# 4. POLICY CONTEXT

## 4.1 Overview

4.1.1 The purpose of this section is to set out the relevant land use planning and transport planning policies to ensure that the development proposals are in accordance with national and local policy objectives.

## 4.2 National Policy Context

Creating Growth, Cutting Carbon: Making Local Sustainable Transport Happen

4.2.1 In January 2011 the DfT published a White Paper called "Creating Growth, Cutting Carbon: Making Local Sustainable Transport Happen". This document set out the coalition government's strategy towards the integration of sustainable development and local transport infrastructure to help achieve two key government objectives:

- To help create growth in the economy
- To tackle climate change by cutting our carbon emissions.

4.2.2 The document states that; "Getting the economy back on track means making sure people can get to work, to the shops or their local amenities. And tackling climate change means encouraging smarter ways of getting around". Development should therefore be located in highly accessible locations to encourage Smarter Choices of travel to reach employment and services such as retail.

4.2.3 The report states that "*two thirds of journeys are under five miles – many of these trips could be easily cycled, walked or undertaken by public transport.* "

4.2.4 The White Paper also identifies the need for a range of transport options especially to new development that can assist in 'Nudging' travel behaviour towards sustainable travel:

*"It is vital that sustainable transport is a central consideration from the early stages of local planning – for example whenever new houses or retail areas are being developed."*

4.2.5 Given that development is on a brownfield site and within a district centre, it is clear that the proposed mixed use of retail and housing can assist in meeting the aims of national policy set out in the White Paper.

National Planning Policy Framework (2012)

4.2.6 In 2012 the Government introduced new planning policy guidelines, which replaced all previous Planning Policy Guidance (PPG) documents with a single National Planning Policy Framework (NPPF).

4.2.7 The NPPF states that its overall aim is "*to help achieve sustainable development*" *based on three dimensions*;

- **An economic role** - by ensuring that sufficient land of the right type is available in the right places and at the right time to support growth and innovation;
- **A social role** - supporting strong, vibrant and healthy communities, by creating a high quality built environment, with accessible local services that reflect the community's needs and support its health, social and cultural well-being; and
- **An environmental role** - contributing to protecting and enhancing our natural, built and historic environment; and, as part of this, helping to improve biodiversity, use natural resources prudently, minimise waste and pollution, and mitigate and adapt to climate change including moving to a low carbon economy.

4.2.8 The report emphasises that;

*"Development that is sustainable should go ahead, without delay – a presumption in favour of sustainable development that is the basis for every plan, every decision."*

4.2.9 With specific regard to the transport element of the NPPF, the report states that;

*'All developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment.'*

4.2.10 The NPPF identifies that the design and location of new development should;

- accommodate the efficient delivery of goods and supplies;
- give priority to pedestrian and cycle movements, and have access to high quality public transport facilities;
- create safe and secure layouts which minimise conflicts between traffic and cyclists or pedestrians, avoiding street clutter and where appropriate establishing home zones;
- incorporate facilities for charging plug-in and other ultra-low emission vehicles; and
- consider the needs of people with disabilities by all modes of transport.

4.2.11 Given the objectives set out in the NPPF, it is clear that the proposed development will be in accordance with current national planning policy relating to Sustainable Development and Transport.

## 4.3 Local Policy Context

Local Transport Plan

4.3.1 In March 2011, the South Yorkshire Integrated Transport Authority published its 15 year Transport Strategy as part of their Local Transport Plan 3 (LTP3). This document set out the objectives for the links between transport, society and the economy over the next 15 years in the Sheffield City Region, which encompasses the local authority area of Barnsley where the proposed development is located. The LTP3 set out four key goals that are to be achieved over the duration of the 15 year Transport Strategy period and these are as follows:

- To support economic growth
- To enhance social inclusion and health
- To reduce emissions
- To maximise safety

4.3.2 The Transport Strategy also identified a further 26 policies that will help to achieve the four key goals outlined above. As such those polices that directly relate to the proposed mixed use development are as follows:

Economic:

- To deliver interventions required for development and regeneration
- To develop high-quality public places
- To focus new development along key public transport corridors and in places adjacent to existing shops and services
- To apply parking policies to promote efficient car use, while remaining sensitive to the vulnerability of urban economies
- To develop public transport that connects people to jobs and training in both urban and rural areas

