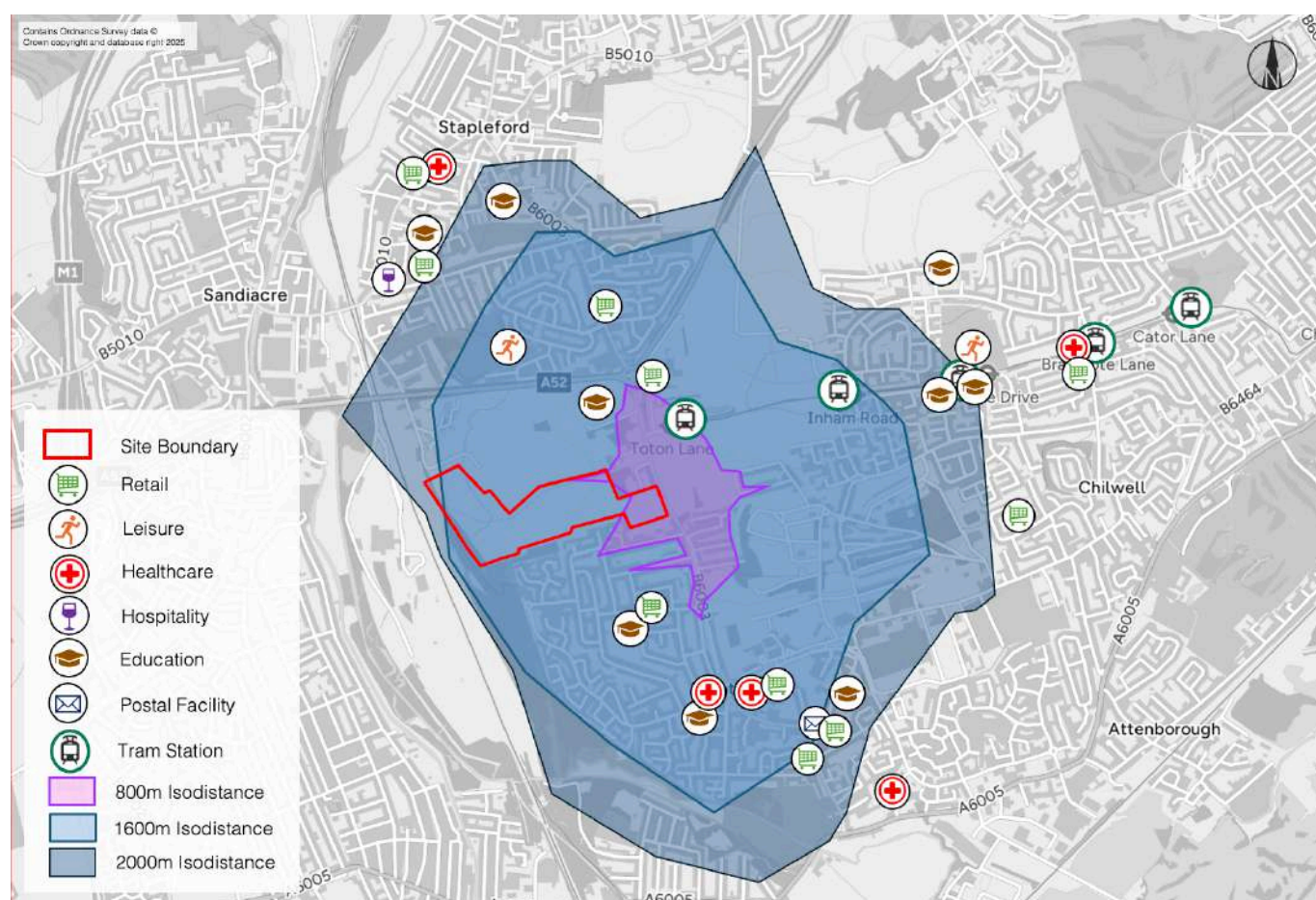
4.4.1 The 'Planning for Walking' (2015) document produced by the Chartered Institution of Highways and Transportation (CIHT) document suggests that c.80% per cent of journeys shorter than 1 mile (1.6km) are made wholly on foot. It goes on to say that traditional layouts are typically characterised as having a range of facilities within 10-minutes' walking distance (around 800 metres). However, the propensity to walk or cycle is not only influenced by distance but also the quality of the experience; people may be willing to walk or cycle further where their surroundings are more attractive, safe and stimulating.

4.4.2 Moreover, paragraph 4.4.1 of Manual for Streets (MfS) states that walkable neighbourhoods are typically characterised as having a range of facilities within ten minutes walking distance (typically around 800m). It is stated; however, that this is not an upper limit, and that walking offers the greatest potential to replace short car trips, particularly those under 2km.

4.4.3 mode have drawn upon the above guidance in undertaking an assessment of walking distances to nearby local amenities. The distance of local amenities and facilities are set out in **Table 4.2**, along with the respective journey times to reach these amenities. **Figure 4.3** below also provides a visual overview of the location of these amenities / facilities within the identified upper limit of an appropriate walking catchment of 2km, with consideration also made to those closer amenities within a more desirable 800m and 1mile catchment.

4.4.4 It should be noted that whilst the origin point for the iso-distances has been plotted from the site access, an assumption has been made that a further 300m would be required to represent the distance from the centre of the site. As such, the iso-distances have been plotted to 500m, 1300m and 1700m respectively.

Figure 4.3 Walking Catchment from Site



4.4.5 **Figure 4.4** below shows the pedestrian infrastructure in the immediate vicinity of the development site.

Figure 4.4 Local Pedestrian Network



- 4.4.6 As shown in **Figure 4.4**, the B6003 Stapleford Road benefits from footway provision on both sides of the carriageway. At the junction with Banks Road and Swiney Way, pedestrians benefit from signalised crossing facilities to cross the B6003.
- 4.4.7 North of the site, the B6003 Stapleford Lane footway provision is provided on both sides of the carriageway. Signalised pedestrian crossings are located on each arm of the B6003 / Toton Lane Tram Park & Ride junction. Further Toucan signalised crossings are located on the Bardills roundabout which enable onward access into Stapleford and amenities such as the Morrisons Daily to the east of Toton Lane.
- 4.4.8 There are 3 Public Rights of Way (PRoW) in close vicinity to the development site: footpaths FP17, FP135 and bridleway BW27. Footpath FP17 runs directly through the site and provides connections to Toton Tram Park & Ride stop via a tactile dropped kerb crossing facility on the B6003 Stapleford Toton. To the southwest, FP17 provides an off-road connection to Toton and residential areas to the south of the site.
- 4.4.9 Bridleway BW27 commences on the eastern side of the B6003 following the tactile dropped kerb crossing and provides onward connections to BW28 towards Beeston. Finally, FP135 spurs to the east prior to crossing the tram tracks and provides an onward connection to Inham Road and onwards towards Nottingham City Centre.

4.4.10 As a whole, the footway network in the vicinity of the site provides safe and convenient access to the surrounding local facilities and amenities in Toton, as well as public transport links.

Cycling

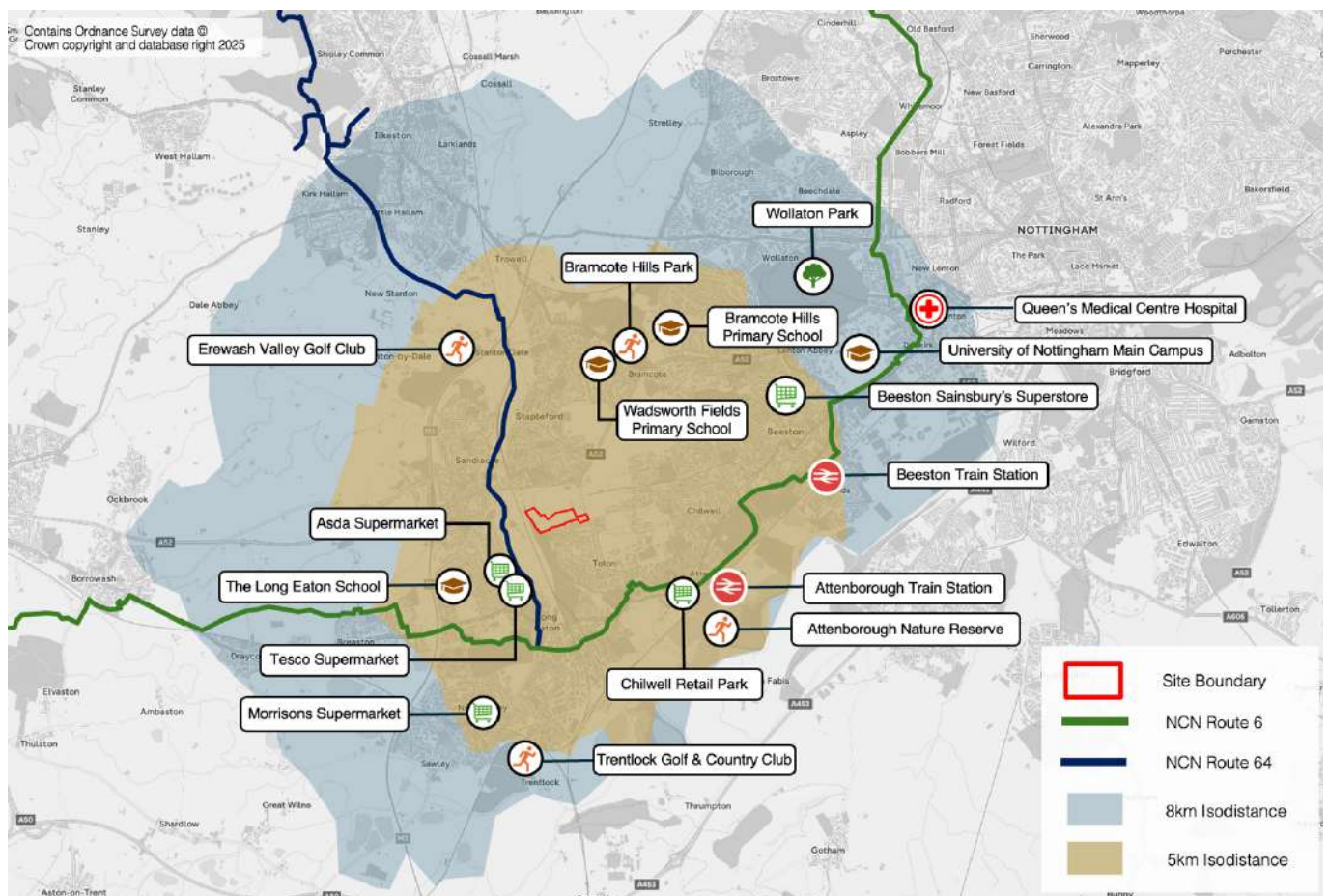
4.4.11 Regarding cycling, the DfT Local Transport Note 1/20 'Cycle Infrastructure Design' sets out that it is widely considered that cycling has the potential to substitute short car trips, particularly those under 5km, and form part of a longer journey by public transport.

4.4.12 LTN1/20 further outlines that cycling is considered to be a highly sustainable mode of travel and generally journeys up to 8km are considered an achievable distance for most people. LTN 1/20 also states that:

"Two out of every three personal trips are less than five miles in length – which is an achievable distance to cycle for most people."

4.4.13 **Figure 4.5** below provides an illustration of an 5km and 8km cycle coverage from the site, demonstrating that key nearby major destinations (for employment, retail, leisure trips) in Beeston, Chilwell, Stapleford, and Toton are all accessible within the identified appropriate cycle distance considered within LTN 1/20.

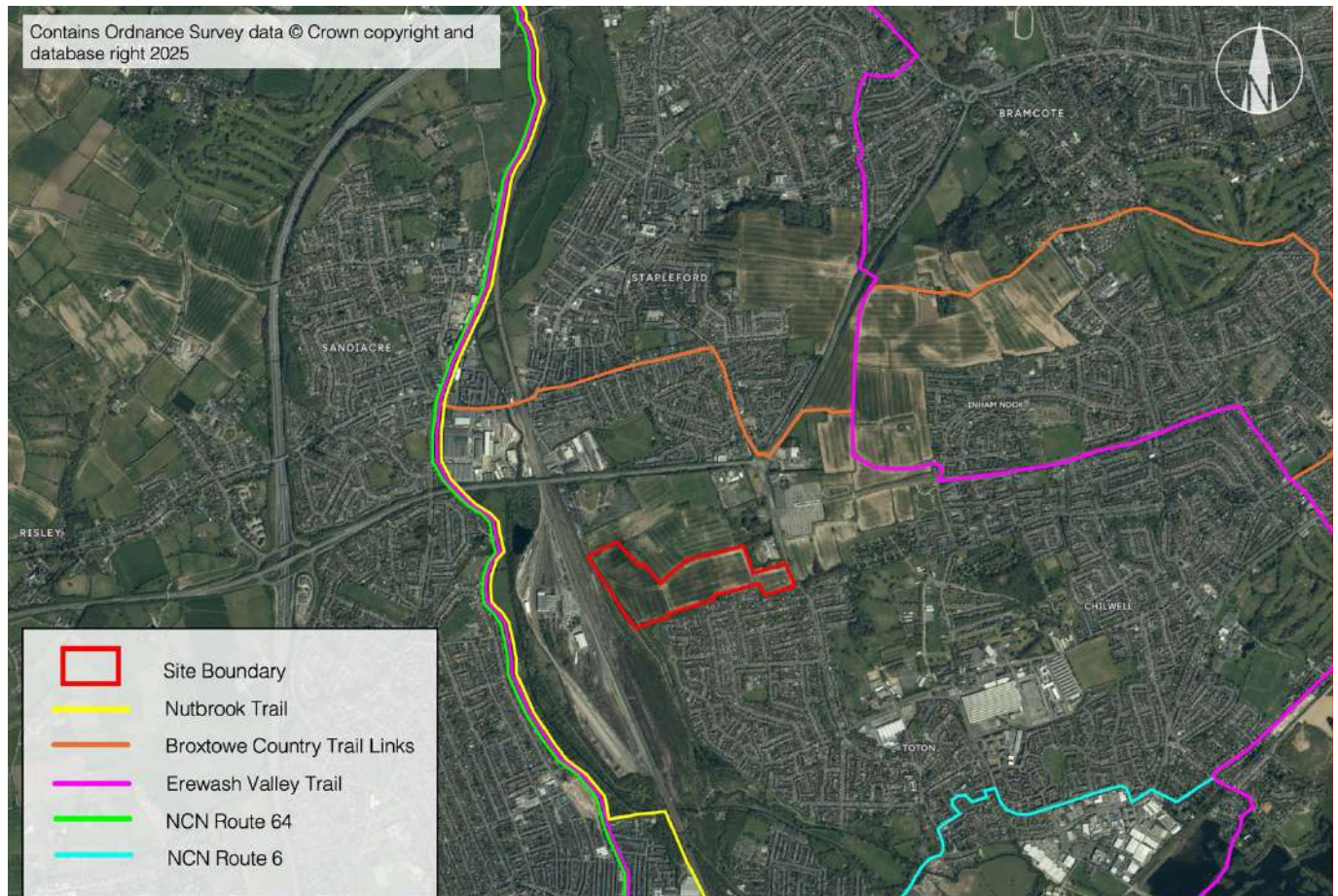
Figure 4.5 Cycle Catchment from Site



4.4.14 The general topography of the surrounding area is generally conducive to cycling, and the majority of the local amenities and facilities can be reached from the site via the local cycling network and within a suitable cycling distance.

4.4.15 **Figure 4.6** below illustrates the local cycling trails and routes in close vicinity to the site.

Figure 4.6 Cycling trails and Routes in Site Vicinity*



**Routes taken from Erewash online cycle trail maps and Sustrans NCN network online map*

4.4.16 An excerpt of NCC's local Nottingham cycle map and recommended cycle routes close to the site, is shown below in **Figure 4.7**.

Figure 4.7 Cycling in Nottinghamshire Map



4.4.17 Shared cycleway/footways are provided on either side of the B6003 Stapleford Lane which connect to the Bardills roundabout and Bridleway BW27. Furthermore, to the south of the site, the B6003 Stapleford Lane and Swiney Way are highlighted as recommended on road routes for cycling, which join further on road recommended routes into Nottingham City Centre as well as providing access to National Cycle Network (NCN) Route 6.

Local Amenities

4.4.18 The distances and respective walking and cycling journey times to various local amenities are set out in **Table 4.2** below.

4.4.19 It should be noted that mode has utilised Google Maps distances and journey time tool to inform the distances to key amenities. The distances have been taken from the centre of the development site.

