# 7 TRANSPORT AND ACCESS

## 7.1 INTRODUCTION

7.1.1 This chapter provides an assessment of the likely traffic and transportation impacts associated with the application proposals. It should be read in conjunction with the Transport Assessment (TA) prepared by Curtins.

7.1.2 This chapter sets out the methods used to assess the baseline conditions at the site and the surrounding area; the impact of the proposed development, appropriate mitigation measures and the assessment of any residual impacts.

## 7.2 POLICY AND GUIDANCE

### Planning Policy

7.2.1 This section reviews the relevant transport aspects of current national and local policy in relation to the application proposals.

National Policy

*National Planning Policy Framework (March 2012)*

7.2.2 The National Planning Policy Framework (NPPF) replaces a series of 44 separate planning policy documents covering a wide range of areas of planning policy. The NPPF is therefore a comprehensive document which forms the basis of planning policy in all areas of planning other than waste policy.

7.2.3 While the NPPF is a material consideration in planning decisions, emphasis is given in the document to *"distinctive local and neighbourhood plans, which reflect the needs and priorities of their communities."* The NPPF does not change the status of the local development plan as the starting point for decision making.

7.2.4 Paragraph 32 of the NPPF states that:

*"All developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment. Plans and decisions should take account of whether:*

- *the opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;*
- *safe and suitable access to the site can be achieved for all people; and*
- *improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe."*

7.2.5 The NPPF calls for a *"balance of land uses"* which will encourage people to minimise their journey lengths for employment, shopping, leisure, education and other activities.

7.2.6 It can be considered that the development proposals support and conform to the sustainable transport policies of the NPPF.

7.2.7 As discussed in Section 6 of the TA, the site is located such as to take up opportunities for sustainable travel. The provision of enhanced cycle facilities described in Section 2 of the TA, and local QBC improvements described in Section 7 of the TA, will enhance the opportunity for such alternatives to the private car.

7.2.8 Around the site, movements to and from public transport facilities for pedestrians and cyclists, whether they are able-bodied or have disabilities, are safe and convenient, with wide footways, drop-kerbs, tactile paving, pedestrian crossing facilities. The high level pedestrian and cycle bridge will provide a direct link between the bus stop on the A61 Old Mill Lane, north of the gyratory, to the site, providing a high quality and convenient connection between the site and public transport.

7.2.9 As demonstrated in in Section 8 of the TA, it is considered that, after the proposed highway infrastructure improvements associated with the scheme, the residual impacts of the development are not "severe".

7.2.10 It is also considered that the location of the site will contribute towards a "balance of land uses" by providing opportunities for employment and shopping in the local area.

7.2.11 Therefore, it is considered that the proposals are consistent with the NPPF from a transportation perspective.

Local Policy

*Barnsley Core Strategy (September 2011)*

7.2.12 The Barnsley Core Strategy sets out the spatial strategy for the development of Barnsley up to the year 2026.

7.2.13 With regard to highways the Core Strategy supersedes the policies contained within the Unitary Development Plan and replaces these with new policies as indicated below:

- CSP 23 Accessibility priorities;
- CSP 25 New development and sustainable travel;
- CSP 26 New development and highway design;
- CSP 27 Parking strategy; and
- CSP 28 Reducing the impact of road travel.

7.2.14 These policies aim to achieve similar objectives the the UDP in that they seek to reduce the need to travel, but where travel is necessary to make it easy for people to move between home, work, health, community and leisure facilities by walking, cycling, or where necessary using public transport.

7.2.15 The location of the site, close to complimentary land uses and the development of the highway network surrounding the site, ensure that that the objectives of the Core Strategy are met.

7.2.16 Furthermore a number of new pedestrian and cyclist facilities are proposed as part of the development again adhering to the objectives outlined above.

*South Yorkshire Local Transport Plan (2001 – 2026)*

7.2.17 The South Yorkshire Local Plan (2011 – 2026) is the third Local Transport Plan (LTP) for South Yorkshire.

7.2.18 The Transport Strategy has been devised for the Sheffield City Region (SCR) which includes the South Yorkshire districts of Barnsley, Doncaster, Rotherham and Sheffield, as well as parts of Nottinghamshire and Derbyshire.

7.2.19 The LTP's Transport Strategy describes the following four goals:

- To ensure that the transport system supports the economic growth of SCR;
- To ensure that the transport system enhances social exclusion and health;
- To reduce the emissions from vehicles; and
- To make transport increasingly safe and secure.

7.2.20 A set of 26 policies have been devised to meet these goals which include delivering interventions required for development and regeneration, focusing new development along key public transport corridors, improvement in air quality and encouragement of safer road use.

7.2.21 It is considered that the development proposals are broadly in line with the above goals, primarily due to the economic benefits, the regeneration potential, the employment opportunities and the associated highway infrastructure associated with the development.

*Barnsley Supplementary Planning Document: Parking*

7.2.22 This Supplementary Planning Document (SPD) has been produced concerning parking within the district. This document re-emphasises the policy in the Core Strategy relating to the need to design and locate development such as to promote sustainable modes; and to provide Transport Assessments and Travel Plans where necessary, as per DfT guidance.