Social Inclusion and Health

- To ensure public transport is accessible to all
- To provide efficient and sustainable access to our green and recreational spaces, so that they can be enjoyed by all residents and attract tourism

Reduce Emissions:

- To encourage active travel and develop high quality cycling and walking networks
- To provide information and travel advice for the users of all modes of transport, so that they can make informed travel choices

Maximise Safety:

- To encourage safer road use and reduce casualties on our roads

4.3.3 As can be seen above, the proposed development will assist in delivering a number of the local transport goals and policies and therefore contributes to delivering the overall Transport Strategy for the Sheffield City Region during the 15 year Local Transport Plan (LTP3) period.

Barnsley Local Development Framework

4.3.4 Barnsley Metropolitan Borough Council (BMBC) are currently in the process of developing and implementing their Local Development Framework (LDF), which is a series of documents that set out the vision for future development in the Barnsley area until 2026.

4.3.5 The Core Strategy is one of the key documents of the LDF as it sets out the approach of the long term physical development and reflects what the Council

wants Barnsley and the surrounding areas to become. To help do this the Council have laid out 8 objectives within the Core Strategy.

1. To be the spatial interpretation of the Sustainable Community Strategy
2. To improve access, movement and connectivity with sustainable travel
3. To secure safe, healthy and inclusive communities and promote wellbeing
4. To make efficient use of land and infrastructure
5. To accelerate economic growth
6. To ensure all new development is sustainably designed and built to the highest standards
7. To deliver a sufficient supply of housing to provide balanced mixed communities and support economic growth
8. To protect and improve the countryside and natural environment

4.3.6 Based on the proposals outlined in section 3, it is clear that development will support a number of the Core Strategy objectives and in particular those relating to efficient use of land and infrastructure, economic growth and sustainability.

4.3.7 In addition to the above objectives, the Core Strategy also identifies Royston and the former school site as a location for future development:

*"The Core Strategy policy CSP8 identifies the Principal Towns such as Royston as a priority for development and the main local focus for housing, employment, shopping, leisure, education, health and cultural activities and facilities. CSP10 anticipates 1000 new homes for Royston over the plan period. Central Royston housing opportunities include the redundant Royston school site as well as peripheral greenfield sites."*

*"CSP31 identifies Royston as a District Centre with an important role serving localised catchments and meeting more local needs and as such aims to direct new retail and town centre uses here."*

*"We want to support growth and change in Royston. The redevelopment of the former school site offers the opportunity for regeneration and consolidation of the town centre and its two shopping areas, possibly including new retail provision. Additionally the site is likely to deliver housing and green space that will transform*

*this area of the town. Coupled with the housing and employment growth that will occur elsewhere in Royston over the plan period this will result in important changes for the town. We will ensure this is carried out in a way which increases the sustainability and accessibility of the town."*

4.3.8 The CSP 27 Parking Strategy states:

*"We will develop a parking strategy that will help to influence people's travel choices". The Strategy will include:*

- *A review of the number and location of short and long term car parking spaces, taking account of development proposals in Barnsley town centre*
- *An action plan to improve the management of new and existing car parks*
- *Maximum car parking standards*
- *Variable car parking charges dependant on location*
- *Parking permits including residential parking schemes*
- *A programme for monitoring car park usage*

4.3.9 CSP 27 also states that it will consider developing parking strategies to cover the Principal Towns, such as Royston.

4.3.10 CSP 28 Reducing the Impact of Road Travel states:

*"We will reduce the impact of road travel by:*

- *Developing and implementing robust, evidence based air quality action plans to improve air quality*
- *Working with our sub regional partners, fleet and freight operators to improve the efficiency of vehicles and goods delivery, and reduce exhaust emissions*
- *Implementing measures to ensure the current road system is used efficiently.*

4.3.10 Given the above extracts as well as the Core Strategy objectives, it is clear that the development proposals for a mixed use site in Royston are in accordance will local planning policy.