4.4.20 Further to the above, journey times have been estimated on the following two assumptions, with journey times for both pedestrians and cyclists rounded up to the nearest complete minute:

- Walking time: 80 metres per minute¹
- Cycling time: 268 metres per minute²

¹ Walking time assumption based off section 6.3 within 'Planning for Walking' (2015) document, produced by the Chartered Institution of Highways and Transportation (CIHT)

² Cycling time assumptions based off paragraph 13.6.3 within 'Cycle Infrastructure Design Local Transport Note 1/20' 'Paragraph published by the Department for Transport (2020)

Table 4.2 Local Amenity Assessment

Amenity/Service	Distance (Metres)	Approx. Walking Time (mins)	Approx. Cycle Time (mins)
Education			
Sunnyside Spencer Academy	2353	29	9
Eskdale Junior School	1936	24	7
Alderman Pounder Infant School & Nursery	2139	27	8
George Spencer Academy	1080	14	4
Fairfield Spencer Academy	1788	22	7
William Lilley Infant & Nursery School	2214	23	7
Bispham Drive Junior School	1285	16	5
Banks Road Infant and Nursery School	1547	19	6
Chetwynd Spencer Academy	1974	25	7
Healthcare			
Saxon Cross Surgery	2295	29	9
Chilwell Meadows Surgery	2830	35	11
The Valley Surgery	2684	34	10
Tesco Pharmacy	1480	19	6
Toton Surgery	1380	17	5
Retail			
Costa Coffee	1480	19	6
Tesco Extra	1480	19	6
Bardills Garden Centre	990	13	4
IAD Food and Wine	1140	14	4
Toton Fish Bar	1089	14	4
Morrisons Daily Toton Lane	1260	16	5
Sainsbury's	2424	30	9
Premier Brookhill St	2070	26	8
Morrisons Daily Toton Lane	1262	36	11
Chilwell Co-op	2449	31	9
Heron Food	2424	22	7
Chetwynd Road Post Office	1742	22	7
Kiva Skin Beauty Salon	1742	22	7
Deakin & White Barbers	1742	22	7
Leisure			
Archers Field Recreation Ground	1243	16	5
Inham Nook Recreation Ground	2278	28	9
Transport			

Toton Park & Ride Station	720	9	3
Existing Bus Stops on Stapleford Lane	480	6	2

4.4.21 As demonstrated above, the site is located within an appropriate walking or cycling distance of a range of educational, leisure and retail facilities.

4.4.22 It is therefore considered that there are good opportunities for future residents and users of the site to walk or cycle between the site and nearby amenities which also support the aspirations of the NPPF and notably paragraph 110 of the NPPF which sets out that: *“Significant development should be focused on locations which are or can be made sustainable.”*

4.4.23 As such, based upon the above assessment, it is considered that there are a range of amenities within an acceptable cycling distance of the site and there is also a network of designated / advisory nearby cycle routes to enable safe journeys by bike to these amenities.

4.5 Public Transport

Bus Services

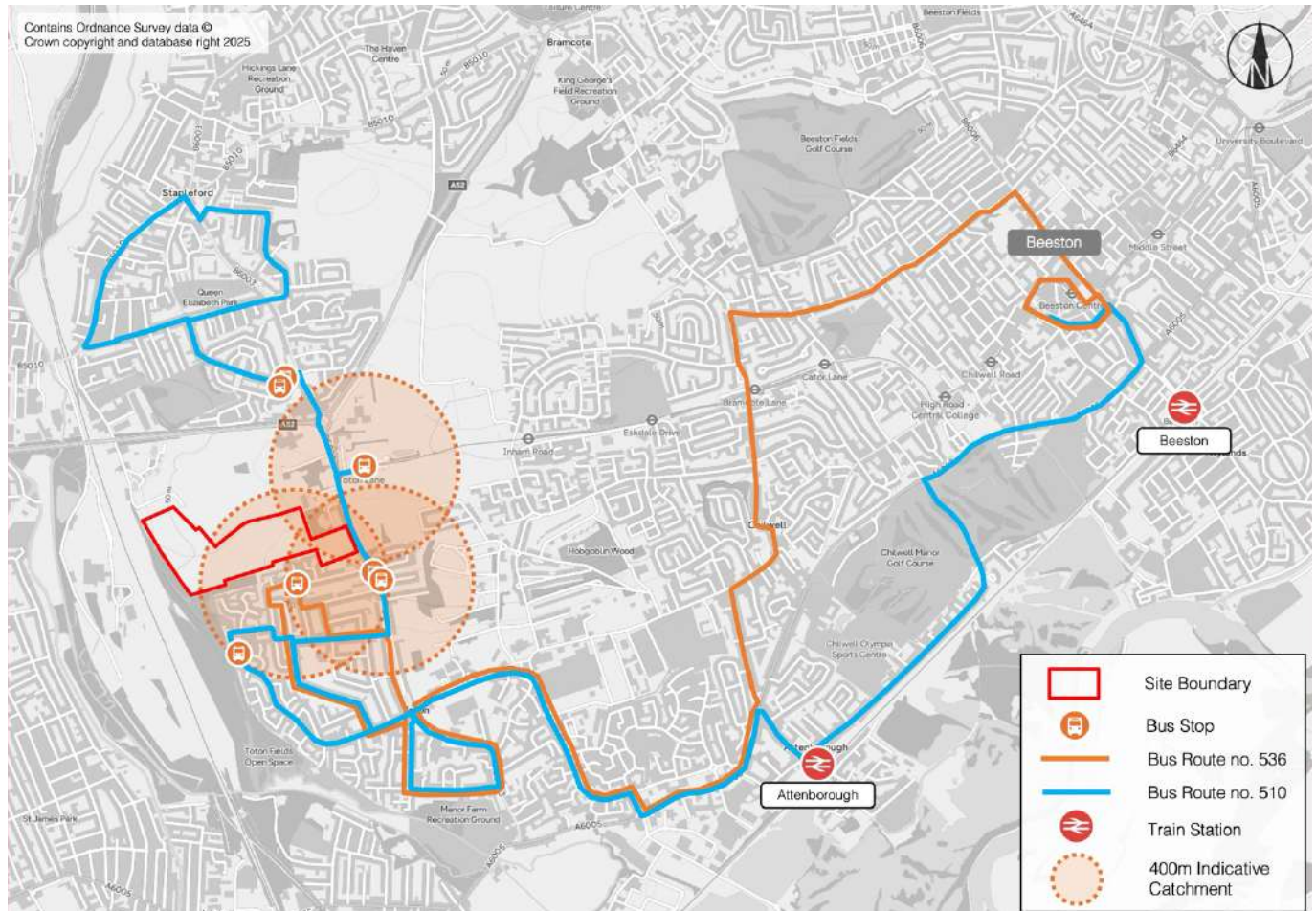
4.5.1 The Chartered Institute of Highways and Transportation (CIHT) published: ‘Buses in Urban Developments’ in 2018 to provide a reference for spatial and transport planners. In regard to the location of bus services, the document provides guidance on appropriate walking distances to bus stops:

“The Planning of development sites should consider the walking distances to bus stops and the corresponding bus catchment areas. This affects the distance between the adjacent bus routes and hence the street layout as a whole. Custom and practice for many years suggests a maximum walking distance of 400m from a bus stop.”

4.5.2 Furthermore, the Nottinghamshire Highway Design Guidelines outlines that: *“80% of dwellings should be within 250m to 400m maximum walking distance of a bus stop location where there is an existing or to be secured route.”*

4.5.3 Based on the above guidance, an assessment has been undertaken in relation to the nearest existing bus accessibility and service offering in proximity to the development site. An overview of the location of the nearest local bus stops and key routes is provided in **Figure 4.8** below.

Figure 4.8 Bus Routes and Bus Stop Locations



- 4.5.4 There are two bus stops within 400m of the proposed development site, located on either side of the B6003 Stapleford Lane in close proximity to the staggered junction between Stapleford Lane / Cleve Avenue / Katherine Drive. Both stops can be accessed via footways on either side of Stapleford Lane. These stops provide access to the no.510 and no.517 bus services.
- 4.5.5 The no.517 is a school service connecting the site with English Martyrs RC Catholic Voluntary Academy with the outbound service departing Toton Lane at 08:38 and arriving following a school day at 15:45.
- 4.5.6 Route no. 510 operates from Stapleford in the west to Beeston Interchange in the east. The bus stops located along the B6003 Stapleford Lane are made up of a flagpole design with printed timetable information.
- 4.5.7 Route no. 536 runs between the residential development to the south of the development, to Beeston Interchange in the east, and can be accessed via the nearest bus stop located on Spinney Rise. An overview of the typical bus frequency provision during peak times is provided in **Table 4.3** below.

Table 4.3 Local Bus Service Provision

No.	Route	Typical Peak Hour Frequency		
		Weekday	Saturday	Sunday
510	Stapleford – Beeston Interchange	1 per hour (07:41 – 18:30)	1 per hour (07:41 – 18:30)	No Service
517	Bramcote – English Martyrs RC Primary	2 services a day (pick up and drop off)	No Service	No Service
536	Chilwell – Toton - Beeston Interchange	5 per day (09:40 – 14:40)	5 per day (09:40 – 14:40)	No service

Bus services, frequencies and times are accurate as of December 2025

Rail Services

4.5.8 As outlined in **Figure 4.8**, the closest railway station to the sites is Attenborough train station, which is located c.2.4 km southeast of the sites, and accessible within a c. 46-minute walk or c. 14-minute cycle. Access to Attenborough train station can also be achieved via the 510-bus route, which is accessible from the Toton Lane Park & Ride tram stop and from the aforementioned bus stops on the B6003 Stapleford Lane, in proximity to the staggered junction between Stapleford Lane / Cleve Avenue / Katherine Drive.

4.5.9 Attenborough Station benefits from 28 cycle parking spaces, with the route to the station following recommended on road cycle routes (as illustrated on **Figure 4.7**): B6003 Stapleford Lane, Swiney Way and Attenborough Lane.

4.5.10 The station operates hourly services between Matlock and Nottingham via Derby and between Leicester and Lincoln, with alternating trains continuing to Grimsby. Attenborough station also serves the cross-country service between Nottingham and Cardiff, stopping at Derby, Birmingham New Street and Gloucester.

4.5.11 An overview of the rail services operating at Attenborough Train Station is set out in **Table 4.4**.

Table 4.4 Rail Service Frequency*

Destination	Typical Peak Hour Frequency	Typical Journey Time
Attenborough		
Matlock	1 per hour	1 hour 15 minutes
Derby	4 per hour	31 minutes
Nottingham	2 per hour	12 minutes
Leicester	3 per hour	39 minutes
Grimsby Town	1 per 2 hours	2 hours 7 minutes
Lincoln Central	1 per hour	1 hour 9 minutes

Timetable information obtained in December 2025. Information has been obtained from www.thetrainline.com

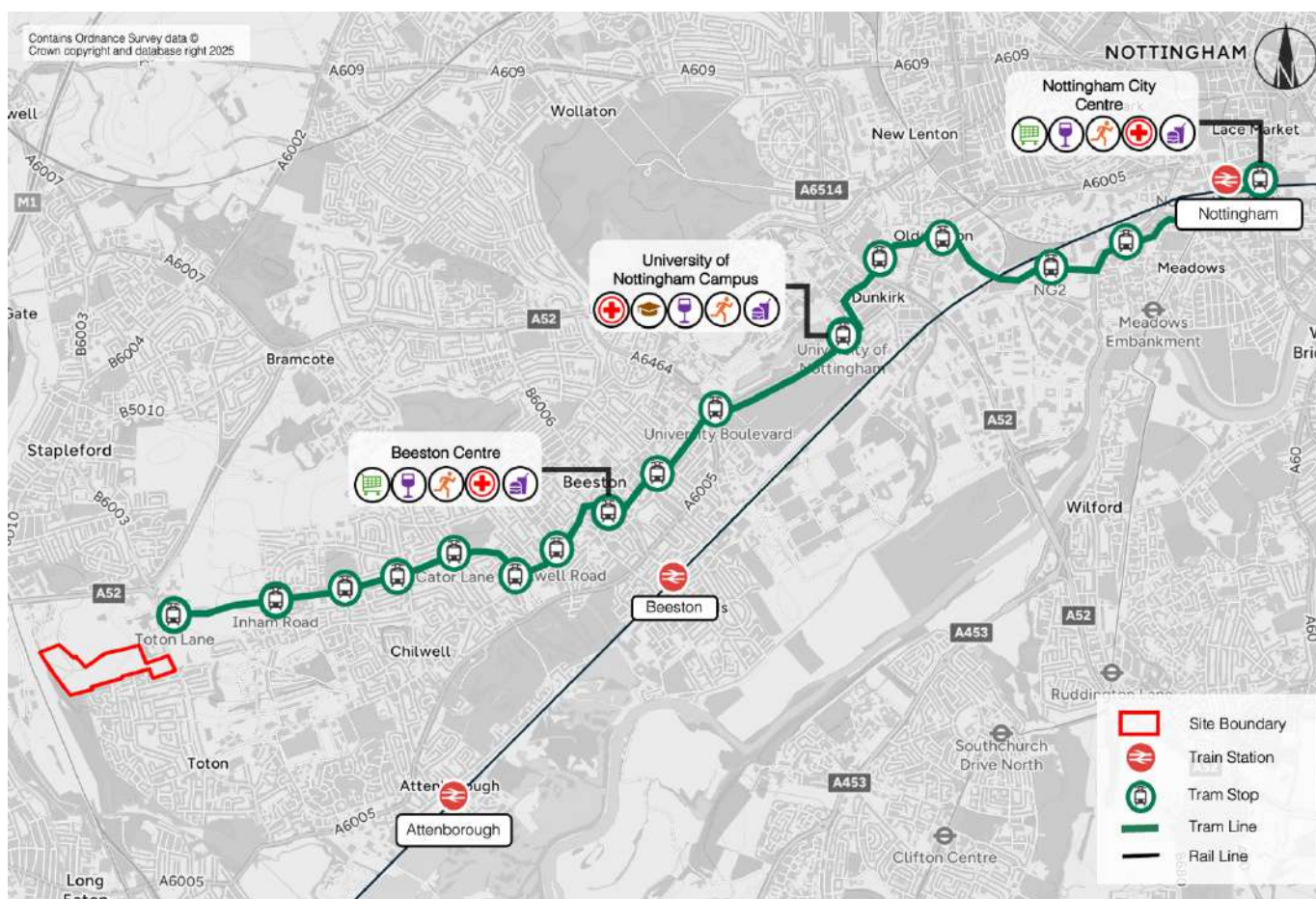
4.5.12 Further facilities at Attenborough Station include:

- Step free platform access;
- CCTV; and,
- 28 x cycle storage stands.

Tram Services

4.5.13 The Nottingham Express Transit (NET) network provides connections between the site to Nottingham City Centre, via Beeston and the University of Nottingham, as illustrated in **Figure 4.9**.

Figure 4.9 Nottingham Express Transit (NET) Tram Network



4.5.14 As illustrated above, the NET offers a direct public transport link into Nottingham City Centre, with an average journey time of 31 minutes. An overview of typical tram frequency during peak times is provided in **Table 4.5**.

Table 4.5 NET Tram Service Frequency

Route	Typical Peak Hour Frequency		
	Weekday	Saturday	Sunday
Toton Lane > City Centre > Hucknall	6 per hour	6 per hour	6 per hour
Hucknall > City Centre > Toton Lane	6 per hour	6 per hour	6 per hour

Tram services, frequencies and times are accurate as of December 2025

4.5.15 Between Monday and Saturdays, trams operate between 06:01 and 01:05, on Sundays, trams operate between 06:01 and 00:05 and as such, there is excellent, frequent coverage across the day.

4.5.16 The typical journeys times from the tram stops nearest to the site to the destinations above is provided in **Table 4.6** below.

Table 4.6 NET Tram Service Journey Times

Destination Tram Stop	Typical Journey Time (From Toton Lane)
Beeston Centre	10 minutes
University of Nottingham	18 minutes
Nottingham	31 minutes

Tram services, frequencies and times are accurate as of October 2025

4.5.17 The Toton Lane Park & Ride station is c.720m from the centre of the proposed development site, which equates to a c.9-minute walk or c.3-minute cycle.

4.5.18 The Park and Ride facility benefits from secure cycle parking provision, which is accessible through an annual Cycle Park subscription, which can also be used across 21 other hubs in Nottingham (£12 per year from 1st April 2024). There are also 8 rapid chargers (50kW) and 16 charging socket electric vehicle charging provision (EVCP) spaces which support commuters with electric vehicles.

4.6 Summary

4.6.1 This chapter has demonstrated that there is an opportunity available to travel to nearby amenities by sustainable means of travel: walking, cycling, car sharing or through public transport. As such, according with the NPPF's definition of sustainable transport modes:

"Any efficient, safe and accessible means of transport means of transport with overall low impact on the environment, including walking and cycling, ultra-low and zero emission vehicles, car sharing and public transport."

4.6.2 This chapter has demonstrated that there is a clear and genuine choice of transport opportunities for future residents on site (under the NPPF's defined types of sustainable transport), other than reliance on single occupancy car use.

- 4.6.3 At this stage, consideration should also be made to Paragraph 110 of the NPPF, which sets out that significant development should be located in areas which are sustainable:

“The planning system should actively manage patterns of growth in support of these objectives. Significant development should be focused on locations which are, or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help reduce congestion, emissions and improve air quality and public health. However, opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan making and decision making.”