7.2.23 The document also contains maximum standards relating to car parking provision, and minimum standards relating to cycle parking provision, however, there is no minimum standard of cycle parking relating to food retail. Therefore, the maximum standards for car parking are replicated in Table 7.1.

**Table 7.1: Barnsley Maximum Car Parking Standards**

| Use | Barnsley Urban | Barnsley wide |
|---|---|---|
| A1 Shops: Food | 1 space per 14 - 25sqm | 1 space per 14 - 20sqm |

7.2.24 The development is proposed at 15236sqm, which would give a maximum parking standard of 1088 parking spaces, based on the site being located in a "Barnsley Urban" location.

7.2.25 The proposed parking provision is for 772 non-disabled spaces, which is within the maximum standard.

7.2.26 The parking standards also recommend provision for disabled parking spaces at 4% of the total number of spaces. 41 disabled spaces are proposed, which is 5% of the provision, meaning that provision for those with mobility impairments at the site exceeds that required by the standards.

7.2.27 Parking provision at the site is therefore in line with the guidance in the Barnsley Parking SPD.

## 7.3 ASSESSMENT METHODOLOGY AND SIGNIFICANCE CRITERIA

### Scope

7.3.1 The Transport Assessment (TA) predicts the net effect of the development proposals and assesses potential impacts.

7.3.2 To determine a suitable scope for the TA, Curtins met with Highways Officers at Barnsley Metropolitan Borough Council (BMBC) on several occasions. As a result of these meetings a scope for the assessment was agreed, as set out below:

- A description of the highway network in the vicinity of the site;
- A description of walking, cycling and public transport infrastructure in the vicinity of the site;
- A review of the accident record in the vicinity of the site;
- A summary of the development proposals including the development mix, access strategy, parking provision and access by sustainable modes of transport;
- A summary of all relevant transportation policy;
- A drawing showing proposed access arrangements and connections to the wider area;
- A review of accessibility by all sustainable modes of travel;
- Information regarding traffic generation using the TRICS database;
- Information regarding the distribution of the development traffic;
- Consideration of committed development within the area; and
- An assessment of the likely impact on surrounding highway network.

### Assessment Modelling

7.3.3 The assessment criteria used to identify impacts are in accordance with the "Guidelines for the Environmental Assessment of Road Traffic" published by the Institute of Environmental Assessment (IEA). This states that the assessment should:

- Include highway links where traffic flows will increase by more than 30% (or the number of heavy goods vehicles will increase by more than 30%)
- Include any other specifically sensitive areas where traffic flows have increased by 10%, or more."

7.3.4 Increases in traffic flows of less than 10% are generally accepted as having negligible impact as daily variance in traffic flows can be of equal magnitude.

7.3.5 The 30% threshold relates to the level at which humans may perceive change and there may therefore be an effect. Impacts above this level therefore do not suggest that there is a significant impact, only that further consideration is required.

**Significance Criteria**

7.3.6 Prior to assessing the potential impact that the development will have on the baseline conditions, a standard approach for expressing the magnitude and direction of each effect is required. The magnitude of the impacts associated with the development has been categorised as follows:

- Substantial/major: Where the impact leads to serious and lasting disruption and major mitigation is required.
- Moderate: Where the impact leads to moderate disruption and mitigation measures are required.
- Minor: Where there is a small impact but no mitigation measures are required.
- Negligible: Where there is no perceivable impact.

7.3.7 The direction of the effect is categorised as follows:

- Adverse: Where the proposals result in a worsening of current conditions.
- Negligible: No perceivable impact.
- Beneficial: Where the proposals result in an improvement to the current condition.

**Method of Baseline Data Collection**

7.3.8 Following a number of scoping discussions, it was agreed with Highways Officers at BMBC that junction capacity assessments would be required for the following six junctions:

- A61 Wakefield Road/Carlton Road (existing – signals);
- A61 Wakefield Road/Smithies Lane (existing – signals);
- A61 Wakefield Road/Burton Road (existing – signals);
- A61 Old Mill Lane/Burton Road Bypass (proposed – signals); and
- A61 Harborough Hill Road/Old Mill Lane Gyratory (existing – signals).
- Burton Road/Rotherham Road (existing - signals)

7.3.9 It was agreed that the above junctions should be assessed for the following two time periods, which are the typical peak periods associated with foodstore traffic generation:

- Friday PM Peak; and
- Saturday Peak.

7.3.10 As no suitable historic count data was available, traffic surveys, in the form of classified turning counts and queue length surveys, were undertaken by a specialist traffic data collection company on Friday 20th and Saturday 21st May 2011. Additional surveys were undertaken for the Burton Road/Rotherham Road junction on Friday 30th September and Saturday 1st October. A copy of the observed survey data is provided in Appendix B of the Transport Assessment.

7.3.11 Junction capacity models were constructed based on these observed flows as well as signal timing sheets and layouts provided by BMBC Environmental Services.

