TRANSPORT STATEMENT

FOR

PROPOSED RESIDENTIAL DEVELOPMENT
LAND AT PRINCE STREET, LEEK, STAFFORDSHIRE
ON BEHALF OF
YOUR HOUSING GROUP LIMITED

JULY 2013

[ISSUE 3]

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1.0 INTRODUCTION

1.1 This *Transport Statement* (*TS*) has been prepared by Cole Easdon Consultants (CEC) on behalf of Your Housing Group Limited in respect of a full planning application for a proposed residential development on land at Prince Street, Leek. Refer to CEC Plan 2972/201 [*Site Location Plan*] contained within Appendix 1.

1.2 The proposed development site, located to the northeast of the town centre, is currently occupied by an Adams Food factory unit accessed from Prince Street. It is proposed to redevelop the land to accommodate some 60 residential dwellings, accessed from the same priority junction arrangement.

1.3 This *Transport Statement* forms part of a re-submission of a previous application which was granted planning approval (11/00174). At that time, the applicant was Hawkstone Properties Limited, whereas, as explained above, Your Housing Group are the applicant for this most recent planning application. This re-submission, is for some 60 dwellings as compared to the previously approved 53 dwellings. This report reflects all changes to the development proposal. However, it is important to establish that all matters were previously agreed with the Local Highway Authority, Staffordshire County Council (SCC), and we do not anticipate this stance to have changed as a result of the marginal increase in dwelling numbers proposed.

1.4 The study considers the transportation, traffic, parking and highway implications associated with the proposed residential development. Prior to the preparation of the original *TS* (May 2010), CEC and other representatives of the client consultant team met with officers from SCC (the Local Highway Authority), and Staffordshire Moorlands District Council (SMDC) (the Local Planning Authority), on the 24th March 2010 to discuss the scope of work required. At that meeting, vehicle trip rates for the proposed residential development were agreed with the LHA, while subsequent communications with the LHA agreed the following:

- vehicle trip generation of the existing industrial unit at the site;
- net trip generation resulting from the proposed residential development;
- predicted vehicle trip assignment;
- extent of junction capacity assessments; and
- assessment years.

1.5 With respect to junction capacity assessments, SCC had agreed that the *TS* should consider only the impact of the development on the operation of the Prince Street / A523 Buxton Road / Shirburn Road staggered priority junction. This agreement was subject to the net increase in traffic flows along the A523 Buxton Road corridor en-route to Leek town centre being demonstrated as less than 5%.

Need for Study

1.6 This report has been prepared to support a full planning application in respect of a proposed residential development at Prince Street, Leek. It is based upon the recommendations for *Transport Statements* outlined in the Department for Transport (DfT) guidance document *Guidance on Transport Assessment* (March 2007). As a result of the previous planning consent, its content can be considered to be agreed with the LHA, subject to the changes brought about by the modest increase in dwelling numbers.

Study Objectives

1.7 This *Transport Statement* reviews the access and transportation issues associated with the proposed development and considers the vehicular trip generation and impact, together with the overall sustainability of the site in transport terms.

1.8 This *TS* is structured into the following sections:

- Section 2.0 discusses the development proposal in terms of local planning documents and national guidance;
- Section 3.0 describes the site and existing highway conditions, along with the accident record;
- Section 4.0 describes the development proposals and vehicular access arrangement;
- Section 5.0 discusses the modal choice and trip attraction characteristics of the ward of Leek North;
- Section 6.0 considers sustainability and accessibility issues;
- Section 7.0 establishes the potential vehicle trip generation of the existing permitted use of the site;
- Section 8.0 establishes the likely vehicle trip generation associated with the residential development proposals and quantifies the change in traffic flows from the existing permitted industrial use of the site;
- Section 9.0 provides the predicted impact on the A523 Buxton Road corridor and presents the junction analysis at nearby locations; and
- Section 10.0 presents a discussion and conclusions.

2.0 PLANNING AND POLICY CONTEXT

2.1 For the purpose of this planning application, reference has been made to the following legislation and documents:

National

- *National Planning Policy Framework (NPPF)*

Local

- *Staffordshire Moorlands Local Plan (Adopted September 1998)*
- *Staffordshire Moorlands Core Strategy Development Plan Document (Submission Document) (May 2009)*
- *Leek Town Centre Masterplan*

National Planning Policy Framework

2.2 The *National Planning Policy Framework* (*NPPF*) was adopted in March 2012, i.e. since the previous planning approval, and sets out the Government's view of what sustainable development in England means in practice. The *NPPF* replaces over a thousand pages of national policy in order to allow *'people and communities back into planning'*.