- 4.6.4 The proposals are located in close proximity to the Toton Park & Ride tram facility, along with bus stops and routes on Stapleford Lane and as such there are great opportunities for future residents on site to access nearby destinations (including Nottingham City Centre) via methods of active travel or public transport.
- 4.6.5 Notwithstanding the above, it is acknowledged that improvements can be made to better connect pedestrians between the site and the existing footway network and amenities nearby. As such, the site access (detailed within **Chapter 5**) will also encompass signalised crossings on each approach arm to ensure safe permeability across the B6003. Furthermore, shared foot/cycleways will be implemented to the north and south of the access junction to enable better connections between the site and the Toton Lane Park and Ride tram stop.
- 4.6.6 Furthermore, this chapter has demonstrated that there are no inherent highway safety issues on the local highway network surrounding the site, which would likely be exacerbated by the development.

5. Development Proposals

5.1 Overview

- 5.1.1 This section of the TA sets out the details of the proposed development, the means of access and the proposed NMU access strategy for the site.

5.2 Development Quantum

- 5.2.1 The application is comprised of the following:

“Outline Planning Application for the construction of a residential development of up to 420 residential dwellings and associated open space and infrastructure.”

- 5.2.2 A copy of the illustrative masterplan is included at **Appendix A**, for reference.

5.3 Vehicle Access

- 5.3.1 Vehicular access to the site will be through the provision of a new signalised crossroads junction with the B6003 Stapleford Lane. The site access will form the western arm of the signalised crossroads with the eastern arm providing access to potential development at Toton East (currently in determination under planning reference 25/00255/FUL). Whilst this application and access is to be determined on its own merits, from a practical delivery perspective, the access has been designed as a crossroads to provide opportunity for access into Toton East and ensure the allocated land isn't prejudiced by the delivery of an access only into Toton West.
- 5.3.2 As part of the access junction, signalised Toucan and Puffin crossings will be implemented on both the B6003 Stapleford northbound approach arm and the Toton East approach arm, respectively. The site access and B6003 Stapleford southbound approach arm will benefit from signalised Toucan crossing facilities. A detailed illustration of the proposed access junction is attached at **Appendix C**.
- 5.3.3 Swept path analysis has been undertaken using a 11.2m refuse vehicle to ensure that the access is suitable to allow safe access to the largest expected design vehicle on site.
- 5.3.4 Furthermore, a max legal articulated vehicle has also been subject to swept path analysis on the B6003 Stapleford Lane mainline to demonstrate the largest expected design vehicle on the B6003 can use the junction for onward journeys on the B6003 Stapleford Lane.

5.4 Parking

- 5.4.1 The proposals are seeking outline planning consent and as such, parking will be subject to reserved matters. Notwithstanding this, parking will be provided in full accordance with NCC local parking standards.

5.4.2 Furthermore, Electric Vehicle Charging Points (EVCP) provision at the site will be provided in accordance with the relevant building regulations in England; specifically, Requirement S1 of 'Infrastructure for charging electric vehicles: Approved Document S' (2023), which states the following with respect to the erection of new residential dwellings:

- (1) A new residential building with associated parking must have access to electric vehicle charge points as provided for in paragraph (2).
- (2) The number of associated parking spaces which have access to electric vehicle charge points must be—
 - (a) the total number of associated parking spaces, where there are fewer associated parking spaces than there are dwellings contained in the residential building; or
 - (b) the number of associated parking spaces that is equal to the total number of dwellings contained in the residential building, where there are the same number of associated parking spaces as, or more associated parking spaces than, there are dwellings.
- (3) Cable routes for electric vehicle charge points must be installed in any associated parking spaces which do not, in accordance with paragraph (2), have an electric vehicle charge point where—
 - (a) a new residential building has more than 10 associated parking spaces; and
 - (b) there are more associated parking spaces than there are dwellings contained in the residential building."

5.4.3 On the basis of the above, each residential dwelling will have access to an EVCP.

5.5 Non-Motorised User Access

- 5.5.1 A significant component of the master planning vision for the development is the provision of the appropriate infrastructure to encourage sustainable travel as the first choice of trips wherever feasible as well as reducing trips in private motorised vehicles, but notably in encouraging residents to use the Toton Lane Tram Stop.
- 5.5.2 The hierarchy of choice will be promoted through the RTP as part of the 'Swap, Shift and Switch' concept, as outlined in **Chapter 2**, and illustrated in **Figure 2.2**.
- 5.5.3 Finally, where car trips must be made, the RTP will be used to promote and encourage multi-vehicle occupancy and the uptake of electric vehicles as the most sustainable means of travelling by car.
- 5.5.4 The principals set out in **Chapter 2** and surmised above have directly informed the site design and off-site proposals to better connect to the Toton Park and Ride tram stop. A 3.0m shared footway/cycleway is proposed on the northern side of the site access road, which will tie into the existing footway on the B6003 Stapleford Lane. It will also enable onward access to the eastern side of the B6003 Stapleford Lane via Toucan Signalised crossing facilities.

- 5.5.5 On the southern side of the site access road, a dedicated 3.0m wide cycleway is proposed alongside a 2.0m footway. These facilities will tie into the existing footway on the western side of the B6003 Stapleford Lane. Likewise, toucan Signalised crossing facilities will enable onward connection to the eastern side of the B6003 Stapleford Lane where 3.0m shared footway/cycleway connections are proposed to connect the development site to the Toton Park and Ride station to the north. The proposed extent of shared foot/cycleway is illustrated on the general arrangement drawings attached at **Appendix C**, for reference.
- 5.5.6 The existing PRoW FP17 along the northern and western boundaries of the site is currently not surfaced or lit, and therefore improvements to the surfacing, lighting and waymarking of the existing route will be provided through the site, with details of the improvements to be agreed with NCC's PRoW officer through the course of the determination period. A minor diversion of the existing PF17 route is proposed within the site, to follow a revised route around the western edge of the development, as shown on the site layout plan.
- 5.5.7 The initial section of the FP17 (approximately 165m in length) immediately west of the B6003 falls outside of the application boundary. This length of footpath is not surfaced or lit, however is c. 5m wide, and there is potential to provide improvements to surfacing, lighting and waymarking. Similarly, there is also potential to improve surfacing and waymarking of a c.300m in length of FP17 to the south of the site, to provide an enhanced connection to Banks Road and local facilities and amenities within the residential area to the south.
- 5.5.8 The existing footpath connection to the B6003 has an uncontrolled crossing with tactile paving provision. It is proposed that the uncontrolled crossing would be retained, as signal-controlled crossings will be provided at the new site access junction, c. 150m south and there are existing signal-controlled crossings at the P&R junction, c. 75m north of this point.

6. Trip Generation & Distribution

6.1 Overview

6.1.1 This chapter of the TA provides an overview of the methodology used to calculate the forecast trip demand associated with the development proposals, before setting out how distribution and assignment exercises have been undertaken to load development trips onto the local highway network.

6.2 Vehicular Trip Rates and Distribution

6.2.1 In order to provide an indication of the trip generation associated with the development, vehicle trip rates have been taken from the East Midlands Gateway Model (EMGM).

6.2.2 It should be noted that within their formal response to the planning applications at the development site (Ref: 25/00371/OUT) and at Toton North (Ref: 25/00306/OUT), NH accepted the use of trip rates derived within the EMGM.

6.2.3 At the time of writing this TA, NCC haven't provided a formal response to the live applications on any of the three Toton sites. However, given the trip rates are derived from NCC's EMGM, it is considered that the trip rates must therefore be appropriate to adopt.

6.2.4 The resulting trip rates, and associated traffic generation for the 420-dwelling development, are shown in **Table 6.1** below.

Table 6.1 Proposed Trip Rates and Trip Generation*

	AM Peak Period (08:00-09:00)			PM Peak Period (17:00-18:00)		
	Arrivals	Departures	Two-Way	Arrivals	Departures	
Trip Rate (per dwelling)	0.091	0.453	0.544	0.343	0.136	0.479
Trip Generation (420 dwellings)	39	191	230	145	58	203

**Please note that trip generation figures have in all instances been rounded up to the nearest whole number*

6.2.5 **Table 5.1** demonstrates that the proposed development is forecast to generate 230 and 203 two-way vehicular trips during the AM and PM peak hours. This equates to an additional vehicular trip every c.15 seconds in the AM peak period and c.17 seconds in the PM peak period.

6.3 Multi Modal Trip Generation

6.3.1 To provide an indication of the modal split anticipated at the proposed development, journey to work data has been reviewed for the Middle Super Output Area (MSOA) in which the site is located (Broxtowe 015).

6.3.2 The 2011 Census data has been consulted as it is still considered a more representative dataset given the 2021 Census was undertaken during travel restrictions associated with the Covid 19 pandemic.

6.3.3 A summary of the mode share from residents within this MSOA is provided in **Table 6.2**.

Table 6.2 Journey to Work Mode Share (Broxtowe 015)

Mode of Travel	Mode Share (%)
Train	2.0%
Tram / Underground / Light Rail	0.1%
Bus	7.7%
Motorcycle	1.0%
Taxi	0.1%
Car Driver	73.5%
Car Passenger	4.8%
Bicycle	4.3%
Walk	6.3%
Other	0.3%
Total	100%

6.3.4 **Table 6.2** indicates that currently 78% of people travel to work by car of which 73% are single occupancy car trips. In terms of the percentage of the local population that currently travel to work using non-car modes, 8%, 4% and 6% travel via bus, bicycle and walk respectively.

6.3.5 On this basis, the modal splits outlined in **Table 6.2** have been combined with the vehicle trip generation to calculate the two-way person trips associated with the development for journeys to work. A summary of the two-way total person trip generation of the proposals is provided in **Table 6.3**, below.

Table 6.3 Total Multi Modal Trip Generation

Mode of Travel	Mode Share (%)	AM Peak (08:00-09:00)	PM Peak (17:00-18:00)
Train	1.98%	6	5
Tram / Underground / Light Rail	0.00%	0	0
Bus	8.00%	24	21
Motorcycle	1.00%	3	3
Taxi	0.00%	0	0
Car Driver	73.0%	230	203
Car Passenger	5.00%	15	13
Bicycle	4.00%	13	12
Walk	6.00%	20	17

Other	0.00%	1	1
Total	100%	313	276

- 6.3.6 It should be noted that 2011 census data does not account for any site generated trips using the local tram network, as the Toton Lane tram stop became operational in August 2015. As such, a far greater modal share of trips will be likely to use the NET network, given the proximity to the proposals and the high level of peak period tram frequency into Nottingham City Centre (6 per hour).
- 6.3.7 The development is forecast to generate 6 and 5 two-way rail trips during the respective AM and PM peak periods. The closest train station to the site is Attenborough Train Station which is within a 46-minute walk (using the extensive network of footways on the B6003, A6005, Barratt Lane and Attenborough Lane or by a 14-minute cycle. The station benefits from half hourly services to Nottingham and Sheffield and hourly services to Matlock, Derby and London. Based on the existing frequency of services at Attenborough Train Station, it is considered the forecast additional users (6 and 5 during the AM and PM periods) can sufficiently be accommodated.
- 6.3.8 In terms of bus demand, the development is forecast to generate 24 and 21 two-way additional trips during the respective AM and PM peak periods. As identified in **Chapter 4**, the nearest bus stops in relation to the site are located on the B6003 Stapleford Lane, which enable access to the no. 510 service, which offers hourly services between Stapleford with the Beeston Interchange.
- 6.3.9 Regarding active travel, the development is forecast to generate an additional 13 and 12 two-way cycle trips during the AM and PM peak periods. As outlined within **Chapter 4**, in direct proximity to the site access junction, shared cycle paths are located on both sides of the B6003 Stapleford Lane, proceeding northbound to the NET park and ride facility and southbound to a network of recommended cycle routes (as illustrated on NCC's local cycle map) which route eastwards towards Nottingham City Centre.
- 6.3.10 In terms of walking trips, **Table 6.3** outlines that 20 and 17 two-way walking trips are forecast from the development site, during the AM and PM peak periods. As discussed in **Chapter 4**, there are footways on either side of the B6003 Stapleford Lane which enable direct connections for pedestrians into Toton to the south and towards the Toton Lane tram stop and Stapleford to the north. As outlined within **Chapter 5**, as part of the proposed site access junction, Toucan and Puffin crossing facilities will be incorporated into the design and as such support safe and controlled crossing opportunities for pedestrians (and cyclists) looking to cross the B6003 Stapleford Lane to complete onward journeys.

6.4 Vehicular Trip Distribution

- 6.4.1 To understand the routing of residential-based trips associated with the proposed developments, traffic has been distributed across the local highway network using 2011 Census data relating to the locations of workplaces where existing residents in the local Broxtowe 015 MSOA travel to by car.

6.4.2 The local highway network has been analysed, and a percentage of distribution has been applied to the main / routes surrounding the site, through the use of the Google Maps journey planner tool. The zonal distribution plan is shown in **Figure 6.1** and the percentage of residential traffic travelling to and from each zone, along with the corresponding number of arrivals and departures, is summarised in **Table 6.4**.

Figure 6.1 Traffic Distribution Zones

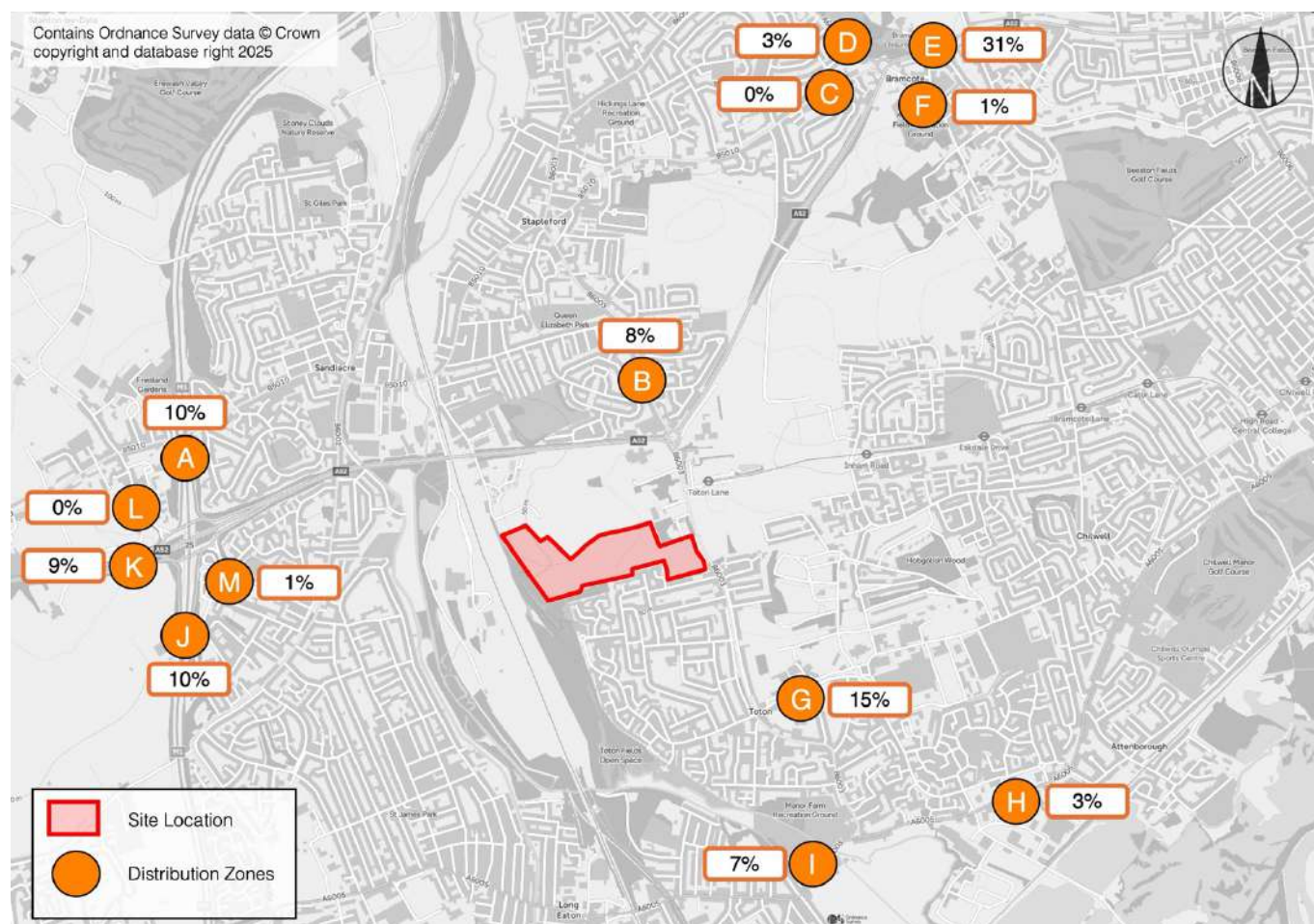


Table 6.4 Vehicle Distribution

Zone	Distribution (%)	Vehicle Trip Generation	
		AM Peak (08:00 – 09:00)	PM Peak (17:00 – 18:00)
A – M1 (N)	10%	23	21
B – B6003 Toton Lane (N)	8%	19	17
C – B5010 Derby Road (W)	0%	0	0
D – A6007 Ilkeston Road (N)	3%	7	6

E – A52 Brian Clough Way (E)	31%	72	64
F – Town Street (S)	1%	2	3
G – Swiney Way (E)	15%	26	31
H – A6005 Nottingham Road East (E)	3%	7	7
I – A6005 Nottingham Road (W)	7%	16	14
J – M1 (S)	10%	24	21
K – A52 Brian Clough Way (W)	9%	19	17
L – Bostocks Lane (NW)	0%	1	1
M – Bostocks (SE)	1%	2	3

6.5 Vehicular Trip Assignment

6.5.1 mode have consulted Google Maps journey planning tool to assign trips along the fastest route to the end distribution zones during the AM Peak Period (08:30).