7.3.12 The models were calibrated based on the queue length surveys and are therefore broadly representative of current traffic conditions at the junctions. In several instances, modelled queues are in excess of observed queues, resulting in the models presenting less capacity than there may exist in reality which ensures that the assessment should be considered to be robust and "worst-case".

## 7.4 BASELINE CONDITIONS

7.4.1 Baseline conditions for the existing site and the surrounding area are considered below with regard to traffic flows, accessibility and safety:

**Base Year Assessment**

7.4.2 In order to take into account a proposed highway scheme in the area and the existing land use permissions at the proposed development site, a Future Base Year was derived.

*Burton Road Bypass*

7.4.3 The scheme, as part of BMBC's Quality Bus Corridor proposals, was under construction during the traffic surveys and was assumed to be completed in late 2012, therefore the impact on the existing highway network would need to be included in the assessment.

7.4.4 The scheme will bypass an existing section of Burton Road approximately 250m in length from its junction with A61 Wakefield Road. The Bypass will run in a south westerly alignment, connecting to A61 Old Mill Lane at a proposed signalised junction approximately 150m south of the existing Burton Road junction. The proposed junction will allow all movements while the existing Burton Road junction will become left-in left-out only. Therefore, a significant reassignment of traffic onto the Bypass will occur.

7.4.5 No reassignment information was provided to Curtins, therefore the assumption was made that 95% of the existing Burton Road traffic will transfer onto the Bypass. The remaining 5% will be assumed to consist of local traffic associated with the residences on Burton Road.

7.4.6 Also as part of the scheme, the existing Wickes access on A61 Old Mill Lane will be relocated to a proposed roundabout on the Bypass. Therefore the observed Wickes traffic was transferred onto the Bypass.

*Existing Land Use Permissions*

7.4.7 The development site partly consists of a retail trade park and a council depot, both accessed off Twibell Street. The retail park consists of three large units, however one unit with a GFA of 2512sqm, previously occupied by MFI and Power House, is vacant and was therefore not generating traffic on the days of the traffic surveys. Similarly, the council depot is also vacant and not generating traffic on the days of the traffic surveys. However, the site has permission for retail development and industrial use so, in accordance with DfT guidance, the potential traffic generated by this empty unit and council depot should be added to the Base Year.

7.4.8 The trips associated with the reassignment of the Burton Road Bypass and the existing land use permissions not included in the traffic surveys were added to the observed flows forming the 2012 Future Base Year without Committed scenario.

*Accessibility*

7.4.9 A full review of accessibility is contained within Section 6 of the Transport Assessment. However, key sections of the text have been reproduced below.

7.4.10 Plan 003 contained within the Transport Assessment shows distances of 500m, 1000m and 2000m which are termed *'Desirable'*, *'Acceptable'* and the *'Preferred Maximum'* by the CIHT for commuting trips.

7.4.11 Plan 003 shows that within 1,000m there are large residential areas located to the northwest and northeast (Monk Bretton) of the proposed site. These areas are linked via a connected, well-lit, footway network.

7.4.12 Furthermore there are numerous employment sites such as large retail stores and Barnsley town centre which are also accessible within 1,000m of the proposed foodstore.

7.4.13 Within 2,000m of the site the whole of Barnsley town centre is available as well as sections of the residential areas located to the west, southwest and southeast of the site.

7.4.14 With regards to cycling, the 5km catchment encompasses the whole of Barnsley including the peripheral districts of Carlton, Athersley South, Gawber, Dodworth and Worsbough.

7.4.15 The closest designated cycle route in the vicinity of the site is the National Cycle Route 67 located approximately 1km to the south of the site.

7.4.16 National Cycle Route 67 links Loughborough and Northallerton. Locally it connects Barnsley Railway Station to the Trans Pennine Trail.

7.4.17 The initial route eastbound from the station is on-road while the majority of National Route 67 is off-road and traffic free.

7.4.18 There is an additional section of designated cycle way located approximately 2.5km to the north. This connects New Lodge with Athersley South.

7.4.19 There are a number of bus services accessible from Old Mill Lane. The closest bus facilities to the site are located on the western southbound carriage way of Old Mill Lane and consist of a shelter, timetable information and seats. The facilities will be located approximately 200m from the site. There is also an additional bus stop located across Old Mill Lane on the edge of the eastern carriageway which is also within 400m of the site.

7.4.20 In total 21 bus services will be accessible from within 400m of the proposed foodstore. Many of the services have a frequency of two services an hour or more to key local destinations such as Barnsley Interchange and local residential areas.

*Safety*

7.4.21 Five years of personal injury accident data have been obtained for the period from 1st January 2006 to 31st December 2010 at the following junctions as agreed with Barnsley MBC:

- A61 Harborough Hill Road/Old Mill Lane Gyratory;
- Old Mill Lane to Burton Road Corridor;
- Wakefield Road Corridor from Burton Road to Carlton Road; and
- Burton Road/Rotherham Road.

7.4.22 The full results of this assessment are contained in Section 3 of the Transport Assessment which concludes that whilst the development will increase traffic flows on the surrounding highway network it is not envisaged that this would exacerbate any existing safety issues.