2.3 The *NPPF* makes clear that there is a presumption in favour of sustainable development, stating *'planning should operate to encourage and not act as an impediment to sustainable growth'*. With regard to transport, one of the policy's objectives is to *'support reductions in greenhouse gas emissions and reduce congestion'*. The requirement for *Transport Assessments*, is retained for developments that generate significant amounts of movement. The *NPPF* continues that *'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'*.

2.4 The conclusion to these points is that *'development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe'*.

2.5 This *Transport Statement* seeks to establish that the residual impact is not severe, and that the proposal represents a sustainable development opportunity.

Staffordshire Moorlands Local Plan (Adopted September 1998)

2.6 The saved policies of the *Staffordshire Moorlands Local Plan* remain the principal planning policy until replaced by the District's *Local Development Framework* policies.

2.7 The *Local Plan* advocates more sustainable forms of development, with the general objective of balancing the need for development with conservation and the need to reduce harmful emissions produced by wasteful travel patterns. In relation to transport, the *Local Plan* has objectives to *"balance the need for new roads and road improvements with the need to achieve a reduction in the number of vehicle movements, particularly private cars, by integrating land-use and transportation planning and encouraging alternative forms of transport"*.

Staffordshire Moorlands Core Strategy Local Development Framework Document

2.8 As related above, on adoption, the Staffordshire *Moorlands Local Development Framework* (*LDF*) *Core Strategy* will replace the Borough's *Local Plan*. The draft *Core Strategy* is at an advanced stage, having been submitted to the Secretary of State for independent examination in September 2012. The *LDF* provides a framework for delivering development to 2026.

2.9 Making travel more sustainable is identified as one of the Challenges of the Strategy. It states that the main source of non-car access in the District is by bus, and that while many settlements are located close to main bus corridors and consequently have regular links to Leek and Hanley, gaps in transport provision is still an issue in certain areas. This statement suggests that Leek is one of the District's principal towns and is well served by public transport. Additionally, it points out that Leek presents major redevelopment and Brownfield opportunities. The proposal for 60 dwellings takes advantage of one of these Brownfield opportunities.

2.10 The Strategy's Vision for Leek identifies the increasing importance of the town as a civic and service centre for its population and the District. With regard to transport, the Vision envisages the bus station served by a reliable public transport system while access and car parking in the town centre will be improved with the provision of a new multi-storey facility.

2.11 The proposed development will help to achieve Spatial Objective SO5, which is to ensure the long-term viability of the three market towns of Leek, Biddulph and Cheadle. SO11, meanwhile, is to reduce the need to travel or make it safer and easier to travel by more sustainable forms of transport.

2.12 Paragraph 7.6 of the Strategy states that *"Leek is already a highly sustainable settlement which has the capacity to take further growth"*. Policy T1 *'Development and Sustainable Transport'* has an indicator of achievement that quantifies the amount of new residential development within 30 minutes public transport time of a GP, hospital, primary school, secondary school, areas of employment and a major retail centre.

Leek Town Centre Masterplan

2.13 This *Masterplan* was commissioned by Staffordshire Moorlands District Council and Advantage Midlands. The *Masterplan* highlights the proposed uses for 'Opportunity Sites' within the town centre area, including the proposed development site that is the subject of this *Transport Statement*. The *Masterplan* refers to the proposed development site as 'Eaton House and Surrounding Area'. The current proposed development site, however, does not include Eaton House which is located adjacent and to the south of the site. The masterplan forms part of the *Leek Town Centre Masterplan Supplementary Planning Document* which was approved by Cabinet on 14 January 2013 as an *Interim Policy Statement*.

2.14 The *Masterplan* suggests highway improvements at the seven principle junctions in and around the town centre (including Prince Street / Buxton Road), together with an overhaul of car parking in the town centre, improved pedestrian crossing facilities, and other such measures.

2.15 Development on the site proposed by the *Masterplan* includes traditional family housing, which, it says, will contribute to the overall town centre activities *"within easy walking distance of other shops and services"*. The *Masterplan* suggests that for residential development on the site there should be approximately 50 dwellings. The proposal to provide 60 dwellings therefore broadly accords with the Leek *Masterplan*.