6.5.2 A summary of the assignment exercise and resultant two-way vehicular trips through key nearby junctions is set out in **Table 6.5**, below.

Table 6.5 Junction Assignment

Junction	AM Trips	PM Trips	Distribution (%)
1. M1 Junction 25 Roundabout	71	62	31%
2. Bardills Roundabout	171	151	74%
3. Bramcote Island	81	72	35%
4. B6003 Stapleford Ln / Swiney Way / B6003 High Road / Banks Road	59	52	26%
5. B6003 High Road / A6005 Nottingham Road East / A6005 Nottingham Road West	24	21	10%
6. B6003 Stapleford Ln (N) / Toton East Site Loading Point / B6003 Stapleford Ln (S) / Site Access	230	203	100%
7. B6003 Stapleford Ln (N) / Toton Lane P&R Access / B6003 Stapleford Ln (S) / Peveril Homes Ltd Site Access	171	151	74%

7. Highway Assessment

7.1 Overview

- 7.1.1 This chapter provides an assessment of the development proposals on the local highway network in order to ensure the proposals accord with paragraph 116 of the NPPF:

“Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.”

7.2 Assessment Scenarios

- 7.2.1 It is anticipated that the development will commence construction in 2028. In accordance with requests from NH, an initial horizon year of 2028 has therefore been considered.
- 7.2.2 Consideration will also be made to the end of the emerging Greater Nottingham Strategic Plan period in 2041. A horizon year of 2041 also encompasses the required minimum horizon assessment of 10 years post submission in accordance with guidance set out in the DfT's Guidance on Transport Assessment.
- 7.2.3 A further sensitivity scenario has been considered to account for the consented scheme for the erection of 282 dwellings at land west of Toton Lane (Ref: 17/00499/REM). As there is ongoing uncertainty pertaining to the delivery of this development the scheme has been considered as a sensitivity scenario only.
- 7.2.4 The following modelling scenarios have therefore been considered:
- 2025 Base;
 - 2028 Base;
 - 2028 Base + Development;
 - 2028 Base + Development + Sensitivity;
 - 2041 Base;
 - 2041 Base + Sensitivity;
 - 2041 Base + Development; and,
 - 2041 Base + Development + Sensitivity.

7.3 Committed Development

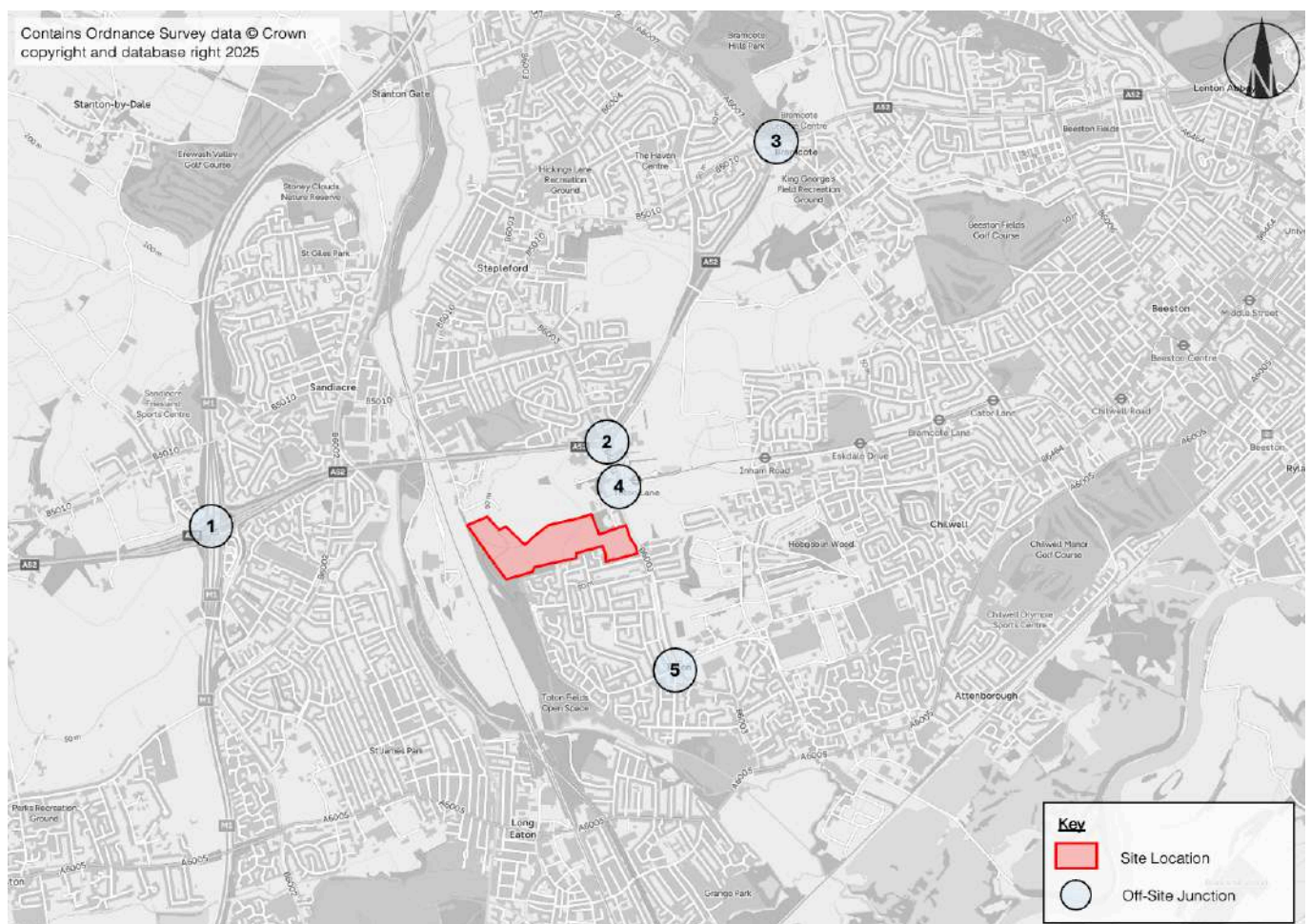
- 7.3.1 An extensive search into local committed development has been carried out within the local area of Broxtowe. The purpose of this exercise was to capture additional trips related to consented developments that will be using the highway network within the vicinity of the proposal but won't yet be accounted for within baseline traffic survey data.
- 7.3.2 By definition within the PPG, a 'committed development' is a development that is consented or allocated where there is a reasonable degree of certainty it will proceed within the next three years. As such only developments which have obtained planning consent and are not yet built out will be considered further.
- 7.3.3 It should be noted that committed developments that were not required to produce a TA, or produced a TA without capacity assessments or distribution plots - and therefore deemed to generate an immaterial level of trips - have been discounted from the search due to their size (below 50 dwellings and 500sqm).
- 7.3.4 TEMPro growth factors are underpinned by the NTEM dataset, which utilises projections based on housing trajectory trends and allocations within local plans. Therefore, factors obtained from TEMPro (as set out in **section 7.5**) will innately account for development allocated within the Broxtowe Borough Council Local Plan. As such, any allocated site (currently in determination or yet to be brought forward with a planning application) will be inherently accounted for within the TEMPro growth factors used.
- 7.3.5 Given development at Toton West is allocated, an inherent trip demand associated with the site is already accounted for in the TEMPro growth factors obtained. This therefore represents a robust assessment.
- 7.3.6 Development at Toton East is allocated within the local plan and therefore traffic associated with this scheme will also be accounted for within the TEMPro growth factors. Toton North is not allocated in its entirety; however, given the application is currently in the process of determination, it cannot be considered a committed development by definition and as such is not considered further within this TA.
- 7.3.7 Consideration has been made to the consented application to the north of the site at land west of Toton Lane (Ref: 17/00499/REM) for the erection of 282 dwellings. At the time of writing, it is understood that NCC now own land relating to this permission, but construction is yet to commence. As there is ongoing uncertainty pertaining to the delivery of this development the scheme has been considered as a sensitivity scenario only. The Trip generation and subsequent trip distribution associated with this scheme has been transcribed onto the local highway network deriving the same methodology as that used to forecast and distribute traffic associated with the development proposals.

7.4 Assessment Scope

7.4.1 Based on the scale of development proposed and the routes from the site to the major highway links in the vicinity of the site, in addition to the site access junctions, off-site junction assessments have been undertaken at the locations listed below, and shown in **Figure 7.1**, for reference:

- Junction 1 – M1 Junction 25;
- Junction 2 - Bardills Roundabout;
- Junction 3 – Bramcote Island;
- Junction 4 – B6003 Toton Lane / Park & Ride; and,
- Junction 5 – B6003 Stapleford Lane / Swiney Way / Banks Road.

Figure 7.1 Location of Off-Site Junction Assessments



7.5 Background Traffic Data

- 7.5.1 To determine the existing level of traffic within the study area, a series of Manual Classified Counts (MCC) surveys have been undertaken covering the traditional highway peak periods of 07:00-10:00 and 16:00-19:00. MCC surveys were undertaken on 06/11/25, a neutral working weekday outside of school holiday periods. The survey data is therefore considered representative of typical traffic conditions on the local highway network and robust to use in subsequent junction capacity assessments.
- 7.5.2 An Automated Traffic Count (ATC) survey was also undertaken in close proximity to the proposed site access junction to inform the mainline flows for the modelling exercise for the proposed site access junction. The MCC and ATC survey data is attached at **Appendix E**, for reference.
- 7.5.3 The TEMPro v.8.1 database has been interrogated to provide local growth factors for the Broxtowe 015 MSOA, in which the development site sits within.
- 7.5.4 For the interrogation of the TEMPro database, the growth factors for 'car drivers only' were selected for the 'core scenario'; with the trip end type being defined as 'origin/ destination' and local roads selected serving regional purposes. A summary of the TEMPro growth factors is provided in **Table 7.1** below.

Table 7.1 TEMPro Growth Factors

Growth Period	Weekday AM Peak Period	Weekday PM Peak Period
2025-2028	1.0382	1.0295
2025-2041	1.1217	1.1172

- 7.5.5 Traffic Flow Diagrams have been prepared by mode which transcribe the base data, 'growthed' data, development traffic and sensitivity traffic onto the assessed local network and can be viewed at **Appendix F** of this TA.

7.6 Junction Capacity Assessments

- 7.6.1 The junction capacity assessments undertaken in this TA have been based on the traditional AM peak period of 08:00-09:00 and PM peak period of 17:00-18:00, in line with industry standard practice.
- 7.6.2 It should also be noted that capacity assessments have accounted for 100% of traffic associated with the proposed development and do not consider any potential modal shift that may be realised because of any potential Travel Planning measures. The actual realised impact of development traffic may therefore be lower.

- 7.6.3 The industry standard software package 'Junctions 11' (PICADY and ARCADY modules) has been used to assess the capacity of the priority junctions and roundabouts as well as LinSig V3 for signalised junctions. The geometric parameters have been measured using OS base mapping and the signal plan information has been obtained from NH and Via East Midlands (on behalf of NCC) for signal-controlled locations.
- 7.6.4 Generally, values of 0.85 or lower are accepted as an indication of roundabouts or priority junctions to be operating satisfactorily; however, this is not always a clear indicator as this can vary through the peak hour; therefore, the length of queues and the delay must also be considered when determining if the traffic impact at any given junction is 'severe'.
- 7.6.5 At junctions operating close to zero Practical Reserve Capacity (PRC), which equates to a DoS/RFC value of approximately 0.90 or 90%, small reductions in capacity may result in exponential delay and/or queueing. Therefore, junctions operating above 0.90/90% should be carefully reviewed to ensure that queues and the delay, is not significantly impacted upon to ensure that the new development will not have a 'severe' impact upon the existing highway infrastructure.
- 7.6.6 A summary of the modelling results is presented below, and full model output reports are provided in **Appendix G** for reference.

Site Access / B6003 Stapleford Lane / Toton East Access

- 7.6.7 The proposals at Toton East are currently in determination (Ref: 25/00255/FUL) and given the aspirations of these proposals to be considered on their own merits, development flows have not been considered from the Toton East access arm of the junction in this section of the TA.
- 7.6.8 Ultimately the site at Toton East is allocated and the site access junction will be delivered as a crossroads arrangement to enable eventual access into Toton East and to abort retrospective construction work.
- 7.6.9 The proposed site access with the B6003 Stapleford Lane has been modelled using LINSIG. A summary of the results is set out in **Table 7.2**, with the full output report attached at **Appendix G**.

Table 7.2 Site Access Junction Capacity Results

	AM Peak Period (08:00-09:00)			PM Peak Period (17:00-18:00)		
	DoS (%)	MMQ (PCU)	Delay /PCU (s)	DoS (%)	MMQ (PCU)	Delay /PCU (s)
2028 AM and PM Base + Development						
Toton West Site Access	32.1	3	36	9.7	1	34
B6003 Stapleford Lane South	52.0	9	22	52.9	9	22
B6003 Stapleford Lane North	63.3	12	36	69.9	13	27

	AM Peak Period (08:00-09:00)			PM Peak Period (17:00-18:00)		
	DoS (%)	MMQ (PCU)	Delay /PCU (s)	DoS (%)	MMQ (PCU)	Delay /PCU (s)
Toton East Site Access	0.0	0	0	0.0	0	0
Junction PRC	42.3 (150s Cycle Time)			28.7 (150s Cycle Time)		
2041 AM and PM Base + Development						
Toton West Site Access	32.1	3	29	9.7	1	34
B6003 Stapleford Lane South	65.6	12	25	59.0	11	23
B6003 Stapleford Lane North	68.1	13	37	74.5	15	40
Toton East Site Access	0.0	0	0	0.0	0	0
Junction PRC	32.2 (150s Cycle Time)			20.9 (150s Cycle Time)		

7.6.10 As set out in **Table 7.2**, the junction capacity assessment results indicate that the junction will operate satisfactorily with ample reserve capacity during the 2028 Base + Development assessment scenario; with a maximum DoS of 63.3% and 69.9% recorded on the B6003 Stapleford Lane N approach arm during the AM and PM peak periods, respectively.

7.6.11 In the horizon 2041 Base + Development assessment scenario, the junction continues to operate satisfactorily with the highest recorded DoS of 68.1% and 74.5% on the B6003 Stapleford Lane North approach arm to the junction and therefore well within capacity.

Sensitivity Scenario

7.6.12 A summary of the LINSIG assessment undertaken for the sensitivity scenarios is provided in **Table 7.3** below.

Table 7.3 Site Access Junction Capacity Results Sensitivity Assessment Scenario

	AM Peak Period (08:00-09:00)			PM Peak Period (17:00-18:00)		
	DoS (%)	MMQ (PCU)	Delay /PCU (s)	DoS (%)	MMQ (PCU)	Delay /PCU (s)
2028 AM and PM Base + Development + Sensitivity						
Toton West Site Access	32.1	3	28	9.7	0.8	33.8
B6003 Stapleford Lane South	52.4	9	22	55.3	10.0	22.2
B6003 Stapleford Lane North	65.2	13	25	71.6	14.0	38.8
Toton East Site Access	0.0	0	0	0.0	0.0	0.0
Junction PRC	38.0 (150s Cycle Time)			25.8 (150s Cycle Time)		
2041 AM and PM Base + Development + Sensitivity						

	AM Peak Period (08:00-09:00)			PM Peak Period (17:00-18:00)		
	DoS (%)	MMQ (PCU)	Delay /PCU (s)	DoS (%)	MMQ (PCU)	Delay /PCU (s)
Toton West Site Access	32.1	3	36	9.7	1	34
B6003 Stapleford Lane South	56.4	10	23	60.5	11	23
B6003 Stapleford Lane North	70.0	14	37	75.0	15	40
Toton East Site Access	0.0	0	0	0.0	0	0
Junction PRC	28.5 (150s Cycle Time)			19.9 (150s Cycle Time)		

7.6.13 **Table 7.3** demonstrates that the proposed site access junction will operate with ample reserve capacity on all approach arms with traffic associated with the consented 282 dwellings considered. In the horizon year 2041 Base + Development + Sensitivity assessment scenario, the worst-case DoS is recorded on the B6003 Stapleford Lane N approach arm at 70.0 during the AM peak period. During the PM peak period, the worst-case DoS is recorded as 75.0, again on the B6003 Stapleford Lane N approach arm. In terms of overall junction performance, the PRC is recorded as 28.5 and 19.9 in the respective AM and PM peak periods, as such denoting the junction will operate satisfactorily.