**Future Baseline**

7.4.23 If the proposed development is not delivered the committed development and bypass mentioned above may still be implemented. Furthermore, the accessibility of the site and highway safety is unlikely to change.

## 7.5 ASSESSMENT OF IMPACTS

**Site Preparation, Demolition, Earthworks and Construction Phase**

7.5.1 The construction of the proposed development will result in an increase of Heavy Goods Vehicles (HGVs) and cars of construction workers on roads surrounding the site. However, it is considered that the volume of construction traffic when compared to the existing traffic flows on the highway network would not represent a significant increase and would be well below the 10% increase in traffic set out in the *'Institute of Environmental Assessments Guidelines for the Environmental Assessment of Road Traffic'.*

7.5.2 It is considered that the volume of traffic associated with the construction of the proposed development will be temporary in nature and would lead to a **minor adverse** impact.

**Operation**

*Traffic Flows and Highway Impact*

*7.5.3* The 2012 Future Base Year without Committed flows were factored to the forecast year of 2017 (application year plus five years), as requested by BMBC.

*Committed Development*

*7.5.4* It was agreed during the scoping meeting that there would be no requirement to include committed development as part of this analysis. However, planning permission was subsequently granted to a proposed retail development to the north of the proposed foodstore. The proposed retail development has a GFA of approximately 1906sqm and is to be a "bulky goods" store. It was therefore decided to include this as committed development.

*7.5.5* The committed development flows were added to the 2012 and 2017 Future Base without Development scenarios in order to form the baseline assessment scenarios referred to as 2012 Future Base and 2017 Future Base.

*Trip Generation*

*7.5.6* In order to determine the trip generation associated with the proposed development, the TRICS database has been used. This industry approved database contains the trip rates associated with numerous sites of various land use types across the UK and Ireland.

7.5.7 A sample of existing sites from the "Food Superstore" land use category with similar geographic characteristics to the proposed site was chosen. From this sample, average trip rates were derived for both peaks and applied to the 15236.6sqm GFA of the proposed development in order to calculate the total number of trips predicted to be generated by it. A summary of the trip rates and associated trip generation is presented in Table 7.1.

**Table 7.2 – Summary of Proposed Foodstore Trip Rates and Trip Generation**

| | Trip Rates | | | Trip Generation | | |
|---|---|---|---|---|---|---|
| **Peak** | **Arrivals** | **Departures** | **Total** | **Arrivals** | **Departures** | **Total** |
| **Friday** | 5.719 | 5.609 | 11.327 | 871 | 855 | 1726 |
| **Saturday** | 5.367 | 5.150 | 10.516 | 818 | 785 | 1603 |

*7.5.8* It is predicted that during the Friday Peak there will be 871 vehicle arrivals at the site and 855 departures. In the Saturday Peak it is predicted that there will be 818 arrivals and 785 departures.

*7.5.9* Further to the findings of the Retail Impact Assessment undertaken by GVA, it is predicted that the proposed food store will draw 40% of its total trade from other food stores in the Barnsley area. These stores are:

- Asda, Old Mill Lane;
- Morrisons Lower Thomas Street; and
- Tesco, Wombwell Lane.

*7.5.10* Many of the trips associated with these food stores, particularly the Morrisons and Tesco stores, do not use the network, or significant sections of the network, modelled as part of this TA, therefore, a significant proportion of these trade draw trips will appear as new trips on the network, thereby sharing the characteristics of a primary trip.

*7.5.11* With trade draw (transferred) trips accounting for 40% of the development trips, the remaining 60% will be treated as primary trips. It should be noted that, in reality, there is likely to be significant proportions of pass-by and diverted trips meaning that this proportion of 60% primary trips is likely to be smaller. However, it is believed that 60% primary trips, coupled with a large number of new transferred trips to the network, will provide a robust assessment by presenting a "worst-case" scenario. A summary of the total number of development trips split by primary and transferred is provided in Table 7.2.

**Table 7.3 – Summary of Trip Types**

| | Primary Trips | | | Transferred Trips | | |
|---|---|---|---|---|---|---|
| **Peak** | **Arrivals** | **Departures** | **Total** | **Arrivals** | **Departures** | **Total** |
| **Friday** | 523 | 513 | 1036 | 348 | 342 | 690 |
| **Saturday** | 491 | 471 | 962 | 327 | 314 | 641 |

*7.5.12* One important aspect to note regarding the proposed foodstore's location, is that its sole vehicle access will be provided off the Burton Road Bypass, meaning that all trips associated with the store will use the Bypass for part of their journey.

*Primary Development Trips*

*7.5.13* Primary development trips were distributed based on a combination of the observed distribution of the nearby Asda store on Old Mill Lane and a GIS analysis of local trade patterns.

*7.5.14* As part of the development trip distribution, it was predicted that a small proportion of primary development trips travelling to/from the east of the site would have an origin/destination in the residential areas accessed off Burton Road to the east of the proposed foodstore access. The proportions were based on the difference in observed count data between the A61 Wakefield Road/Burton Road and the Burton Road/Rotherham Road junctions.