# 5. EXISTING TRAFFIC CONDITIONS

## 5.1 Survey Data Collection

5.1.1 In order to determine existing traffic conditions on the surrounding highway network, traffic surveys were undertaken at the following junctions:

- Midland Road / Church Street / High Street / Station Road
- Midland Road / The Lane

5.1.2 The weekday traffic surveys at the Midland Road / Church Street / High Street / Station Road junction were obtained from the Royston Development Study produced by AECOM on behalf of Barnsley Metropolitan Borough Council (BMBC). These traffic surveys were available for the weekday AM peak period (0800 to 0900) and the PM peak period (1700 to 1800) in 2009.

5.1.3 In order to understand the impact of the development on this junction at the weekend, additional turning count surveys were commissioned by Pell Frischmann for Saturday 16th July 2011 during the inter-peak period (1000 to 1400).

5.1.4 The turning counts at Midland Road / The Lane were undertaken on Friday 23rd and Saturday 24th September 2011. The Friday AM peak, turning movements were recorded between 0730 and 0930 and for the Friday PM peak turning movements were undertaken between 1630 and 1830. In order to establish the Saturday inter-peak period, turning movements were also undertaken between 1000 and 1400.

5.1.5 Based on both the above 2009 and 2011 survey data the following local network peak hours were identified for assessment;

- Weekday AM Peak – 0800 to 0900
- Weekday PM Peak – 1700 to 1800
- Saturday Peak – 1200 to 1300

5.1.6 A copy of the full traffic survey results is included as Appendix D for reference.

## 5.2 Future Year Assessments

5.2.1 The DfT's Guidance on Transport Assessment (2007) states that:

*"A development should be assessed with regard to the LDF, and for a period of no less than five years after the date of registration of a planning application".*

5.2.2 As such the future year assessments will be carried out for the opening year of 2013 and a design year of 2017 (5 years from planning application submission).

5.2.3 The existing traffic observations have therefore been growthed using a combination of the DfT National Traffic Model (NTM) factors for Yorkshire and the Humber on 'All Urban Roads' and a combined average of TEMPRO 6.2 national and local factors specific to Royston.

5.2.4 The growth factors for the AM and PM weekday peak periods and Saturday Inter-peak period are therefore as follows;

- Weekday AM Peak 2009 to 2013 = 1.026
- Weekday PM Peak 2009 to 2013 = 1.026
- Weekday AM Peak 2011 to 2013 = 1.013
- Weekday PM Peak 2011 to 2013 = 1.013
- Saturday Inter-peak 2011 to 2013 = 1.013
- Weekday AM Peak 2009 to 2017 = 1.081
- Weekday PM Peak 2009 to 2017 = 1.082
- Weekday AM Peak 2011 to 2017 = 1.069
- Weekday PM Peak 2011 to 2017 = 1.069
- Saturday Inter-peak 2011 to 2017 = 1.069

5.2.5 A copy of the highway network diagrams for each of the base traffic scenarios is included in Figures 5.1 to 5.9 for each assessment year and time period.

## 6. TRIP GENERATION AND DISTRIBUTION

6.1 In order to estimate the volume of multi modal trips generated by the proposed development, the number of arrivals and departures has been calculated for each of the proposed land use types using the TRICS database. A summary of these results is provided in the remainder of this section and the full TRICS output for each land use is included as Appendix E.

### 6.2 Supermarket Trip Generation

6.2.1 For the proposed supermarket, development trips were obtained using the selection parameters of 01 – Retail and A – Food Superstore. The weekday trip rates were obtained by entering in a Gross Floor Area (GFA) range of between 1700m$^2$ and 7702m$^2$ with weekend trip rates between 800m$^2$ and 5800m$^2$. The trip rates generated for the weekday AM and PM peak hours and Saturday inter-peak period are summarised in Table 6.1.