Junction 1: M1 Junction 25 Interchange

7.6.14 An overview of the junction is provided in **Figure 7.2** below.

Figure 7.2 J1: M1 Junction 25 Interchange



7.6.15 A LINSIG assessment has been undertaken at this junction. However, a limitation of LINSIG software is that model runs cannot take into account the effect of MOVA (Microprocessor Optimised Vehicle Actuation), which is in place at this junction. MOVA creates an adaptive traffic signal control system that uses embedded detectors and microcomputers to dynamically adjust green times in order to ensure signal timings stages are more responsive to real time traffic flow, which improves junction efficiency.

7.6.16 TRL/Department for Transport research indicates that through the implementation of a MOVA system, the efficiency and operation of signalised junctions can be improved, and that up to an average 13% delay reduction may be achievable. However, the effects of these optimisation improvements cannot be simulated within the LINSIG model.

7.6.17 In this regard, the junction will have capability to run more efficiently than is demonstrated in the following modelling results and the junction could therefore operate with a greater level of capacity than summarised below.

7.6.18 A summary of the results of the LINSIG assessment undertaken at the M5 Junction 1 is provided in **Table 7.4**.

Table 7.4 M1 Junction 25 Interchange Capacity Results

	AM Peak Period (08:00-09:00)			PM Peak Period (17:00-18:00)		
	DoS (%)	MMQ (PCU)	Delay (s)	DoS (%)	MMQ (PCU)	Delay (s)
2025 Base						
M1 North Off slip	79.5	14	21	80.2	10	30
A52 Brian Clough Way East	82.1	8	35	69.2	9	22
Bostocks Lane SE	101.6	36	126	94.8	14	42
M1 South Off slip	82.0	10	29	87.7	9	48
Brian Clough Way West	77.7	7	43	86.9	11	44
Bostocks Lane NW	34.7	1	12	21.3	1	5
Junction PRC	-12.9 (65s Cycle Time)			-5.3 (60s Cycle Time)		
2028 Base						
M1 North	82.5	15	23	82.5	11	32
A52 Brian Clough Way East	85.3	9	37	71.2	9	22
Bostocks Lane SE	111.6	63	222	99.6	20	73
M1 South	84.5	11	31	90.2	10	53
Brian Clough Way West	80.6	8	46	89.5	11	49
Bostocks Lane NW	37.9	1	13	22.3	1	6
Junction PRC	-24.1 (65s Cycle Time)			-10.7 (60s Cycle Time)		
2028 Base + Development						

	AM Peak Period (08:00-09:00)			PM Peak Period (17:00-18:00)		
	DoS (%)	MMQ (PCU)	Delay (s)	DoS (%)	MMQ (PCU)	Delay (s)
M1 North	82.5	15	11	82.5	5	19
A52 Brian Clough Way East	88.7	10	41	72.8	9	23
Bostocks Lane SE	113.8	73	253	106.4	49	154
M1 South	84.2	11	31	91.6	11	58
Brian Clough Way West	81.1	8	46	90.8	12	52
Bostocks Lane NW	20.9	4	1	29.2	1	15
Junction PRC	-26.5 (65s Cycle Time)			-18.2 (60s Cycle Time)		
2041 Base						
M1 North	89.1	18	29	89.7	14	41
A52 Brian Clough Way East	92.1	12	47	77.3	10	25
Bostocks Lane SE	146.0	166	617	126.3	100	417
M1 South	90.1	13	37	91.4	11	54
Brian Clough Way West	87.7	9	57	97.2	17	78
Bostocks Lane NW	48.4	1	15	33.9	1	16
Junction PRC	-62.2 (65s Cycle Time)			-40.4 (60s Cycle Time)		
2041 Base + Development						
M1 North	89.1	5	12	89.7	14	41
A52 Brian Clough Way East	94.6	14	54	78.8	11	26
Bostocks Lane SE	150.6	176	658	128.2	104	439
M1 South	90.9	14	38	92.8	12	59
Brian Clough Way West	87.7	9	57	98.3	18	87
Bostocks Lane NW	49.6	1	16	36.4	1	19
Junction PRC	-67.3 (65s Cycle Time)			-42.5 (60s Cycle Time)		

7.6.19 As set out in **Table 7.4**, the junction capacity assessment results indicate that in the 2025 Base scenario, the junction experiences capacity constraints in both the AM and PM peak periods, with a PRC of -12.9 and -5.3 during the respectively. However, the individual DoS of each arm is below 90% on all approaches other than the Bostocks Lane SE approach.

7.6.20 In the 2028 Base scenario, the junction operates above theoretical capacity, with worst case DoS values of 111.6 % and 99.6% on the Bostocks Lane SE arm, during the AM and PM peak periods respectively. With the addition of development traffic, the DoS on Bostocks Lane increases to 113.8% and 106.4% during the AM and PM peak periods respectively.

- 7.6.21 In the 2041 Base scenario, the Bostocks Lane SE arm operates well beyond its theoretical capacity, with recorded DoS values of 146.0% and 126.3% during the respective AM and PM peak periods. With the onset of development traffic, this increases to DoS values of 150.6% and 128.2%.
- 7.6.22 It should be noted that Bostock Lane SE is the only approach at the junction shown to operate beyond its theoretical capacity, and that on this approach the proposed scheme is forecast to result in a negligible level of additional trips; with no development trips forecast on this approach during the AM peak, and only two additional trips forecast during the PM peak. This equates to one additional development trip every 30 minutes during the PM peak and should be considered in context to the 1,062 and 928 trips forecast on this approach to the junction during the AM and PM peaks in the 2041 scenario; prior to the impact of the proposed development.
- 7.6.23 Consideration has also been made of the number of trips forecast on the southern-part of the circulatory of the junction; along the section of the circulatory which opposes the Bostock Lane SE approach. Along this section of the junction, the proposed scheme is forecast to generate approximately 58 trips during the AM peak and 18 trips during the PM peak; which equates to approximately one additional trip per minute during the AM peak and every 3 minutes during the PM peak. This should also be considered in context to the 2,389 and 1,947 trips forecast on this section of the circulatory during the AM and PM peaks in the 2041 scenario; prior to the impact of the proposed development. This equates to a c. 2% and 1% increase in trips as a result of the development along this section of the circulatory in the respective AM and PM peaks of the 2041 Base scenario.
- 7.6.24 It is envisaged that these minor increases in traffic at this junction would be accounted for within daily fluctuations in background traffic.
- 7.6.25 Whilst it is acknowledged that the Bostock Lane SE approach is not forecast to operate within capacity in the Base or Base + Development future year scenarios, it is not the place of the planning system to ensure the convenience of the motorist as demonstrated in the case of Land North of Holt Road, Wrexham (PINS Ref: APP/H6955/A/19/3238470), which concluded:
- "It is not the function of the planning system to ensure that the convenience of the private car user is safeguarded from congestion, especially existing congestion."*
- 7.6.26 At this stage of the analysis, consideration has been made to paragraph 116 of the NPPF; which sets out:
- "Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual impacts on the road network would be severe."*
- 7.6.27 Whilst there is a degree of uncertainty on what constitutes a 'severe' impact, key measures of assessing a proposal against paragraph 116 of the NPPF is through analysis of queue lengths and associated delay, and how this has been considered in previous planning case law.

7.6.28 The reported results and level of change ‘with development’ have been considered relative to previously issued appeal decisions vs. the ‘severe’ benchmark. At Land South of Green Lane in Yarm (CD G2) (PINS Reference: APP/H0738/W/21/3279168) the Inspector concluded:

“the increase within the zero mitigation scheme of around three minutes – or roughly the time it would take a driver to listen to one song in the car, as I heard at the Inquiry – in one localised area, would result in an significant impact but this could not be defined as severe.”

7.6.29 Similarly, and more recently, at Great Chart, Ashford (CD G1) (PINS Reference: APP/E2205/W/24/3345454), paragraphs 38 and 39, the Inspector concluded that a forecast increase in delay of circa 3 minutes in one peak hour, whilst material, falls short of the severity threshold.

7.6.30 On the worst affected arm, the greatest magnitude of delay increase reported on the Bostock Lane SE approach is 41 seconds during the AM peak and 22 seconds during the PM peak, which is therefore some way below the metric identified by the Inspectorate in defining ‘severe’.

7.6.31 In light of the above, it is considered that whilst the development has an impact at this junction, this is relatively minor in the context of the junction. Furthermore, the only approach shown to operate beyond its theoretical capacity, the proposed developments results in at most two additional trips per hour during the peak periods, which constitutes a negligible change in traffic levels. It is therefore considered that the impact of the development at this junction cannot be defined as severe in the context of historic cases, and therefore no mitigation is proposed and hence no further assessment is deemed necessary.

Sensitivity Scenario

7.6.32 A summary of the LINSIG assessment undertaken for the sensitivity scenarios is provided in **Table 7.5** below.

Table 7.5 Junction 25 M1 Junction Capacity Assessment Results Sensitivity Scenario

	AM Peak Period (08:00-09:00)			PM Peak Period (17:00-18:00)		
	DoS (%)	MMQ (PCU)	Delay /PCU (s)	DoS (%)	MMQ (PCU)	Delay /PCU (s)
2028 Base + Sensitivity						
M1 North	82.5	15	23	82.5	11	32
A52 Brian Clough Way East	87.6	10	40	72.3	9	23
Bostocks Lane SE	119.7	86	350	106.1	48	150
M1 South	84.1	11	30	91.1	11	56
Brian Clough Way West	80.9	8	46	90.3	12	51
Bostocks Lane NW	37.6	1	13	28.8	0.8	15
Junction PRC	-33.0 (65s Cycle Time)			-17.9 (60s Cycle Time)		

	AM Peak Period (08:00-09:00)			PM Peak Period (17:00-18:00)		
	DoS (%)	MMQ (PCU)	Delay /PCU (s)	DoS (%)	MMQ (PCU)	Delay /PCU (s)
2028 Base + Development + Sensitivity						
M1 North	82.5	15	23	82.5	11	32
A52 Brian Clough Way East	91.7	12	46	73.8	10	23
Bostocks Lane SE	121.0	93	348	107.6	52	170
M1 South	83.9	11	30	92.7	12	61
Brian Clough Way West	81.4	8	47	91.6	13	92
Bostocks Lane NW	39.1	1	13	30.6	1	16
Junction PRC	-34.4 (65s Cycle Time)			-19.5 (60s Cycle Time)		
2041 Base + Sensitivity						
M1 North	89.1	18	29	89.7	14	41
A52 Brian Clough Way East	94.0	13	52	78.3	11	25
Bostocks Lane SE	149.3	173	647	127.6	432	103
M1 South	90.6	14	37	92.4	12	57
Brian Clough Way West	87.7	10	57	98.1	18	84
Bostocks Lane NW	49.1	1	16	35.2	1	19
Junction PRC	-65.9 (65s Cycle Time)			-41.8 (60s Cycle Time)		
2041 Base + Development + Sensitivity						
M1 North	89.1	18	29	89.7	14	41
A52 Brian Clough Way East	96.7	16	63	79.8	11	26
Bostocks Lane SE	150.7	178	659	129.5	107	454
M1 South	90.6	14	37	93.9	13	62
Brian Clough Way West	88.2	10	58	99.2	19	92
Bostocks Lane NW	50.3	1	16	37.5	1	20
Junction PRC	-67.5 (65s Cycle Time)			-43.9 (60s Cycle Time)		

7.6.33 In the 2041 Base + Development + Sensitivity assessment scenario (during the AM peak period), the worst-case DoS value is 150.7% on the Bostocks Lane SE approach arm; which is a 0.1% increase when compared to the 2041 Base + Development scenario, demonstrating the impact of the sensitivity traffic is negligible.

7.6.34 During the PM peak period, the worst-case DoS is recorded as 129.5% on the Bostocks Lane SE approach arm, which is a 1.3% increase when compared to the 2041 Base + Development assessment scenario.

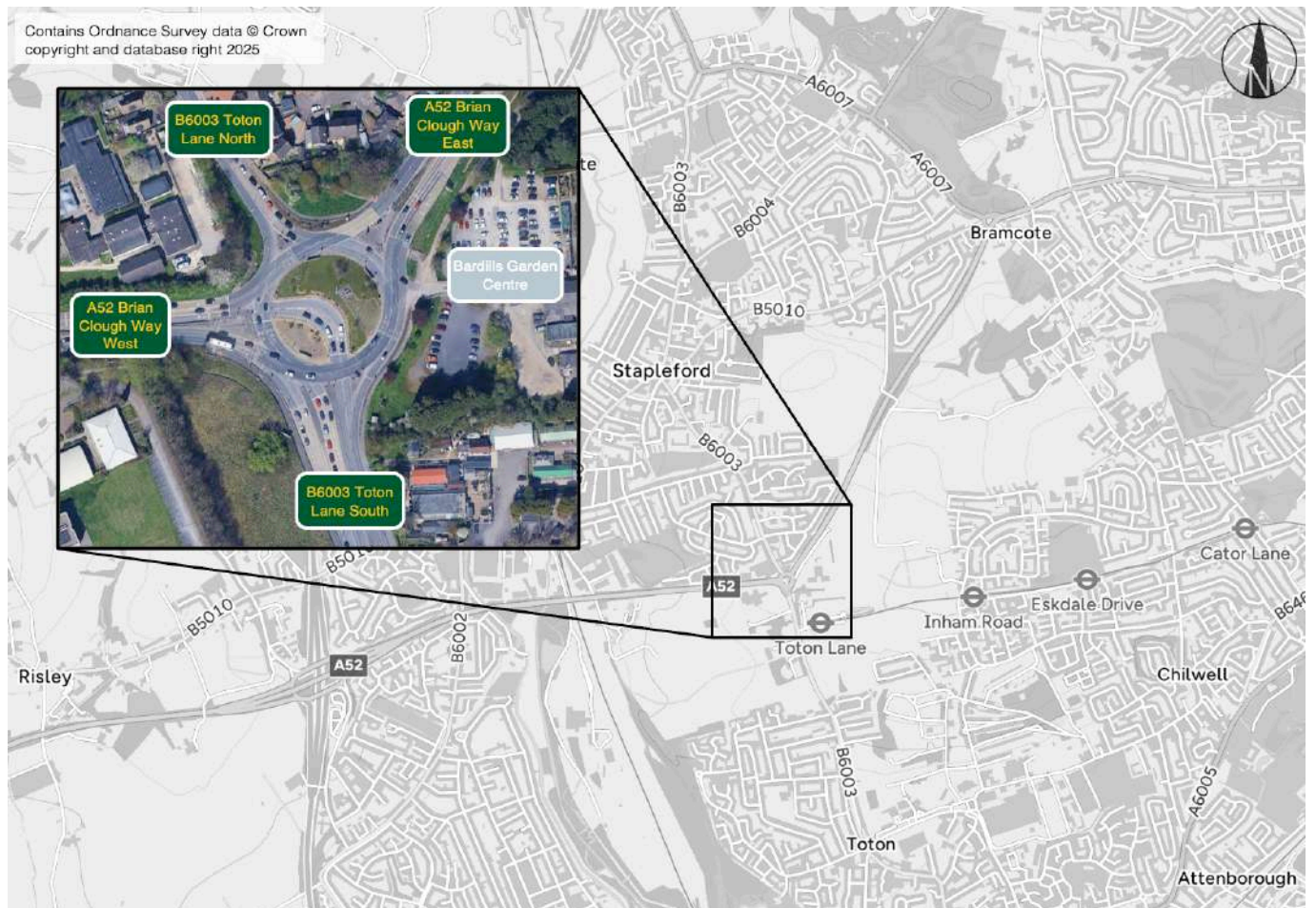
7.6.35 Given the minimal further impact of development traffic in the sensitivity scenarios, the arguments set out between **paragraphs 7.6.22** and **7.2.31** above remain pertinent. The impact of the proposals will not therefore have a severe or significant impact on the operation of this junction.

7.6.36 Based on the above analysis, no further analysis or exploration of mitigation is considered necessary at this junction.

Junction 2: Bardills Signalised Roundabout

7.6.37 The Bardills signalised roundabout is a five-arm 'hamburger' roundabout junction providing access to the key arterial route of the A52 Brian Clough Way running towards Nottingham City Centre to the east and Junction 25 of the M1 to the west. A visual overview of the junction is provided in **Figure 7.3**, below.

Figure 7.3 Junction 2: Bardills Signalised Roundabout



7.6.38 The Bardills Roundabout has been subject to a localised capacity assessment, with a summary of the results of the LINSIG assessment provided in **Table 7.6**, below.