*Transferred Development Trips*

*7.5.15* Transferred trips were distributed based on the information provided by GVA Grimley as part of the Retail Impact Assessment.

*Net Trip Reduction*

7.5.16 In order to "net-off" or remove trips associated with the existing site, the assumption was made that 75% of the observed trips arriving and departing on Twibell Street were generated by the existing retail park with the remaining 25% being generated by the residences and businesses on the southern side of Twibell Street. These trips were added to those associated with the existing land use permissions and removed from the Base plus Development scenario. These trips total 76 arrivals and 87 departures in the Friday Peak and 120 arrivals and 114 departures in the Saturday Peak.

*Linked Trips*

7.5.17 It is believed that there will be a very small number of linked trips between the committed bulky goods store and the proposed foodstore. These linked trips were assumed to account for 15% of committed trips. The 15% was taken from the primary trip percentage leaving 70% primary trips, 15% pass-by and 15% linked.

*Petrol Filling Station*

7.5.18 One final adjustment to the traffic flows was undertaken to into account the proposed petrol filling station (PFS) as part of the foodstore application. A PFS trip rate was derived from the TRICS database and applied to the 8 proposed fuel pumps. The trip rates and trip generation is shown in Table 7.3.

**Table 7.4 – Summary of PFS Trip Rates and Trip Generation**

| | Trip Rates | | | Trip Generation | | |
|---|---|---|---|---|---|---|
| **Peak** | **Arrivals** | **Departures** | **Total** | **Arrivals** | **Departures** | **Total** |
| Friday | 7.723 | 7.911 | 15.634 | 62 | 63 | 125 |
| Saturday | 6.474 | 6.546 | 13.020 | 52 | 52 | 104 |

Source: TRICS 2011(b)

7.5.19 It was assumed that 75% of the trips would be pass-by traffic to and from the foodstore and the remaining 25% would be non-foodstore pass-by traffic. The assumption was also made that the majority of trips visiting both the foodstore and the PFS would visit the PFS on exit from the foodstore.

*Total Development Flows*

7.5.20 The total proposed development trips for 2017 were then created by combining each of the following elements:

- 2017 Future Base Year without Development;
- Committed Development Trips;
- Primary Development Trips;

- Transferred Trips (Trade Draw);
- Net Removal (closure of Twibell Street Retail Park and Council Depot);
- Committed and Proposed Development Linked Trips; and
- PFS Trips.

7.5.21 In line with the *'Institute of Environmental Assessments Guidelines for the Environmental Assessment of Road Traffic'* a comparison exercise has been undertaken to identify the impact on each link using the above flows. The results are summarised in Table 7.4 and Table 7.5.

**Table 7.5 Comparison of Baseline and Future Year Flows - Friday**

| Friday PM Peak (1545-1645) | | | | |
|---|---|---|---|---|
| **Location** | **Without Development** | **With Development** | **Absolute Difference** | **% Difference** |
| 1. Wakefield Road north | 1253 | 1537 | 284 | 23% |
| 2. Carlton Road | 830 | 824 | -6 | -1% |
| 3. Smithies Lane | 629 | 629 | 0 | 0% |
| 4. Wakefield Road south | 1513 | 1792 | 278 | 18% |
| 5. Burton Road | 68 | 68 | 0 | 0% |
| 6. Old Mill Lane north | 2537 | 2993 | 456 | 18% |
| 7. Twibell Street | 188 | 27 | -161 | -86% |
| 8. Dryden Road | 465 | 449 | -16 | -3% |
| 9. Harborough Hill Road (south of gyratory) | 2202 | 2387 | 184 | 8% |
| 10. Meadow Street | 32 | 37 | 4 | 14% |
| 11. Old Mill Lane south | 1741 | 1897 | 157 | 9% |
| 12. Canal Way | 1198 | 906 | -293 | -24% |
| 13. Sheffield Road south | 2767 | 2776 | 9 | 0% |
| 14. West Way | 2769 | 2609 | -160 | -6% |
| 15. Sheffield Road north | 578 | 572 | -6 | -1% |
| 16. Burton Road Bypass (west of site access) | 1306 | 1795 | 489 | 37% |
| 17. Burton Road Bypass (east of site access) | 1206 | 1350 | 145 | 12% |
| 18. Burton Road East of Bypass | 1271 | 1659 | 388 | 30% |
| 19. Burton Road West of Rotherham Road | 927 | 1228 | 302 | 33% |
| 20. Burton Road East of Rotherham Road | 1042 | 1109 | 67 | 6% |
| 21. Rotherham Road South of Burton Road | 769 | 886 | 117 | 15% |
| 22. Rotherham Road North of Burton Road | 821 | 920 | 98 | 12% |
| Total | 26112 | 28449 | 2337 | 9% |