Table 6.1 – TRICS Supermarket Trip Rates

| | Weekday | | | | Saturday | |
|---|---|---|---|---|---|---|
| | AM Peak (0800-0900) | | PM Peak (1700-1800) | | Inter-peak (1200-1300) | |
| | Arrivals | Departures | Arrivals | Departures | Arrivals | Departures |
| Vehicles | 3.797 | 2.482 | 6.335 | 6.835 | 7.406 | 7.757 |
| Vehicle Occupants | 4.608 | 2.936 | 8.85 | 9.524 | 12.09 | 12.355 |
| Pedestrians | 1.139 | 2.445 | 3.520 | 2.150 | 1.787 | 1.689 |
| Public Transport | 1.826 | 0.350 | 0.556 | 1.625 | 0.141 | 0.187 |
| Cyclists | 0.056 | 0.042 | 0.066 | 0.091 | 0.055 | 0.082 |
| OGV | 0.026 | 0.026 | 0.014 | 0.017 | 0.22 | 0.2 |

6.2.2 These trip rates have been used to calculate the actual number of trips generated by the supermarket based on 1 trip per 100 m$^2$ and these are shown in Table 6.2.

Table 6.2 – Supermarket Trip Generation

| | Weekday | | | | Saturday | |
|---|---|---|---|---|---|---|
| | AM Peak (0800-0900) | | PM Peak (1700-1800) | | Inter-peak (1200-1300) | |
| | Arrivals | Departures | Arrivals | Departures | Arrivals | Departures |
| Vehicles | 116 | 76 | 194 | 210 | 227 | 238 |
| Vehicle Occupants | 141 | 90 | 271 | 292 | 371 | 379 |
| Pedestrians | 35 | 75 | 108 | 66 | 55 | 52 |
| Public Transport | 56 | 11 | 17 | 50 | 4 | 6 |
| Cyclists | 2 | 1 | 2 | 3 | 2 | 3 |
| OGV | 1 | 1 | 0 | 1 | 7 | 6 |
| **Total** | **351** | **254** | **593** | **621** | **665** | **683** |

## 6.3 Health Centre Trip Generation

6.3.1 Trip rates have also been obtained for the proposed health centre using the TRICS database, based on the selection parameters of 05 – Health and G – GP Surgeries. The trip rates were obtained by entering a Gross Floor Area (GFA) range of between 770m$^2$ and 1500m$^2$. The trip rates estimated for the weekday AM and PM and Saturday inter-peak period are summarised in Table 6.3.

Table 6.3 – TRICS Health Centre Trip Rates

| | Weekday | | | | Saturday | |
|---|---|---|---|---|---|---|
| | AM Peak (0800-0900) | | PM Peak (1700-1800) | | Inter-peak (1200-1300) | |
| | Arrivals | Departures | Arrivals | Departures | Arrivals | Departures |
| Vehicles | 3.17 | 1.262 | 1.781 | 2.693 | 2.216 | 3.1 |
| Vehicle Occupants | * | * | * | * | * | * |
| Pedestrians | * | * | * | * | * | * |
| Public Transport | * | * | * | * | * | * |
| Cyclists | 0.056 | 0.028 | 0.000 | 0.000 | 0.000 | 0.070 |
| OGV | 0.014 | 0.028 | 0.000 | 0.000 | 0.000 | 0.000 |

NB: Saturday trip rates are based on weekday survey days due to a limited available sample
* No multi modal trip rates available for these modes

6.3.2 These trip rates have again been used to calculate the actual number of trips generated by the health centre based on 1 trip per 100m$^2$ and these are shown in Table 6.4.

Table 6.4 – Health Centre Trip Generation

| | Weekday | | | | Saturday | |
|---|---|---|---|---|---|---|
| | AM Peak (0800-0900) | | PM Peak (1700-1800) | | Inter-peak (1200-1300) | |
| | Arrivals | Departures | Arrivals | Departures | Arrivals | Departures |
| Vehicles | 43 | 17 | 24 | 36 | 30 | 42 |
| Vehicle Occupants | * | * | * | * | * | * |
| Pedestrians | * | * | * | * | * | * |
| Public Transport | * | * | * | * | * | * |
| Cyclists | 1 | 0 | 0 | 0 | 0 | 1 |
| OGV | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | **44** | **18** | **24** | **36** | **30** | **43** |

*No multi modal trip rates available for these modes

## 6.4 Housing Trip Generation

6.4.1 The housing trip generation was obtained from TRICS using the selection parameters of 03 – Residential and A – Houses Privately Owned. The weekday trip rates were obtained by entering in a range of between 10 and 372 dwellings with weekend trip rates between 25 and 195 dwellings. The trip rates generated for the weekday AM and PM peak hours and Saturday inter-peak period are summarised in Table 6.5.