Table 7.6 Junction 2: Bardills Signalised Roundabout

	AM Peak Period (08:00-09:00)			PM Peak Period (17:00-18:00)		
	DoS (%)	MMQ (PCU)	Delay /PCU (s)	DoS (%)	MMQ (PCU)	Delay /PCU (s)
2025 AM and PM Base						
A52 Brian Clough Way NE	95.3	25.1	51	84.1	13.3	30.9
Bardills Garden Centre Parking	0.9	0.0	16.0	1.9	0.1	12.7
B6003 Toton Lane S	39.1	4.3	23.2	47.9	5.4	21.3
A52 Brian Clough Way West	92.4	21.9	27.4	92.0	20.2	30.1
B6003 Toton Lane N	97.3	18.2	83.1	92.5	13.4	58.5
Junction PRC	-8.1 (85s cycle time)			-2.8 (77s cycle time)		
2028 AM and PM Base						
A52 Brian Clough Way NE	100.9	37	94	83.9	13	31
Bardills Garden Centre Parking	0.9	0	16	1.9	0	14
B6003 Toton Lane S	39.9	4	23	50.4	6	22
A52 Brian Clough Way West	96.4	30	39	92.5	21	31
B6003 Toton Lane N	97.5	19	83	99.0	20	94
Junction PRC	-12.2 (77s Cycle Time)			-10.1 (77s Cycle Time)		
2028 AM and PM Base + Development						
A52 Brian Clough Way NE	101.5	39	97	85.5	14	31
Bardills Garden Centre Parking	0.9	0	16	1.9	0	14
B6003 Toton Lane S	48.1	5	24	51.3	6	23
A52 Brian Clough Way West	96.4	30	40	93.2	22	31
B6003 Toton Lane N	98.2	20	87	101.9	25	123
Junction PRC	-12.8 (85s Cycle Time)			-13.3 (77s Cycle Time)		
2041 AM and PM Base						
A52 Brian Clough Way NE	108.9	71	204	90.0	17	37
Bardills Garden Centre Parking	0.9	0	16	1.9	0	14
B6003 Toton Lane S	43.1	5	23	54.8	6	23
A52 Brian Clough Way West	102.8	64	97	99.2	37	57

	AM Peak Period (08:00-09:00)			PM Peak Period (17:00-18:00)		
	DoS (%)	MMQ (PCU)	Delay /PCU (s)	DoS (%)	MMQ (PCU)	Delay /PCU (s)
B6003 Toton Lane N	105.2	37	164	107.5	40	194
Junction PRC	-21 (85s Cycle Time)			-19.4 (77s Cycle Time)		
2041 AM and PM Base + Development						
A52 Brian Clough Way NE	109.4	74	209	91.3	18	39
Bardills Garden Centre Parking	0.9	0	16	1.9	0	14
B6003 Toton Lane S	51.0	6	24	55.7	7	23
A52 Brian Clough Way West	102.9	65	100	99.7	40	59
B6003 Toton Lane N	105.9	39	173	110.4	49	235
Junction PRC	-21.5 (85s Cycle Time)			-22.6 (77s Cycle Time)		

7.6.39 As set out in **Table 6.6**, the junction capacity assessment results indicate that in the horizon 2041 Base assessment scenario, the junction experiences capacity issues, with the DoS above 100% on the A52 Brian Clough Way NE approach, the A52 Brian Clough Way West approach and the B6003 Toton Lane N approach during the AM peak period, with the worst recorded delay as 209s on the A52 Brian Clough Way NE approach. During the PM peak period, the B6003 Toton Lane N approach arm records a DoS of 108%, with an associated delay of 194s.

7.6.40 Following the introduction of development traffic, the capacity issues identified above are slightly exacerbated. During the AM peak period, the DoS on the B6003 Toton Lane N approach increases from 105% to 106% with an associated increase in delay of 9s. During the PM peak period, the DoS on the B6003 Toton Lane N approach increase from 108% to 110%, with an associated increase in delay of 41s. As such, noting the capacity constraints at this location, mode have considered a potential mitigation scheme to ensure the development proposals can be brought forward to a nil detriment position against the horizon 2041 Base position. This potential mitigation scheme is explored in greater detail within **Chapter 8** of this TA.

Sensitivity Scenario

7.6.41 A summary of the LINSIG assessment undertaken for the sensitivity scenarios is provided in **Table 7.7** below. It should be noted that given the full build out of the 282-dwelling scheme cannot take place without the implementation of mitigation at the Bardills roundabout, this mitigation scheme has been considered within these modelled scenarios. As such, development traffic assessed against the operation of the Bardills roundabout with the trigger point mitigation implemented.

Table 7.7 Bardills Roundabout Junction Capacity Assessment Results Sensitivity Scenario

	AM Peak Period (08:00-09:00)			PM Peak Period (17:00-18:00)		
	DoS (%)	MMQ (PCU)	Delay /PCU (s)	DoS (%)	MMQ (PCU)	Delay /PCU (s)
2028 AM and PM Base + Sensitivity						
A52 Brian Clough Way NE	89.8	15	33	89.4	12	35
Bardills Garden Centre Parking	0.7	0	11	1.5	0	8
B6003 Toton Lane S	59.7	7	22	67.1	8	21
A52 Brian Clough Way West	92.9	21	30	96.3	24	42
B6003 Toton Lane N	96.1	15	70	91.2	11	48
Junction PRC	-6.8 (69s Cycle Time)			-7.0 (61s Cycle Time)		
2028 AM and PM Base + Sensitivity + Development						
A52 Brian Clough Way NE	91.5	16	35	88.4	12	32
Bardills Garden Centre Parking	0.7	0	11	1.5	0	9
B6003 Toton Lane S	67.8	8	24	71.6	9	23
A52 Brian Clough Way West	92.7	21	30	93.5	20	33
B6003 Toton Lane N	96.8	16	74	100.5	20	100
Junction PRC	-7.6 (69s Cycle Time)			-11.7 (61s Cycle Time)		
2041 AM and PM Base + Sensitivity						
A52 Brian Clough Way NE	92.2	17	35	91.2	13	36
Bardills Garden Centre Parking	0.7	0	11	1.5	0	9
B6003 Toton Lane S	67.3	8	25	76.2	10	25
A52 Brian Clough Way West	97.2	28	42	100.4	37	69
B6003 Toton Lane N	108.2	41	198	105.7	33	160
Junction PRC	-20.2 (69s Cycle Time)			-17.4 (61s Cycle Time)		
2041 AM and PM Base + Sensitivity + Development						
A52 Brian Clough Way NE	91.5	17	35	93.3	15	40
Bardills Garden Centre Parking	0.7	0	11	1.5	0	9
B6003 Toton Lane S	75.6	10	28	78.9	10	26
A52 Brian Clough Way West	97.3	28	42	100.5	38	68

	AM Peak Period (08:00-09:00)			PM Peak Period (17:00-18:00)		
	DoS (%)	MMQ (PCU)	Delay /PCU (s)	DoS (%)	MMQ (PCU)	Delay /PCU (s)
B6003 Toton Lane N	109.2	45	213	108.7	41	200
Junction PRC	-21.3 (69s Cycle Time)			-20.7 (61s Cycle Time)		

7.6.42 As demonstrated in **Table 7.7**, in the horizon 2041 Base + Sensitivity assessment scenario, the junction operates above theoretical capacity. During the AM peak period, the B6003 Toton Lane N approach operates with a 108.2% DoS with associated delays of 198s. During the PM peak period, the B6003 Toton Lane N approach operates with a DoS of 105.7% and associated delays of 160s.

7.6.43 Following the introduction of development traffic to this scenario, during the AM peak period, the DoS on the B6003 Toton Lane N approach increases to 109.2% with an associated increase in delay of 15s. During the PM peak period, the DoS on the B6003 Toton Lane N approach increases to 108.7% with an associated increase in delay of 40s. Given the onset of development traffic continues to exacerbate capacity issues at this junction, a potential migration scheme has been put forward to accommodate both traffic associated with the sensitivity assessment and the development proposals, this is explored in greater detail in **Chapter 8**.

Junction 3: Bramcote Island

7.6.44 Bramcote Island is a signalised five-arm 'hamburger' roundabout. A visual overview of the junction is provided in **Figure 7.4**, below.

Figure 7.4 Junction 3 Bramcote Signalised Roundabout



7.6.45 It is understood that MOVA operates at Bramcote Island, which cannot be accounted for within LINSIG. As outlined in **Paragraph 7.6.8**, TRL/DfT research indicates that through the implementation of a MOVA system, the efficiency and operation of signalised junctions can be improved, and that up to an average 13% delay reduction may be achievable.

7.6.46 In this regard, the junction will have capability to run more efficiently than is demonstrated in the modelling results below and that the junction could therefore operate with a greater level of capacity than indicated.

7.6.47 A summary of the results of the LINSIG assessment provided in **Table 7.8**, below.

Table 7.8 Junction 3 Bramcote Signalised Roundabout Capacity Results

	AM Peak Period (08:00-09:00)			PM Peak Period (17:00-18:00)		
	DoS (%)	MMQ (PCU)	Delay /PCU (s)	DoS (%)	MMQ (PCU)	Delay /PCU (s)
2025 AM and PM Base						
A6007 Ilkeston Road	81.0	3	26	71.5	10	3

	AM Peak Period (08:00-09:00)			PM Peak Period (17:00-18:00)		
	DoS (%)	MMQ (PCU)	Delay /PCU (s)	DoS (%)	MMQ (PCU)	Delay /PCU (s)
A52 Brian Clough Way East	54.4	8	15	47.4	15	6
Town Street	73.4	4	20	69.1	4	18
A52 Brian Clough Way West	81.1	14	28	79.5	23	12
B5010 Derby Road	72.5	4	9	49.0	2	6
Junction PRC	11.0 (70s Cycle Time)			13.2 (70s Cycle Time)		
2028 AM and PM Base						
A6007 Ilkeston Road	73.6	2	14	66.7	1	8
A52 Brian Clough Way East	55.9	60	16	49.4	7	17
Town Street	70.0	5	23	71.9	4	20
A52 Brian Clough Way West	85.2	16	27	82.8	14	25
B5010 Derby Road	77.3	5	11	52.0	2	7
Junction PRC	5.6 (75s Cycle Time)			8.7 (75s Cycle Time)		
2028 AM and PM Base + Development						
A6007 Ilkeston Road	76.3	3	16	71.1	3	8
A52 Brian Clough Way East	56.4	9	16	51.8	7	17
Town Street	71.0	5	24	74.1	4	22
A52 Brian Clough Way West	88.4	18	30	83.4	14	26
B5010 Derby Road	77.8	5	12	52.2	2	7
Junction PRC	1.9 (75s Cycle Time)			7.9 (75s Cycle Time)		
2041 AM and PM Base						
A6007 Ilkeston Road	98.9	9	74	83.8	4	14
A52 Brian Clough Way East	58.9	9	16	53.6	8	17
Town Street	84.0	8	38	86.9	6	30
A52 Brian Clough Way West	88.6	19	29	88.2	16	28
B5010 Derby Road	88.3	13	22	62.1	3	11
Junction PRC	-9.9 (75s Cycle Time)			2.0 (75s Cycle Time)		
2041 AM and PM Base + Development						
A6007 Ilkeston Road	99.5	9	72	84.1	4	13
A52 Brian Clough Way East	59.5	9	16	56.0	8	18
Town Street	84.4	8	39	89.3	6	34

	AM Peak Period (08:00-09:00)			PM Peak Period (17:00-18:00)		
	DoS (%)	MMQ (PCU)	Delay /PCU (s)	DoS (%)	MMQ (PCU)	Delay /PCU (s)
A52 Brian Clough Way West	91.9	21	33	89.3	17	29
B5010 Derby Road	88.9	13	24	62.3	3	11
Junction PRC	-10.6 (75s Cycle Time)			0.7 (75s Cycle Time)		

7.6.48 The junction capacity assessment results indicate that the junction will operate with reserve capacity during the 2028 Base + Development scenario, with the worst-case DoS recorded as 88.4% and 83.4% on the A52 Brian Clough Way West approach arm during the respective AM and PM peak periods.

7.6.49 In the 2041 Base assessment scenario, the junction still operates within theoretical capacity. In the AM peak period, the worst-case operating approach arm (A6007 Ilkeston Road) forecasts a DoS value of 98.9%. During the PM peak period, the worst-case operating approach arm (A52 Brian Clough Way West) forecasts a DoS value of 88.2%.

7.6.50 With the introduction of development traffic in the 2041 Base + Development scenario, in the AM peak period, the DoS on A6007 Ilkeston Road increases to 99.5% albeit in terms of actual delay impact, the model forecasts a slight betterment compared to the 2041 Base 'Do Nothing' scenario, given the adjustment of cycle times to better optimise traffic flows across the junction. During the PM peak period, the DoS on the A52 Brian Clough Way West increases to 89.3% with a negligible associated increase in delay (1 second). As such, the impact of the development proposals on this junction are considered to be negligible.

Sensitivity Scenario

7.6.51 A summary of the LINSIG assessment undertaken for the sensitivity scenarios is provided in **Table 7.9** below

Table 7.9 Junction 3 Bramcote Signalised Roundabout Capacity Results Sensitivity Assessment

	AM Peak Period (08:00-09:00)			PM Peak Period (17:00-18:00)		
	DoS (%)	MMQ (PCU)	Delay /PCU (s)	DoS (%)	MMQ (PCU)	Delay /PCU (s)
2028 Base Sensitivity						
A6007 Ilkeston Road	75.6	3	15	71.0	2	8
A52 Brian Clough Way East	56.3	8	16	51.0	7	17
Town Street	70.8	5	24	73.4	4	22
A52 Brian Clough Way West	87.5	17	29	83.0	14	25
B5010 Derby Road	77.6	5	12	52.1	2	7

	AM Peak Period (08:00-09:00)			PM Peak Period (17:00-18:00)		
	DoS (%)	MMQ (PCU)	Delay /PCU (s)	DoS (%)	MMQ (PCU)	Delay /PCU (s)
Junction PRC	2.8 (75s Cycle Time)			8.4 (75s Cycle Time)		
2028 + Development + Sensitivity						
A6007 Ilkeston Road	76.5	4	16	70.8	1	8
A52 Brian Clough Way East	56.9	9	16	53.4	8	17
Town Street	71.5	5	24	75.6	4	24
A52 Brian Clough Way West	90.4	19	32	84.6	15	26
B5010 Derby Road	78.1	6	12	52.3	2	7
Junction PRC	-0.5 (75s Cycle Time)			6.4 (75s Cycle Time)		
2041 Base + Sensitivity						
A6007 Ilkeston Road	99.8	10	82	84.1	4	14
A52 Brian Clough Way East	59.3	9	16	55.2	8	18
Town Street	84.6	8	39	88.6	6	33
A52 Brian Clough Way West	91.0	20	32	88.9	17	29
B5010 Derby Road	88.7	13	23	62.2	4	11
Junction PRC	-10.9 (75s Cycle Time)			1.3 (75s Cycle Time)		
2041 Base + Development + Sensitivity						
A6007 Ilkeston Road	99.8	9	69	84.9	5	15
A52 Brian Clough Way East	59.9	9	16	57.6	9	18
Town Street	85.4	8	40	90.9	6	36
A52 Brian Clough Way West	93.8	23	37	90.2	17	29
B5010 Derby Road	89.2	13	24	62.4	3	11
Junction PRC	-10.9 (75s Cycle Time)			-1.0 (75s Cycle Time)		

7.6.52 As set out in **Table 7.9** above, in the 2041 AM and PM Sensitivity assessment scenario, each approach arm to the junction operates within its theoretical capacity. The A6007 Ilkeston Road approach arm operates with a DoS of 99.8% during the AM peak period, with associated delays of 82 seconds. During the PM peak period, the A52 Brian Clough Way West approach arm operates with a DoS of 88.9%, with associated delays of 29 seconds.

- 7.6.53 In considering the onset of development traffic, the DoS on the A6007 Ilkeston Road remains at 99.8%, given limited development traffic is forecast to use this approach arm in the AM peak (1 vehicle). In fact, the delay on this approach shows a betterment, given the re optimisation of the model to accommodate further traffic on A52 Brian Clough Way West. This in turn has increased the DoS on the A52 Brian Clough Way West from 91.0% in the 2041 Base + Sensitivity scenario to 93.8% in the 2041 Base + Sensitivity + Development scenario. Albeit the associated increase in delay is limited to 7 seconds.
- 7.6.54 During the PM peak period, the onset of development traffic results in the DoS of the A52 Brian Clough Way West to increase from 88.9% to 90.2%, with an associated increase in delay of c.1-2 seconds. Furthermore, consideration has been made to the operation of Town Street; in the 2041 Base + Sensitivity scenario, where the worst-case DoS was recorded as 88.6%. Following the introduction of development traffic, the DoS on Town Street increases to 90.0% with an increased forecast delay of 4 seconds.
- 7.6.55 Based on the above analysis, in comparing to a future horizon year (2041) where the consented 282-dwelling scheme to the north of the site comes forward, the impact of the development proposals is negligible at this junction, with minor increases to DoS values and associated delay recorded.
- 7.6.56 Based on the above analysis, no further analysis or exploration of mitigation is considered necessary at this junction.

Junction 4: B6003 / Swiney Way / Banks Road Crossroads

- 7.6.57 The B6003 / Swiney Way / Banks Road junction is a signalised crossroads enabling access between the east and west of Toton and between the A52 Brian Clough Way and A6005 Nottingham Road to the north and south. A visual overview of the junction is provided in **Figure 7.5**, below.

Figure 7.5 Junction 4 B6003 / Swiney Way / Banks Road Crossroads



7.6.58 The B6003 / Swiney Way / Banks Road crossroads has been subject to a localised capacity assessment, with a summary of the results of the LINSIG assessment provided in **Table 7.10**, below.