**Table 7.6 Comparison of Baseline and Future Year Flows - Saturday**

| Saturday Peak (1230-1330) | | | | |
|---|---|---|---|---|
| **Location** | **Without Development** | **With Development** | **Absolute Difference** | **% Difference** |
| 1. Wakefield Road north | 1216 | 1471 | 255 | 21% |
| 2. Carlton Road | 745 | 733 | -12 | -2% |
| 3. Smithies Lane | 461 | 461 | 0 | 0% |
| 4. Wakefield Road south | 1511 | 1753 | 243 | 16% |
| 5. Burton Road | 61 | 61 | 0 | 0% |
| 6. Old Mill Lane north | 2432 | 2821 | 390 | 16% |
| 7. Twibell Street | 275 | 41 | -234 | -85% |
| 8. Dryden Road | 748 | 719 | -29 | -4% |
| 9. Harborough Hill Road (south of gyratory) | 2061 | 2204 | 143 | 7% |
| 10. Meadow Street | 36 | 42 | 6 | 17% |
| 11. Old Mill Lane south | 1596 | 1739 | 143 | 9% |

| | | | | |
|---|---|---|---|---|
| 12. Canal Way | 1319 | 1029 | -290 | -22% |
| 13. Sheffield Road south | 2547 | 2529 | -18 | -1% |
| 14. West Way | 2440 | 2267 | -173 | -7% |
| 15. Sheffield Road north | 822 | 810 | -12 | -1% |
| 16. Burton Road Bypass (west of site access) | 1243 | 1679 | 436 | 35% |
| 17. Burton Road Bypass (east of site access) | 1127 | 1244 | 117 | 10% |
| 18. Burton Road East of Bypass | 1184 | 1529 | 345 | 29% |
| 19. Burton Road West of Rotherham Road | 911 | 1195 | 284 | 31% |
| 20. Burton Road East of Rotherham Road | 1073 | 1126 | 53 | 5% |
| 21. Rotherham Road South of Burton Road | 710 | 825 | 115 | 16% |
| 22. Rotherham Road North of Burton Road | 776 | 874 | 98 | 13% |
| Total | 25292 | 27152 | 1860 | 7% |

7.5.22 The results demonstrate that the proposed development is expected to generate a less than a 10% increase in traffic flow on a large number of the links in both the Friday PM and Saturday peak periods. Furthermore, there are a number of links where traffic is expected to decrease as a result of trip reassignment. In line with IEA guidance it is not necessary to assess the environmental effects any roads which experience an increase in traffic of less than 10%.

7.5.23 However, there are a number of links that experience increases above the 30% threshold. This predominantly occurs on the roads in the immediate vicinity of the site where the impact is greatest and background traffic flows are currently low. However, in line with the guidance these links need to be assessed further. Therefore, to ascertain the level of impact resulting from the development traffic, capacity assessments have been undertaken for five existing junctions and three proposed junctions.

7.5.24 The full results of the capacity assessments are included in Section 7 of the Transport Assessment. To summarise, the results suggest that the following junctions will operate with spare practical capacity at 2017 with the proposed foodstore traffic:

- A61 Wakefield Road/Burton Road;
- A61 Harborough Hill Road/Old Mill Lane Gyratory; and
- Burton Road/Burton Road Bypass.

7.5.25 The impact at these junctions is therefore considered to be adverse but negligible.

7.5.26 However, the modelling results do predict some capacity issues at the following junctions:

- A61 Wakefield Road/Carlton Road/Smithies Lane (2 junction network);
- A61 Old Mill Lane/Burton Road Bypass;
- Burton Road/Rotherham Road; and
- Burton Road Bypass/Foodstore Access/Wickes Access.

7.5.27 The impact at the above junctions is therefore considered to be **adverse moderate.**

*Accessibility*

7.5.28 A key element of the development proposals is to encourage sustainable modes of travel.

7.5.29 Pedestrian access to the site will be via the main vehicular access point which includes 2m footways along the new link road with additional pedestrian facilities being provided within the proposed car parks. In addition, there will also be a pedestrian/cycle bridge which connects the western facade of the building at the shop floor level to Old Mill Lane near to the Harborough Hill Road gyratory. This will facilitate direct pedestrian access to the existing bus stops on Old Mill Lane.

7.5.30 Cyclist access from the highway network will be via the proposed main vehicular access described above. As described above there will be an additional pedestrian/cycle bridge which connects the western facade of the building at shop floor level to Old Mill Lane.

7.5.31 As part of the development proposals it is envisaged that improvements will be made to the existing facilities along the banks of the River Dearne and that a cycle hire facility will be provided adjacent to the site.

7.5.32 Furthermore, a Travel Plan will accompany the application to encourage sustainable modes of travel.

7.5.33 Based on the above measures, the development is considered to have a permanent **major beneficial** impact on accessibility.

*Safety*

7.5.34 It is acknowledged that the development proposals will increase traffic flows on the surrounding highway network. However, it is not envisaged that this would exacerbate any existing safety issues.

7.5.35 On balance, the development is considered to have a **minor negligible** impact with regard to highway safety.

*Summary*

7.5.36 The significance of the impacts identified in this Section of the report are summarised in Table 7.6 at the rear of the chapter.

## 7.6 PROPOSED MITIGATION

### Construction

7.6.1 Construction traffic is of a temporary nature and as a result it would be inappropriate to provide permanent infrastructure to fully mitigate the environmental impacts. However, detailed on-site practices would be implemented to control and mitigate the additional traffic. These could be agreed with the Local Authority prior to construction.