Table 6.5 – TRICS Housing Trip Rates

| | Weekday | | | | Saturday | |
|---|---|---|---|---|---|---|
| | AM Peak (0800-0900) | | PM Peak (1700-1800) | | Inter-peak (1200-1300) | |
| | Arrivals | Departures | Arrivals | Departures | Arrivals | Departures |
| Vehicles | 0.151 | 0.407 | 0.388 | 0.224 | 0.225 | 0.207 |
| Vehicle Occupants | 0.184 | 0.615 | 0.513 | 0.304 | 0.358 | 0.363 |
| Pedestrians | 0.039 | 0.168 | 0.061 | 0.042 | 0.089 | 0.064 |
| Public Transport | 0.007 | 0.022 | 0.014 | 0.003 | 0.000 | 0.002 |
| Cyclists | 0.006 | 0.016 | 0.011 | 0.008 | 0.011 | 0.02 |
| OGV | 0.003 | 0.003 | 0.001 | 0.002 | 0.00 | 0.00 |

6.4.2 These trip rates have been used to calculate the actual number of trips generated by the housing development based on the proposed 143 dwellings and these are shown in Table 6.6.

Table 6.6 – Housing Trip Generation

| | Weekday | | | | Saturday | |
|---|---|---|---|---|---|---|
| | AM Peak (0800-0900) | | PM Peak (1700-1800) | | Inter-peak (1200-1300) | |
| | Arrivals | Departures | Arrivals | Departures | Arrivals | Departures |
| Vehicles | 21 | 57 | 54 | 31 | 32 | 29 |
| Vehicle Occupants | 26 | 86 | 72 | 43 | 50 | 51 |
| Pedestrians | 5 | 24 | 9 | 6 | 12 | 9 |
| Public Transport | 1 | 3 | 2 | 0 | 0 | 0 |
| Cyclists | 1 | 2 | 2 | 1 | 2 | 3 |
| OGV | 0 | 0 | 0 | 0 | 0 | 0 |
| **Total** | **55** | **172** | **138** | **82** | **96** | **92** |

## 6.5 Total Trip Generation

6.5.1 Based on the trip rates and trip generation shown in Tables 6.1 to 6.6, the total trip generation for the development can be summarised for each mode and as such these values are shown in Table 6.7.

Table 6.7 – Total Trip Generation by mode

| | Weekday | | | | Saturday | |
|---|---|---|---|---|---|---|
| | AM Peak (0800-0900) | | PM Peak (1700-1800) | | Inter-peak (1200-1300) | |
| | Arrivals | Departures | Arrivals | Departures | Arrivals | Departures |
| Vehicles | 180 | 150 | 273 | 277 | 288 | 309 |
| Vehicle Occupants | 167 | 176 | 343 | 335 | 421 | 430 |
| Pedestrians | 40 | 98 | 116 | 72 | 67 | 61 |
| Public Transport | 57 | 14 | 19 | 50 | 4 | 6 |
| Cyclists | 3 | 4 | 4 | 4 | 3 | 6 |
| OGV | 1 | 2 | 1 | 1 | 7 | 6 |
| **Total** | **450** | **444** | **755** | **739** | **791** | **817** |

## 6.6 Newly Generated, Transferred, Diverted and Pass-by Trips

6.6.1 In addition to determining the total trip generation of the proposed development, an adjustment has been made to the number of newly generated vehicle trips from the supermarket, in order to take account of those trips that may already exist on the surrounding highway network.

6.6.2 These adjustments have been based on the TRICS Research Report 95/2 – Pass-by and Diverted Traffic: A Resume, which states the following;

"*The number of trips to the store may not be comprised entirely of new trips. Many of the trips may occur anyway, albeit to another location, or where a visit to the store will be incorporated into an existing pattern of travel*".

6.6.3 The research identifies that there are four types of trip generated by retail developments and these are as follows;

- **Newly Generated Trips**
- **Transferred Trips** - customers drawn from other existing stores
- **Diverted and Pass-by Trips** - those linked trips, usually with commuter or shopping trips where vehicles divert from the local highway network to access the development

6.6.4 For purposes of this assessment, transferred trips have been assumed to be drawn from existing stores located in the surrounding area.