Table 7.10 Junction 4 B6003 Stapleford Lane / Swiney Way / Banks Road Capacity Results

	AM Peak Period (08:00-09:00)			PM Peak Period (17:00-18:00)		
	DoS (%)	MMQ (PCU)	Delay /PCU (s)	DoS (%)	MMQ (PCU)	Delay /PCU (s)
2025 AM and PM Base						
B6003 Stapleford Lane North	86.1	21	41	98.8	24	77
Swiney Way	92.4	16	69	100.2	27	109
Stapleford Lane South	92.3	19	69	80.4	14	46
Banks Road	92.3	12	90	97.2	13	151
Junction PRC	-2.7 (180s Cycle Time)			-11.4 (180s Cycle Time)		
2028 AM and PM Base						

	AM Peak Period (08:00-09:00)			PM Peak Period (17:00-18:00)		
	DoS (%)	MMQ (PCU)	Delay /PCU (s)	DoS (%)	MMQ (PCU)	Delay /PCU (s)
B6003 Stapleford Lane North	89.4	23	44	101.8	32	107
Swiney Way	96.0	19	86	103.1	35	148
Stapleford Lane South	95.7	22	84	82.7	15	48
Banks Road	96.0	15	112	99.7	15	171
Junction PRC	-6.7 (180s Cycle Time)			-14.6 (180s Cycle Time)		
2028 AM and PM Base + Development						
B6003 Stapleford Lane North	93.4	24	47	106.2	47	168
Swiney Way	97.4	20	94	104.5	41	167
Stapleford Lane South	98.5	21	87	87.0	17	55
Banks Road	96.0	17	124	104.2	18	228
Junction PRC	-8.3 (180s Cycle Time)			-18.0 (180s Cycle Time)		
2041 AM and PM Base						
B6003 Stapleford Lane North	96.5	26	54	110.6	67	233
Swiney Way	103.7	32	163	112.3	66	287
Stapleford Lane South	103.5	33	158	89.7	18	59
Banks Road	103.3	26	201	108.3	24	284
Junction PRC	-15.2 (180s Cycle Time)			-24.5 (180s Cycle Time)		
2041 AM and PM Base + Development						
B6003 Stapleford Lane North	100.6	36	83	112.0	75	256
Swiney Way	105.1	35	183	115.0	78	332
Stapleford Lane South	104.3	35	170	92.4	21	67
Banks Road	103.3	26	201	113.3	28	343
Junction PRC	-16.8 (180s Cycle Time)			-27.7 (180s Cycle Time)		

7.6.59 As set out in **Table 7.10**, the junction currently experiences capacity issues during the 2025 Base scenario. During the PM peak period, the DoS on the B6003 Stapleford Lane North approach is recorded as 100.2 %, with associated queues of 27 PCUs and delays of 109 seconds.

7.6.60 In the horizon 2041 year 'Do Nothing' assessment scenario, in the AM peak period, Swiney Way, B6003 Stapleford Lane South and Banks Road all are forecast to operate beyond theoretical capacity, with forecast DoS values of 103.7%, 103.5% and 103.3%. During the PM peak period, the B6003 Stapleford Lane North approach arm is forecast to operate with a DoS value of 110.6%, with Swiney Way and Banks Road forecast to operate with DoS values of 112.3% and 108.3%, respectively.

7.6.61 Following the introduction of development traffic in the AM peak period, the maximum DoS value on Swiney Way increases to 105.1%, with an associated increase in delay of 45 seconds compared to the 2041 Base 'Do Nothing' scenario.

7.6.62 During the PM peak period, the maximum DoS value on Swiney Way increases to 115.0%. As such, it is evident that the junction is already experiencing capacity issues, which are exacerbated due to local growth traffic to the horizon 2041 assessment and further exacerbated by the onset of development traffic.

Sensitivity Scenario

7.6.63 A summary of the LINSIG assessment undertaken for the sensitivity scenarios is provided in **Table 7.11** below

Table 7.11 B6003 / Swiney Way Junction Capacity Results Sensitivity Assessment Scenario

	AM Peak Period (08:00-09:00)			PM Peak Period (17:00-18:00)		
	DoS (%)	MMQ (PCU)	Delay /PCU (s)	DoS (%)	MMQ (PCU)	Delay /PCU (s)
2028 AM and PM Base + Sensitivity						
B6003 Stapleford Lane North	92.1	22	44	102.7	35	119
Swiney Way	97.0	19	90	104.7	41	170
Stapleford Lane South	96.3	21	86	84.5	16	50
Banks Road	96.0	18	128	104.2	18	228
Junction PRC	-7.7 (180s Cycle Time)			-16.3 (180s Cycle Time)		
2028 AM and PM Base + Development + Sensitivity						
B6003 Stapleford Lane North	96.1	27	54	107.2	51	183
Swiney Way	98.4	21	100	107.6	51	216
Stapleford Lane South	97.1	22	91	88.8	18	58
Banks Road	96.0	17	124	104.2	18	18
Junction PRC	-9.3(180s Cycle Time)			-19.6 (180s Cycle Time)		
2041 AM and PM Base + Sensitivity						
B6003 Stapleford Lane North	99.3	30	66	111.5	73	249
Swiney Way	104.6	34	175	113.2	72	306
Stapleford Lane South	104.1	35	167	91.7	20	65
Banks Road	103.3	26	201	113.3	28	343
Junction PRC	-16.3 (180s Cycle Time)			-25.9 (180s Cycle Time)		
2041 AM and PM Base + Development + Sensitivity						

	AM Peak Period (08:00-09:00)			PM Peak Period (17:00-18:00)		
	DoS (%)	MMQ (PCU)	Delay /PCU (s)	DoS (%)	MMQ (PCU)	Delay /PCU (s)
B6003 Stapleford Lane North	103.2	51	119	116.2	93	317
Swiney Way	106.1	38	199	116.3	84	350
Stapleford Lane South	104.9	38	179	95.9	24	83
Banks Road	103.3	23	191	113.3	28	341
Junction PRC	-17.8 (180s Cycle Time)			-31.9 (180s Cycle Time)		

7.6.64 In the 2041 Base + Sensitivity assessment scenario during the AM peak period, the capacity issues at this junction are further exacerbated (considering traffic associated with the 282-dwelling scheme but prior to the introduction of the proposed development); with a maximum DoS value of 104.6% recorded on Swiney Way.

7.6.65 During the PM peak period, the capacity issues at this junction are also exacerbated; with a maximum DoS value of 113.3% recorded on the Banks Road.

7.6.66 In the AM peak period, following the introduction of development traffic, the worst-case DoS at the junction is recorded as 106.1% on Swiney Way.

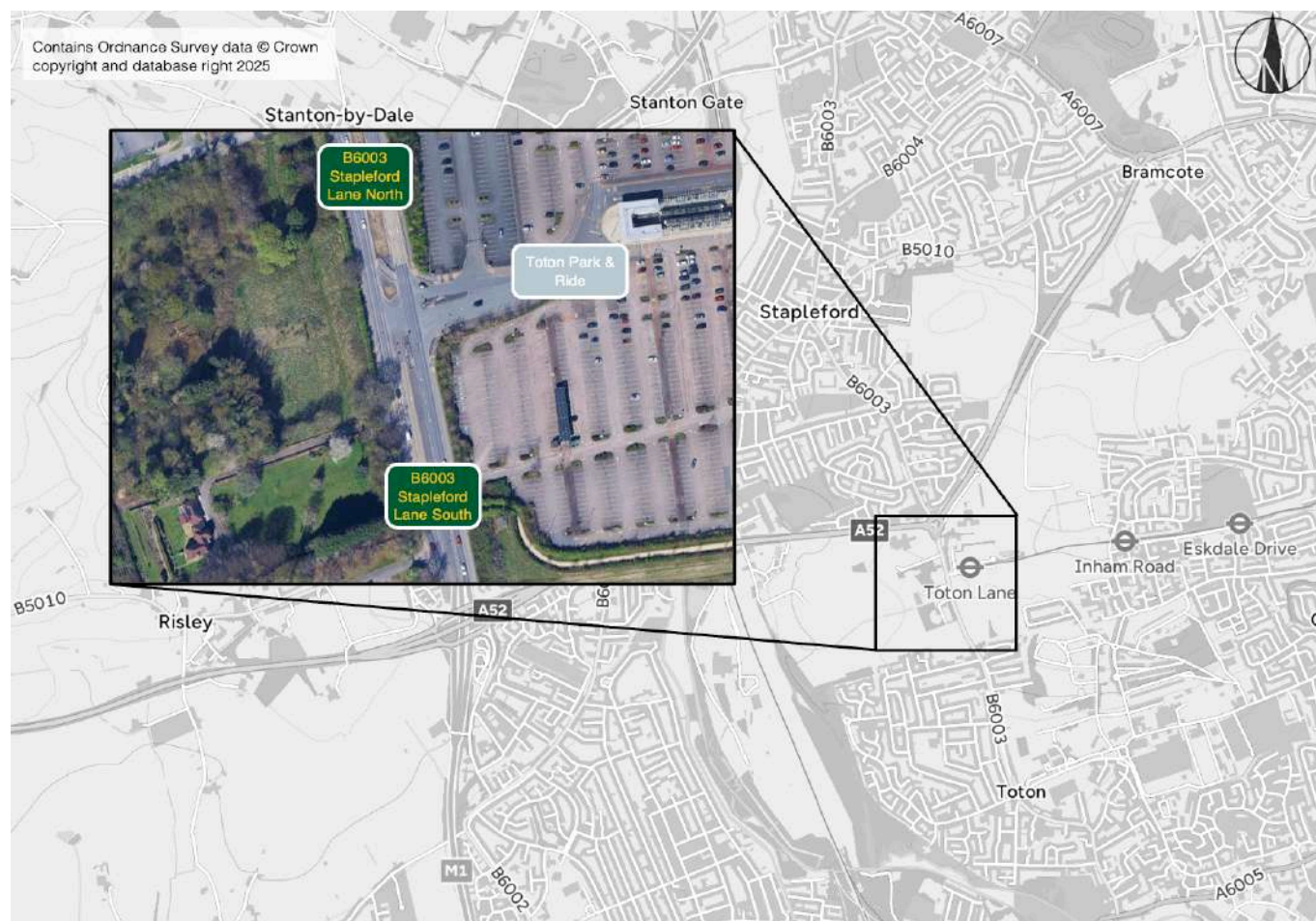
7.6.67 During the PM peak period, the worst-case DoS at the junction is recorded as 116.3% on Swiney Way with an increase in delay of 44s when compared to the 2041 Base + Sensitivity assessment scenario. Furthermore, the DoS of the B6003 Stapleford Lane North approach arm increases from 111.5% to 116.2% with the onset of development traffic.

7.6.68 On the basis of the above, a potential mitigation scheme has been devised in order to offset the impact of the proposed development on the operation of the junction. This is discussed further in **Chapter 8**.

Junction 5: B6003 Stapleford Lane / Toton Park & Ride Access

7.6.69 The B6003 Stapleford Lane / Toton Park & Ride site access is a signalised T junction enabling access to the Toton Park & Ride Tram Stop facility from the B6003 Stapleford Road. A visual overview of the junction is provided in **Figure 7.6**, below.

Figure 7.6 Junction 5 B6003 Stapleford Lane



7.6.70 The B6003 Stapleford Lane / Toton Park & Ride Signalised T junction has been subject to a localised capacity assessment, with a summary of the results of the LINSIG assessment provided in **Table 7.12**, below.

Table 7.12 B6003 Stapleford Lane / Toton Park & Ride Capacity Results

	AM Peak Period (08:00-09:00)			PM Peak Period (17:00-18:00)		
	DoS (%)	MMQ (PCU)	Delay /PCU (s)	DoS (%)	MMQ (PCU)	Delay /PCU (s)
2025 AM and PM Base						
B6003 Stapleford Lane North	69.7	10	25	63.5	9	23
Toton Park and Ride Access	32.5	2	35	27.4	2	33
B6003 Stapleford Lane South	42.7	8	16	41.2	7	14
Junction PRC	29.1 (150s Cycle Time)			41.7 (150s Cycle Time)		
2028 AM and PM Base						
B6003 Stapleford Lane North	72.4	11	26	65.4	10	24

	AM Peak Period (08:00-09:00)			PM Peak Period (17:00-18:00)		
	DoS (%)	MMQ (PCU)	Delay /PCU (s)	DoS (%)	MMQ (PCU)	Delay /PCU (s)
Toton Park and Ride Access	33.7	2	35	28.0	2	30
B6003 Stapleford Lane South	44.5	8	16	42.4	8	14
Junction PRC	24.3 (150s Cycle Time)			37.6 (150s Cycle Time)		
2028 AM and PM Base + Development						
B6003 Stapleford Lane North	74.1	11	27	72.0	11	26
Toton Park and Ride Access	33.7	2	35	28.0	2	33
B6003 Stapleford Lane South	49.8	9	17	44.5	8	15
Junction PRC	21.4 (150s Cycle Time)			25.0 (150s Cycle Time)		
2041 AM and PM Base						
B6003 Stapleford Lane North	78.2	13	29	71.0	11	25
Toton Park and Ride Access	36.5	3	35	30.4	2	33
B6003 Stapleford Lane South	47.9	9	16	46.1	8	15
Junction PRC	15.1 (150s Cycle Time)			26.8 (150s Cycle Time)		
2041 AM and PM Base + Development						
B6003 Stapleford Lane North	80.0	13	30	77.6	13	28
Toton Park and Ride Access	36.5	3	35	30.4	2	33
B6003 Stapleford Lane South	53.5	10	17	48.1	9	15
Junction PRC	12.5 (150s Cycle Time)			16.0 (150s Cycle Time)		

7.6.71 As set out in **Table 7.12**, results show that in all scenarios the junction is forecast to operate within capacity, no further investigation or mitigation is therefore deemed to be necessary.

Sensitivity Scenario

7.6.72 Access to the consented scheme for the erection of 282 dwellings at land west of Toton Lane (Ref: 17/00499/REM), is proposed via an additional arm on the B6003 Stapleford Lane / Toton Park & Ride junction.

7.6.73 For the sensitivity scenarios, the junction has therefore been assessed with an additional western entry arm. A summary of the results of the LINSIG assessment provided in **Table 7.13**, below.

Table 7.13 B6003 / Park & Ride Crossroad Junction Capacity Results Sensitivity Assessment Scenario

	AM Peak Period (08:00-09:00)			PM Peak Period (17:00-18:00)		
	DoS (%)	MMQ (PCU)	Delay /PCU (s)	DoS (%)	MMQ (PCU)	Delay /PCU (s)
2028 AM and PM Base + Sensitivity						
Park and Ride Access	47.2	3	51	35.9	2	2
B6003 Toton Lane South	63.1	10	30	60.9	11	28
282 Dwelling Site Access	30.2	2	38	9.2	1	35
B6003 Toton Lane North	84.8	17	43	81.0	15	40
Junction PRC	6.2 (180s Cycle Time)			11.1 (180s Cycle Time)		
2028 AM and PM Base + Development + Sensitivity						
Park and Ride Access	47.2	3	51	35.9	2	46
B6003 Toton Lane South	71.9	13	32	63.6	11	29
282 Dwelling Site Access	30.2	2	38	9.2	1	35
B6003 Toton Lane North	30.2	2	38	88.2	18	47
Junction PRC	3.8 (180s Cycle Time)			2.0 (180s Cycle Time)		
2041 AM and PM Base + Sensitivity						
Park and Ride Access	51.1	3	52	38.9	3	47
B6003 Toton Lane South	67.9	11	31	87.1	18	46
282 Dwelling Site Access	30.2	2	38	9.2	1	35
B6003 Toton Lane North	91.1	20	52	87.1	18	46
Junction PRC	-1.2 (180s Cycle Time)			3.3 (180s Cycle Time)		
2041 AM and PM Base + Development + Sensitivity						
Park and Ride Access	51.1	3	52	38.9	47	3
B6003 Toton Lane South	76.4	14	34	68.4	13	31
282 Dwelling Site Access	30.2	2	38	9.2	1	35
B6003 Toton Lane North	93.2	22	58	94.3	23	62
Junction PRC	-3.5 (180s Cycle Time)			-4.8 (180s Cycle Time)		

7.6.74 In the 2041 Base + Sensitivity assessment scenario, the maximum recorded DoS is 91.1% and 87.1% on the B6003 Toton Lane North approach arm, during the respective AM and PM peak periods.

7.6.75 Following the introduction of development traffic, the DoS on the B6003 Toton Lane North increases to 93.2%, with an associated increase in delay of 5 seconds during the AM peak period. During the PM peak period, the DoS on the B6003 Toton Lane North approach arm increases from 87.1% to 94.3%, with an associated increase in delay of 16 seconds. Whilst there is a slight increase in DoS on the B6003 Toton Lane North approach arm as a result of development traffic, an increased delay of 5 and 16 seconds (across the respective AM and PM peak periods) isn't considered to be severe or significant.

7.6.76 Based on the above, should the scheme (Ref: 17/00499/REM) come forward, the signalised crossroads junction would also be able to accommodate traffic associated with the development proposals.

8. Junction Mitigation

8.1 Overview

8.1.1 This chapter discusses the identified junctions within close vicinity of the site which are forecast to operate over capacity following the introduction of the proposed development and presents concept designs to mitigate the traffic impact of the proposed development.