7.6.2 Measures would include the introduction of route management strategies to ensure that HGVs travel outside of peak periods where possible and avoid sensitive residential areas.

7.6.3 In relation to construction workers, sustainable transport choices will be encouraged so that the number of cars is kept to a minimum. Where workers do travel by car, dedicated car parking facilities will be provided so that vehicles do not park on the public highway.

7.6.4 The nuisance arising from construction traffic would be mitigated via considerate construction practices and road and vehicle cleaning facilities.

### Operation

*Traffic Flows*

7.6.5 With regard to traffic flows, the results of the TA and comparison of traffic flows indicates that the impact of the development on the surrounding highway network is generally minor and negligible. However, traffic levels on some links are expected to increase by over 30% and as mentioned above the following junctions may experience capacity issues when the development comes forward.

- A61 Wakefield Road/Carlton Road/Smithies Lane (2 junction network);
- A61 Old Mill Lane/Burton Road Bypass;
- Burton Road/Rotherham Road; and
- Burton Road Bypass/Foodstore Access/Wickes Access.

7.6.6 To alleviate these issues mitigation measures are proposed as outlined below:

*A61 Wakefield Road/Carlton Road/Smithies Lane (2 junction network)*

7.6.7 In order to accommodate the development traffic, a mitigation scheme is proposed. This mitigation involves widening Smithies Lane to accommodate the addition of a flare and is shown in Drawing 103 contained in the TA. This flare will increase the frequency of vehicles across the stopline from Smithies Lane, meaning that additional greentime can be assigned to Wakefield Road. The results indicate that with the mitigation measure, the network could successfully accommodate the development traffic.

*A61 Old Mill Lane/Burton Road Bypass*

7.6.8 In order to accommodate the development traffic, a number of mitigation measures have been suggested and are shown in Drawing 104 contained within the TA. These measures include the provision of the following:

- Widening of the Burton Road Bypass to two lanes in both directions;
- Addition of a right turn flare lane from Old Mill Lane south to Burton Road Bypass;
- Signage and road marking to allow ahead movements to mix with left turners in the nearside lane on Old Mill Lane north southbound to provide additional capacity for ahead movements; and
- Addition of a second lane on Old Mill Lane south in the southbound direction to facilitate the above measure which merges to a single lane before it crosses the River Dearne.

7.6.9 The results demonstrate that the proposed mitigation measures successfully accommodate the development. Furthermore, the junction would operate with more capacity than the 2012 Future Base scenario without the mitigation measures.

*Burton Road/Rotherham Road*

7.6.10 Physical mitigation measures are limited due to the junction's proximity to a valley on the western side and the close proximity of a number of residences on the eastern side. However, following discussions with Highways Officers at BMBC, it is felt that the junction could benefit from a controller upgrade which would allow the installation of MOVA which could be used to dynamically manage queues and junction performance.

*Burton Road Bypass/Foodstore Access/Wickes Access.*

7.6.11 This junction will form the single vehicular access to the proposed foodstore as well as the access to Wickes and the proposed reduced scale bulky goods store. It is understood that the proposed layout produced by BMBC consists of a 4 arm roundabout with a single land on each approach. However, as part of the proposed mitigation, the Burton Road Bypass will be widened to two lanes in each direction between this junction and the proposed Old Mill Lane/Burton Road signals. Therefore a proposed mitigation layout has been produced and is shown in Drawing 105 contained within the TA.

7.6.12 The proposed mitigation layout would result in the junction operating with spare practical capacity with the development traffic in both peaks

*Accessibility*

7.6.13 In accordance with Planning Policy the proposed development has been designed to encourage sustainable forms of transport and integration with the existing community. To achieve this, physical measures have been incorporated into the scheme proposals.

7.6.14 In addition, a Travel Plan has been created to influence travel choices. This is effectively a management tool which ensures that all of the travel opportunities, location advantages and sustainable initiatives are disseminated amongst employees and visitors of the proposed development. The Travel Plan will include targets that are monitored on an annual basis with a report being provided to the Local Authority.

7.6.15 No further mitigation measures are required with regard to accessibility as the development proposals are considered to have a beneficial impact.

*Safety*

7.6.16 No mitigation measures are considered necessary with regard to highway safety as the development proposals are considered to have a negligible impact.

## 7.7 ASSESSMENT OF RESIDUAL EFFECTS

7.7.1 The significance of the impacts has been reassessed following the mitigation measures discussed above and the results are summarised below and in Table 7.6 at the rear of this chapter.

**Construction**

7.7.2 It is expected that the mitigation measures outlined above would mitigate most of the major impacts associated with construction traffic. Nonetheless, some of the impacts cannot be completely mitigated against and it is anticipated that there would still be a temporary **minor adverse** impact.

**Operation**

7.7.3 It is considered that no significant residual environmental effects would remain in relation to the completed development.