6.6.5 Diverted and Pass-by trips are assumed to be from both Midland Road, as this is where the vehicular access points are located in relation to the surrounding highway network.

6.6.6 In order to determine the proportion of trips that should be allocated to each trip type, consideration has been given to the findings of the TRICS Research Report 95/2, which states the following:

*"All research confirms the view that very little new traffic is generated by new store developments. Figures compiled in this document suggest that in most circumstances **10% or less** of the total trips are completely new and in practice the value is so small it can be discounted".*

*"The proportion of trips generally accepted to be **non-primary is 30%**. Most of the non-primary trips tend to be home-work-site-home and hence values are generally lower than this at the weekend when there is less home commuting but **could be higher on a Friday evening** but would **not exceed 40%**."*

6.6.7 Based on the above conclusions, the proportional splits for each of the trip generation types have been determined for the supermarket and are shown in Table 6.8 below.

Table 6.8 – Supermarket Trip Generation Proportions

| Trips | Type | Weekday AM Peak | Weekday PM Peak | Saturday Inter-peak |
|---|---|---|---|---|
| **Primary** | Newly Generated | 26% | 18% | 35% |
| | Transferred | 44% | 44% | 40% |
| **Non-Primary (Linked)** | Pass-by and Diverted | 30% | 38% | 25% |
| **Total** | | **100%** | **100%** | **100%** |

6.6.8 As can be seen in Table 6.8, the proportion of newly generated trips for the supermarket has been increased above the 10% value stated in the TRICS report in order to present a robust assessment of junction performance. The number of diverted and pass-by trips in the AM peak is at the suggested 30% level, but as also indicated is higher during the PM peak period. For the Saturday inter-peak period, the proportion of pass-by and diverted trips is lower than during the week.

6.6.9 A breakdown of the vehicular trips in terms of newly generated, transferred and pass-by trip generation is shown in Table 6.9.

Table 6.9 – Vehicle Trip Generation by Type

| Trip Type | Weekday | | | | Saturday | |
|---|---|---|---|---|---|---|
| | AM Peak (0800-0900) | | PM Peak (1700-1800) | | Inter-peak (1200-1300) | |
| | Arrivals | Departures | Arrivals | Departures | Arrivals | Departures |
| **Newly Generated** Supermarket Trips | 30 | 20 | 35 | 38 | 79 | 83 |
| **Transferred** | 52 | 34 | 86 | 92 | 90 | 96 |
| **Pass-by** | 35 | 23 | 74 | 80 | 57 | 59 |
| Health Centre | 43 | 17 | 24 | 36 | 30 | 42 |
| Housing | 21 | 57 | 54 | 31 | 32 | 29 |
| **Total** | **180** | **150** | **273** | **277** | **288** | **309** |

## 6.7 Trip Distribution

6.7.1 In order to determine the impact of the development proposals on the surrounding highway network, the above trips have been distributed for each of the newly generated, transferred and pass-by trip types.

6.7.2 For each of the newly generated trips, traffic has been distributed using the existing directional flows on Midland Road and at the adjoining junction with High Street, Station Road and Church Street.

6.7.3 Given that vehicles can enter the site from Midland Road via two different access points, it has been assumed that all Supermarket and Health Centre related traffic on Midland Road use the secondary access (which is nearer to the available parking) and all Housing related development traffic uses the access via The Lane. All traffic will exit the site via The Lane.

6.7.4 Diagrams showing the arrival and departure trip distribution proportions in the weekday AM and PM peak hours as well as the Saturday inter-peak period are included in Figures 6.1 to 6.9. The total trip generation for all newly generated trips associated with the development is also included in Figures 6.10 to 6.12.

6.7.5 For trips being transferred from the existing stores, these have also been based on existing directional flows on the surrounding highway network. As such diagrams showing the difference in vehicles as a result of this transfer are included in Figures 6.13 to 6.18.

6.7.6 In terms of the impact of pass-by and diverted trips, these are shown in Figures 6.19 to 6.21 for each of the AM, PM and inter-peak scenarios.