8.1.2 The following junctions have been identified in **Chapter 7** as requiring further assessment, in order to investigate potential improvement schemes to mitigate the impact associated with the proposed development:

- Junction 2 - Bardills Roundabout; and,
- Junction 5 – B6003 Stapleford Lane / Swiney Way / Banks Road.

8.2 Junction 2: Bardills Roundabout

8.2.1 As set out **Chapter 7**, the Bardills Roundabout is forecast to operate beyond its theoretical capacity in the 2041 Base scenario. The onset of development traffic exacerbates the capacity issues and therefore a potential improvement scheme has been devised for the Bardills roundabout.

8.2.2 The scheme comprises the extension of the two-lane approach on the B6003 Toton Lane N approach to c.60m, increasing available storage for vehicles. An indicative layout for the proposed mitigation scheme is provided in **Drawing J32-8827-001**, attached at **Appendix H**.

8.2.3 A summary of the results of the LINSIG assessment undertaken for the proposed scheme is provided in **Table 8.1**. The full model output report for the proposed mitigation scheme is included in **Appendix I**.

Table 8.1 Bardills Roundabout Mitigation Junction Capacity Assessment Results

	AM Peak Period (08:00-09:00)			PM Peak Period (17:00-18:00)		
	DoS (%)	MMQ (PCU)	Delay /PCU (s)	DoS (%)	MMQ (PCU)	Delay /PCU (s)
2028 Base + Development						
A52 Brian Clough Way NE	96.9	28	57	85.5	14	31
Bardills Garden Centre Parking	0.9	0	16	1.9	0	14
B6003 Toton Lane S	50.1	6	26	51.3	6	23
A52 Brian Clough Way West	93.6	24	31	93.2	22	31
B6003 Toton Lane N	95.4	16	72	95.1	15	68

	AM Peak Period (08:00-09:00)			PM Peak Period (17:00-18:00)		
	DoS (%)	MMQ (PCU)	Delay /PCU (s)	DoS (%)	MMQ (PCU)	Delay /PCU (s)
Junction PRC	-7.7% (85s Cycle Time)			-5.7% (77s Cycle Time)		
2041 Base + Development						
A52 Brian Clough Way NE	104.4	54	135	91.3	18	39
Bardills Garden Centre Parking	0.9	0	16	1.9	0	14
B6003 Toton Lane S	53.1	6	26	55.7	7	23
A52 Brian Clough Way West	99.9	45	59	99.7	40	61
B6003 Toton Lane N	102.9	29	133	103.0	28	132
Junction PRC	-16% (85s Cycle Time)			-14.4% (77s Cycle Time)		

8.2.4 The model results show that in all development scenarios the junction is nil-detriment to the 2041 Base scenario when no improvement is made to the junction, as shown in **Table 8.2** below, which compares the future year with no development scenario to the worse case development scenario.

Table 8.2 Bardills Roundabout Nil Detriment Summary

	AM Peak (08:00 – 09:00)		PM Peak (17:00 – 18:00)	
	DoS (%)	Delay (s)	DoS (%)	Delay (s)
2041 Base [Existing arrangement]				
A52 Brian Clough Way NE	108.9	204	90.0	37
Bardills Garden Centre Parking	0.9	16	1.9	14
B6003 Toton Lane S	43.1	23	54.8	23
A52 Brian Clough Way West	102.8	97	99.2	57
B6003 Toton Lane	105.2	164	107.5	194
2041 Base + Development [Proposed Scheme]				
A52 Brian Clough Way NE	104.4	135	91.3	39
Bardills Garden Centre Parking	0.9	16	1.9	14
B6003 Toton Lane S	53.1	26	55.7	23
A52 Brian Clough Way West	99.9	59	99.7	61
B6003 Toton Lane	102.9	133	103.0	132
Difference				
A52 Brian Clough Way NE	-4.5	-69	+1.3	+2

	AM Peak (08:00 – 09:00)		PM Peak (17:00 – 18:00)	
	DoS (%)	Delay (s)	DoS (%)	Delay (s)
Bardills Garden Centre Parking	0	0	0	0
B6003 Toton Lane S	+10	+3	+0.9	0
A52 Brian Clough Way West	-2.9	-38	+0.5	+4
B6003 Toton Lane	-2.3	-31	-4.5	-62

8.2.5 As such, the results of this modelling exercise have demonstrated that the implementation of the proposed mitigation scheme will create a betterment of the operation of the junction when compared to the horizon 2041 Base scenario.

Sensitivity Assessment Mitigation

8.2.6 Improvements to the Bardills roundabout were also proposed as part of the consented application to the north of the site at land west of Toton Lane (Ref: 17/00499/REM) for the erection of 282 dwellings.

8.2.7 This scheme consisted of the following:

- Existing 3.1m wide right turn lane on A52 Brian Clough Way West approach to be extended;
- Road markings altered within circulatory;
- New road layout on exit arm of A52 Brian Clough Way West and realigned Toucan Crossing;
- Additional ahead lane provided through junction; and,
- Additional 3.65m wide offside lane on the A52 Brian Clough Way East approach.

8.2.8 When the impact of the consented application is considered as a sensitivity scenario, neither the scheme outlined in application 17/00499/REM nor the scheme outlined in Paragraph 8.2.2 sufficiently mitigate the cumulative impact of the two developments in the 2041 horizon year.

8.2.9 Amendments are therefore proposed to the scheme outlined in application 17/00499/REM to ensure that nil-detriment can be achieved when comparing the Toton West scheme demands to the 2041 Base sensitivity scenario. This scheme consists of the following:

- Additional length of two-lane approach on Toton Lane N (put forward by mode to improve capacity constraints on this approach arm);
- Additional Lane on exit of Toton Lane S and changes to adjacent section of circulatory (additional changes to the previous scheme which only had one lane exit on the Toton Lane South exit arm);
- Additional ahead lane provided through junction (as previously put forward within the consented scheme); and,

- Extension of flare on nearside lane on A52 Brian Clough Way E approach reducing the extent of works required upstream but also allowing for more effective movements to the amended lane markings on the circulatory (in lieu of the previous scheme which put forward an additional lane on the right-hand offside lane and an extension of the nearside left lane, upstream of the current approach).

8.2.10 An indicative layout for the proposed mitigation scheme is provided in **Drawing J32-8827-002**, attached at **Appendix H**.

8.2.11 A summary of the results of the LINSIG assessment undertaken for the proposed mitigation scheme in the sensitivity scenario is provided in **Table 8.3**, with the full LINSIG junction output report attached at **Appendix I**.

Table 8.3 Bardills Roundabout Wider Mitigation Junction Capacity Assessment

	AM Peak Period (08:00-09:00)			PM Peak Period (17:00-18:00)		
	DoS (%)	MMQ (PCU)	Delay /PCU (s)	DoS (%)	MMQ (PCU)	Delay /PCU (s)
2028 AM and PM Base + Development + Sensitivity						
A52 Brian Clough Way NE	91.2	20	36	77.0	13	27
Bardills Garden Centre Parking	0.8	0.0	14	1.9	10	13
B6003 Toton Lane S	55.9	7	25	51.9	6	23
A52 Brian Clough Way West	86.5	19	24	88.2	21	30
B6003 Toton Lane	86.5	17	24	77.5	8	37
Junction PRC	-2.5 (77s Cycle Time)			2.0 (77s Cycle Time)		
2041 AM and PM Base + Development + Sensitivity						
A52 Brian Clough Way NE	94.3	24	44	88.8	15	41
Bardills Garden Centre Parking	0.9	0	17	1.7	0	11
B6003 Toton Lane S	62.2	8	29	52.6	6	20
A52 Brian Clough Way West	92.1	26	33	96.2	26	41
B6003 Toton Lane	92.1	12	56	84.0	9	37
Junction PRC	-4.8 (85s Cycle Time)			-6.9 (69s Cycle Time)		

8.2.12 The model results show that in the worse-case sensitivity scenario, the junction is nil-detriment to the 2041 Base scenario with the sensitivity assessment (and consented mitigation scheme in place), as shown in **Table 8.4**, below.

Table 8.4 Bardills Roundabout Nil Detriment Summary

	AM Peak (08:00 – 09:00)		PM Peak (17:00 – 18:00)	
	DoS (%)	Delay (s)	DoS (%)	Delay (s)
2041 Base [Considered Mitigation]				
A52 Brian Clough Way NE	92.0	35	91.1	36
Bardills Garden Centre Parking	0.7	11	1.5	9
B6003 Toton Lane S	67.3	25	76.2	25
A52 Brian Clough Way West	97.2	42	100.4	69
B6003 Toton Lane	108.2	198	92.5	160
2041 Base + Development + Sensitivity [Proposed Scheme]				
A52 Brian Clough Way NE	94.3	44	88.8	41
Bardills Garden Centre Parking	0.9	17	1.7	11
B6003 Toton Lane S	62.2	29	52.6	20
A52 Brian Clough Way West	92.1	33	96.2	41
B6003 Toton Lane	92.1	56	84.0	37
Difference				
A52 Brian Clough Way NE	+2.3	+9	-2.3	+5
Bardills Garden Centre Parking	+0.2	+6	+0.2	+2
B6003 Toton Lane S	-5.1	+4	-23.6	-5
A52 Brian Clough Way West	-5.1	-9	-4.2	-28
B6003 Toton Lane	-16.1	-142	-8.5	-123

8.3 Junction 5: B6003 Stapleford Lane / Swiney Way / Banks Road

- 8.3.1 To mitigate the impact of the proposed development, a potential improvement scheme has been devised for the B6003 Stapleford Lane / Swiney Way / Banks Road crossroads.
- 8.3.2 This scheme comprises of an upgrade to the pedestrian crossings to include 'on crossing detection' to help reduce lost time to traffic, and the introduction of a staggered 3m central island on Swiney Way. An indicative layout for the proposed mitigation scheme is provided in **Drawing J32-8827-001**, attached at **Appendix H**, for reference.
- 8.3.3 A summary of the results of the LINSIG assessment, undertaken for the proposed mitigation scheme is provided in **Table 8.1**. The full LINSIG model output report for the proposed mitigation scheme is included at **Appendix I**, for reference.

Table 8.5 B6003 Stapleford Lane / Swiney Way / Banks Road Assessment Results

	AM Peak Period (08:00-09:00)			PM Peak Period (17:00-18:00)		
	DoS (%)	MMQ (PCU)	Delay /PCU (s)	DoS (%)	MMQ (PCU)	Delay /PCU (s)
2028 Base + Development + Sensitivity						
B6003 Stapleford Lane North	85.4	21	35	98.7	25	73
Swiney Way	92.7	16	67	101.1	31	113
Stapleford Lane South	91.6	18	64	84.1	16	49
Banks Road	90.3	12	80	99.7	13	157
Junction PRC	-3.0			-12.3		
2041 Base + Development + Sensitivity						
B6003 Stapleford Lane North	91.8	24	42	107.1	55	178
Swiney Way	99.9	24	108	109.2	60	237
Stapleford Lane South	99.0	25	101	90.9	20	60
Banks Road	97.3	17	120	108.3	23	266
Junction PRC	-11.0			-21.3		

8.3.4 The model results show that in the worse-case sensitivity scenario, the junction is nil-detriment to the 2041 Base scenario when no improvement is made to the junction and no traffic from the proposals or consented scheme to the north are considered, as shown in **Table 8.6**, below.

Table 8.6 B6003 / Swiney Way / Banks Road Crossroads Nil Detriment Summary

	AM Peak (08:00 – 09:00)		PM Peak (17:00 – 18:00)	
	DoS (%)	Delay (s)	DoS (%)	Delay (s)
2041 Base [Existing arrangement]				
B6003 Stapleford Lane North	96.5	54	110.6	233
Swiney Way	103.7	163	112.3	287
Stapleford Lane South	103.5	158	89.7	59
Banks Road	103.3	201	108.3	284
2041 Base + Development + Sensitivity [Proposed Scheme]				
B6003 Stapleford Lane North	91.8	42	107.1	178
Swiney Way	99.9	108	109.2	237
Stapleford Lane South	99.0	101	90.9	60
Banks Road	97.3	120	108.3	266
Difference				

	AM Peak (08:00 – 09:00)		PM Peak (17:00 – 18:00)	
	DoS (%)	Delay (s)	DoS (%)	Delay (s)
B6003 Stapleford Lane North	-4.7	-12	-3.5	-55
Swiney Way	-3.8	-55	-3.1	-50
Stapleford Lane South	-4.5	-57	+1.2	1
Banks Road	-6	-81	0	-18

8.3.5 **Table 8.6** shows that the mitigation scheme creates a betterment to the 2041 Base scenario even in the sensitivity scenario. Therefore, demonstrating that the proposed scheme provides an opportunity to offset the impact of the development whilst also improving the overall operation of the junction.

8.3.6 Furthermore, should the consented scheme to the north of the site fail to come forward, the benefit of the proposed mitigation scheme will be even greater than that reported above.

9. Summary and Conclusion

9.1 Summary

9.1.1 mode transport planning (mode) has been commissioned by Bloor Homes Ltd (Bloor) to provide highways and transport advice in relation to the live Outline Planning Application (ref: 25/00371/OUT) for a residential development on land to the west of the B6003 Stapleford Lane in Broxtowe, Nottinghamshire. The application is for the following:

“Outline Planning Application for the construction of a residential development of up to 420 residential dwellings and associated open space and infrastructure.”

9.1.2 The site is located within land allocated for development, under Policy 3.2, as defined within the adopted BBC Part 2 Local Plan (2018-2028). The allocation comprises a major expansion of up to 3,000 homes, a minimum of 18,000sqm of mixed employment (Use Class B), the provision for an expanded or relocated George Spencer Academy and a new primary school.

9.1.3 The site is in an accessible location with walking, cycling and public transport access to and from local amenities and the wider sustainable transport network. The proposals are located in close proximity to the Toton Park & Ride tram facility, along with bus stops and routes on Stapleford Lane and as such there are opportunities for future residents on site to access nearby destinations (including Nottingham City Centre) via methods of active travel or public transport.

9.1.4 A review of the collision data for the highways network surrounding the development site has concluded that there are not any inherent highway safety issues which would likely be exacerbated by the development.

9.1.5 Vehicular access to the site will be through the provision of a new signalised crossroads junction with the B6003 Stapleford Lane. The site access will form the western arm of the signalised crossroads with the eastern arm providing access to potential development at Toton East (currently in determination under planning reference 25/00255/FUL). Whilst this application and access is to be determined on its own merits, from a practical delivery perspective, the access has been designed as a crossroads to provide opportunity for access into Toton East and ensure the allocated land isn't prejudiced by the delivery of an access only into Toton West.

9.1.6 As part of the access junction, signalised Toucan and Puffin crossings will be implemented on both the B6003 Stapleford northbound approach arm and the Toton East approach arm, respectively. The site access and B6003 Stapleford southbound approach arm will benefit from signalised Toucan crossing facilities. This will enable suitable connections between the site and the Toton Lane Park and Ride Tram Stop, which is considered to be a key opportunity for promoting sustainable travel to and from the site.

- 9.1.7 A trip generation exercise has demonstrated that the proposed development is forecast to generate an additional 230 and 203 two-way vehicular trips during the AM and PM peak hours. This equates to an additional vehicular trip at source every c.15 seconds in the AM peak period and c.17 seconds in the PM peak period.
- 9.1.8 Junction capacity assessments have been undertaken at the proposed site access junctions and at the following key off-site junctions on the local highway network:
- Junction 1 – M1 Junction 25;
 - Junction 2 - Bardills Roundabout;
 - Junction 3 – Bramcote Island;
 - Junction 4 – B6003 Toton Lane / Park & Ride; and,
 - Junction 5 – B6003 Stapleford Lane / Swiney Way / Banks Road.
- 9.1.9 A 2028 opening year and 2041 future year scenario have been considered within the junction capacity assessments, inclusive of committed development and background growth thus a robust level of assessment has been completed. The junction capacity assessments have been based on 100% of the development generated traffic and do not take into account any measures to reduce private car use, which are promoted as part of the accompanying RTP, therefore the actual realised impacts of the development at these junctions could be lower.
- 9.1.10 The results of the junction capacity assessment indicate that subject to the implementation of mitigation schemes at the Bardills Roundabout and B6003 Stapleford Lane / Swiney Way / Banks Road signalised crossroads, the proposed development would not result in any severe impact on the operation of the highway network in the vicinity of the site. This conclusion is also drawn in a sensitivity test scenario in which an adjacent development and its mitigation have also been considered at Bardills Roundabout.

9.2 Conclusion

- 9.2.1 In conclusion, it has been demonstrated that the proposed development will not have an adverse impact on the local highway network and accords with the following relevant sections of the NPPF:

“Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network, following mitigation, would be severe, taking into account all reasonable future scenarios.”

(Paragraph 116)

“Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes.”

(Paragraph 110)

9.2.2 Based on the information presented within this TA, it is considered that the proposed development will be sustainably located, can provide safe and suitable access and will not result in any severe residual cumulative impact, and therefore wholly aligns with the NPPF and as such be considered acceptable in terms of transport and highways.