**Monitoring and Follow Up**

7.7.4 The Travel Plan will be monitored on an annual basis and targets will be agreed with the Local Highway Authority.

**Limitations and Assumptions**

7.7.5 The capacity assessments that were undertaken to assess the impact of the development at key junctions involved some assumptions. These are set out in detail in Section 7 and 8 of the TA.

**Summary**

7.7.6 To Summarise, this assessment considers the impact of the proposed development on traffic flows, accessibility and highway safety.

7.7.7 The assessment concludes that the proposed development will have an impact on the adjacent highway network;

- The construction phase of the proposed development will have a **temporary minor adverse** impact.
- The increase in traffic flows during the operational phase will result in an **adverse minor** impact on the surrounding highway network.
- With regard to accessibility, the development proposals include the provision of measures which will enhance sustainable modes of travel and therefore the impact is considered to be **Major and beneficial.**
- With regard to safety, the development is not expected to exacerbate any existing highway safety issues and therefore the impact is considered to be minor and **negligible.**

The TA and ES conclude that there are no significant environmental impacts associated with the development proposals.

**Table 7.7: Summary of Effects Table for Transport and Access**

| Description of Likely Significant Effects | Significance of Effects | | | | | Summary of Mitigation / Enhancement Measures | Significance of Residual Effects | | | | | Relevant Policy | Relevant Legislation |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | (Major, Moderate, Minor, Negligible) | Positive / Adverse | (P/T) | (D/I) | ST/MT/LT) | | (Major, Moderate, Minor, Negligible) | Positive / Adverse | (P/T) | (D/I) | ST/MT/LT) | | |
| **Site Preparation, Demolition, Earthworks and Construction Phase** | | | | | | | | | | | | | |
| Increase in traffic flows due to construction traffic | Minor | Adverse | T | | ST | Route management strategies to ensure that HGVs travel outside of peak periods where possible and avoid sensitive residential areas. | Minor | Adverse | T | | ST | | |
| **Operational Phase** | | | | | | | | | | | | | |
| Increase in traffic at the A61 Wakefield Road/Burton Road junction | Minor | Adverse | P | | LT | N/A | Minor | Adverse | P | | LT | | |
| Increase in traffic at the A61 Harborough Hill Road/Old Mill Lane Gyratory | Minor | Adverse | P | | LT | N/A | Minor | Adverse | P | | LT | | |
| Increase in traffic at the Burton Road/Burton Road Bypass junction | Minor | Adverse | P | | LT | N/A | Minor | Adverse | P | | LT | | |
| Increase in traffic at the A61 Wakefield Road/Carlton Road/Smithies Lane (2 junction network) junction | Moderate | Adverse | P | | LT | Widening Smithies Lane to accommodate the addition of a flare and is shown in Drawing 103 contained in the TA. | Minor | Adverse | P | | LT | | |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Increase in traffic at the A61 Old Mill Lane/Burton Road Bypass junction | Moderate | Adverse | P | | LT | ▫ Widening of the Burton Road Bypass to two lanes in both directions;<br>▫ Addition of a right turn lane from Old Mill Lane south to Burton Road Bypass;<br>▫ Signage and road marking to allow ahead movements to mix with left turners in the nearside lane on Old Mill Lane north southbound to provide additional capacity for ahead movements; and<br>▫ Addition of a second lane on Old Mill Lane south in the southbound direction to facilitate the above measure which merges to a single lane before it crosses the River Dearne. | Minor | Adverse | P | | LT | | |
| Increase in traffic at the Burton Road/Rotherham Road junction | Moderate | Adverse | P | | LT | Following discussions with Highways Officers at BMBC, it is felt that the junction could benefit from a controller upgrade which would allow the installation of MOVA which could be used to dynamically manage queues and junction performance. | Minor | Adverse | P | | LT | | |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Increase in traffic at the Burton Road Bypass/Foodstore Access/Wickes Access junction** | Moderate | Adverse | P | | LT | the Burton Road Bypass will be widened to two lanes in each direction between this junction and the proposed Old Mill Lane/Burton Road signals. | Minor | Adverse | P | | LT | | |
| Impact on pedestrians, cyclists and public transport | Major | Positive | P | | LT | A Travel Plan has been created to influence travel choices. | Major | Positive | P | | LT | | |
| Safety | Negligible | N/A | P | | LT | N/A | Negligible | N/A | P | | LT | | |

**Key to table:**

P/T = Permanent or Temporary, D/I = Direct or Indirect, ST/MT/LT = Short Term, Medium Term or Long Term

N/A = Not Applicable

## 7.8 REFERENCES

### Documentary sources


- Barnsley Metropolitan Borough Council, (September 2011), Barnsley Local Development Framework Core Strategy
- Barnsley Metropolitan Borough Council, (March 2012), Barnsley Supplementary Planning Document – Parking
- Chartered Institution of Highways and Transportation (CIHT), (May 2000), Providing for Journeys on Foot
- Department for Communities and Local Government, (March 2012), National Planning Policy Framework (NPPF)
- South Yorkshire LTP Partnership, (2011), South Yorkshire Local Transport Plan (2011 – 2026)


### Online Sources

None