6.7.7 Figures 6.22 to 6.27 show the future year 2013 and 2017 scenarios based on the existing traffic conditions set out in section 5 and the impact of the development with all new, transferred, pass-by and diverted trips included.

## 7. JUNCTION ASSESSMENTS

7.1 The purpose of this section is to determine the impact of the proposed development on junctions in the vicinity of the site. The junctions that have been assessed were agreed with Barnsley Metropolitan Borough Council (BMBC) as part of the scoping exercise and these are as follows:

- Midland Road / Church Street / High Street / Station Road
- Midland Road / The Lane
- Midland Road / Site Entrance

7.2 The Midland Road / Church Street / High Street / Station Road signalised junction has been assessed using LINSIG version 3. The current staging and intergreens of the signals were observed on site and incorporated into the LINSIG model. The pedestrian 'all red' stage has been assumed to be called every other cycle, which was also observed on site. A summary of the LINSIG results for each of the assessed scenarios is included in Table 7.1.

Table 7.1 – Summary of LINSIG results

| Scenario | Degree of Saturation (%) | Max Queue (PCU) |
|---|---|---|
| 2009 Weekday AM Peak Base | 66.8% | 8.3 |
| 2009 Weekday PM Peak Base | 73.4% | 8.7 |
| 2011 Saturday Inter-peak Base | 58.8% | 6.9 |
| 2013 Weekday AM Peak Base | 68.6% | 8.6 |
| 2013 Weekday PM Peak Base | 75.3% | 9.5 |
| 2013 Saturday Inter-peak Base | 59.5% | 7.0 |
| 2013 Weekday AM Peak Base with development | 79.2% | 10.6 |
| 2013 Weekday PM Peak Base with development | 91.2% | 13.3 |
| 2013 Saturday Inter-peak Base with development | 80.5% | 12.0 |
| 2017 Weekday AM Peak Base | 72.0% | 9.3 |
| 2017 Weekday PM Peak Base | 79.4% | 10.6 |
| 2017 Saturday Inter-peak Base | 62.8% | 7.2 |
| 2017 Weekday AM Peak Base with development | 83.0% | 11.8 |
| 2017 Weekday PM Peak Base with development | 93.3% | 17.5 |
| 2017 Saturday Inter-peak Base with development | 84.9% | 13.0 |

7.3 As can be seen in Table 7.1, in worst case PM peak with Development scenario for the design year of 2017, the signalised junction of Midland Road / Church Street / High Street / Station Road is expected operate at 93.3% saturation and have a mean max queue of 17.5. The full LINSIG output for each of the assessed scenarios is included as Appendix F.

7.4 The mini roundabout junction of Midland Road / The Lane has been assessed for capacity using ARCADY 5. A summary of the assessment results for this junction is included in Table 7.2 and the full ARCADY output is included as Appendix G.

Table 7.2 – Summary of ARCADY results

| Scenario | Midland Road West | | The Lane | | Midland Road East | |
|---|---|---|---|---|---|---|
| | RFC | Queue | RFC | Queue | RFC | Queue |
| 2011 Weekday AM Peak Base | 0.29 | 0.4 | 0.16 | 0.2 | 0.32 | 0.5 |
| 2011 Weekday PM Peak Base | 0.57 | 1.3 | 0.38 | 0.6 | 0.41 | 0.7 |
| 2011 Saturday Inter-peak Base | 0.47 | 0.9 | 0.31 | 0.4 | 0.42 | 0.7 |
| 2013 Weekday AM Peak Base | 0.30 | 0.4 | 0.16 | 0.2 | 3.2 | 0.5 |
| 2013 Weekday PM Peak Base | 0.57 | 1.3 | 0.38 | 0.6 | 0.42 | 0.7 |
| 2013 Saturday Inter-peak Base | 0.48 | 0.9 | 0.32 | 0.5 | 0.43 | 0.7 |
| 2013 Weekday AM Peak Base with development | 0.25 | 0.3 | 0.40 | 0.6 | 0.40 | 0.6 |
| 2013 Weekday PM Peak Base with development | 0.48 | 0.9 | 0.76 | 2.9 | 0.53 | 1.1 |
| 2013 Saturday Inter-peak Base with development | 0.37 | 0.6 | 0.75 | 2.9 | 0.58 | 1.3 |
| 2017 Weekday AM Peak Base | 0.31 | 0.5 | 0.18 | 0.2 | 0.34 | 0.5 |
| 2017 Weekday PM Peak Base | 0.61 | 1.5 | 0.41 | 0.7 | 0.44 | 0.8 |
| 2017 Saturday Inter-peak Base | 0.50 | 1.0 | 0.34 | 0.5 | 0.45 | 0.8 |
| 2017 Weekday AM Peak Base with development | 0.26 | 0.4 | 0.40 | 0.7 | 0.42 | 0.7 |
| 2017 Weekday PM Peak Base with development | 0.51 | 1.0 | 0.79 | 3.5 | 0.57 | 1.3 |
| 2017 Saturday Inter-peak Base with development | 0.40 | 0.7 | 0.78 | 3.1 | 0.60 | 1.5 |

7.5 As can be seen in Table 7.2, the highest Ratio of Flow to Capacity (RFC) value is 0.79, which occurred on The Lane in the 2017 Weekday PM Peak Base with development scenario. The Design Manual for Roads and Bridges (DMRB)

TD42/95 suggests that the Ratio of Flow to Capacity (RFC) value from ARCADY should not exceed 0.85. As such the existing junction arrangement is able to operate sufficiently in 2017 with the addition of development traffic.

7.6 The one way access from Midland Road into the site has been assessed using PICADY 4.1 and a summary of the assessment results for this junction is included in Table 7.2. The full PICADY output is included as Appendix H for reference.

Table 7.2 – Summary of PICADY results for Midland Road / Site Entrance

| Scenario | Site Access to Midland Road (W) / Midland Road (E) | | Midland Road (E) to Site Access / Midland Road (W) | |
|---|---|---|---|---|
| | RFC | Queue | RFC | Queue |
| 2013 Weekday AM Peak Base with development | 0.000 | 0.0 | 0.138 | 0.3 |
| 2013 Weekday PM Peak Base with development | 0.000 | 0.0 | 0.185 | 0.4 |
| 2013 Saturday Inter-peak Base with development | 0.000 | 0.0 | 0.231 | 0.6 |
| 2017 Weekday AM Peak Base with development | 0.000 | 0.0 | 0.140 | 0.3 |
| 2017 Weekday PM Peak Base with development | 0.000 | 0.0 | 0.192 | 0.5 |
| 2017 Saturday Inter-peak Base with development | 0.000 | 0.0 | 0.235 | 0.6 |

7.7 As can be seen in Table 7.2, the highest Ratio of Flow to Capacity (RFC) value is 0.235, which occurred in the 2017 Saturday Inter-peak Base with development scenario. As such it can be concluded that this junction arrangement is able to operate sufficiently in 2017 with the addition of development traffic.

## 8. SUMMARY AND CONCLUSIONS

8.1 This Transport Assessment (TA) has been produced in support of a planning application for a mixed use development site in Royston near Barnsley.

8.2 The development proposals involve the construction of a 33,000ft$^2$ (3,066m$^2$) Gross Floor Area (GFA) supermarket with associated petrol filling station (PFS), a Health Centre totalling 1350m$^2$ Gross Internal Area (GIA) and 143 residential properties.

8.3 The results of the junction assessments suggest that all junctions will operate in capacity with the addition of development traffic in the design year of 2017.

8.4 A review of existing personal injury accident (PIA) levels over a 5 year period suggests that there are currently no safety issues and therefore the development is unlikely to result in a significant impact on road safety.

8.5 The location of the site in the centre of Royston means that the site has very good access by bus and the surrounding residential area provides an opportunity for many trips to be made on foot or by bicycle.

8.6 The Transport Assessment (TA) has also recognised that the development site is identified for redevelopment within the Local Development Framework (LDF) and is consistent with local and national transport and planning policy objectives.

8.7 In conclusion, this Transport Assessment (TA) has provided a robust assessment of the traffic and transportation impacts of the proposed development and will therefore enable Barnsley MBC to consider these issues as part of the planning application.

# APPENDIX A

# BUS TIMETABLES