2.16 The *Masterplan* also identifies a high proportion of HGV traffic from local industrial areas that add to congestion issues. Development of the site will remove HGVs associated with the current use of the site, which more than likely travel through the town centre on their way to and from the motorway network.

Staffordshire Local Transport Plan (LTP3)

2.17 A *Strategy Plan* and an *Implementation Plan* have been produced with regard to Staffordshire's third *Local Transport Plan* (*LTP3*) which set out an ambitious programme of schemes that aim to bring about real and sustainable improvements to the County's transport network.

Proposed Development

2.18 This *Transport Statement* seeks to identify how the various policies identified above are supported by the application for development off Prince Street.

3.0 SITE DESCRIPTION & SURROUNDING HIGHWAY NETWORK

3.1 The development site, which currently accommodates an Adams Foods processing plant, is located on land adjacent to Prince Street in Leek, Staffordshire. The site currently accommodates a large industrial building that is surrounded on all sides except the south by surfacing for delivery vehicles and car parking. The access to the site is currently from Prince Street (see photograph 3.1).

3.2 The site is located to the northeast of the town centre and north of the A53 Buxton Road. Prince Street forms the eastern boundary of the development site, the northern boundary is formed by the rear of residential dwellings on Hayes Close as well as a Brownfield site to the west of these. The western boundaries of the development site are formed by the rear of residential dwellings off Rose Bank Street and North Portland Street as well as an area of vegetation. The southern boundary of the site abuts the rear parking area of Eaton House, currently occupied by Moorlands Housing. This office facility fronts the A53 Buxton Road from where the aforementioned car park (located at its rear) is accessed. Refer to CEC Plan 2963/201 [*Site Location Plan*] contained within Appendix 1.

Photograph 3.1: The site access seen from within the development site, looking towards Prince Street

Prince Street

3.3 Prince Street, shown in photograph 3.2, is the road from which access to the development is currently (and proposed to be) gained. It has a general north to south alignment although it arcs slightly around the eastern boundary of the development site. Its general carriageway width is some 5.5 metres. Prince Street connects with Ball Haye Green to the north via a priority T-junction and the A523 Buxton Road to the south, also via a priority T-junction. Due to limited visibility to the west along Ball Haye Green, the northern priority T-junction has a stopline (and 'Stop' sign) rather than a give-way line, shown in photograph 3.3. However, as detailed later in this report, few if any vehicles from the proposed residential development will travel via this junction. A give-way sign reinforces the priorities at the southern priority T-junction with the A523 Buxton Road.

Photograph 3.2: Prince Street looking south from its northern end. Showing speed humps along its length

Photograph 3.3: Prince Street approach to priority T-junction with Ball Haye Green, showing Stop Line and Stop Sign, and also convenience store

3.4 Prince Street is subject to a 30mph speed limit, with footways on either side along its entire length. These are generally of some two metres width, increasing to some 3.6 metres south of the development site access. Prince Street is subject to traffic calming measures, with speed humps along its length. North of the development site access, to a point some 60 metres south of Ball Haye Green, grass verges with mature trees provide separation between the footways and road carriageway.

3.5 Aside from the existing industrial use of the development site, Prince Street is a predominantly residential street with private driveway accesses along its length. The road benefits from street lighting, while white lining marks the speed humps and initial lengths leading to the junctions at either end. The existing site access does not currently benefit from road markings. Visibility in each direction along Prince Street is good (in excess of 90 metres), as shown by photographs 3.4 and 3.5.

Photograph 3.4: View left from the existing site access, looking north

Photograph 3.5: View right from the existing site access, looking south

3.6 The residential cul-de-sac of Hayes Close leads west from Prince Street, some 200 metres north of the development site access. Similarly, the residential road of Carlton Terrace leads east off Prince Street, some 100 metres north of the development site access.

Carlton Terrace

3.7 As related above, Carlton Terrace leads from Prince Street north of the proposed development site. It primarily serves residential properties and leads to further residential streets, but The Hedges Independent School is also accessed from here. Subject to a 30 mph speed limit, Carlton Terrace has speed cushions along its length as illustrated by photograph 3.6. A signed cycle route runs along its length.

Photograph 3.6: Carlton Terrace, looking east. Showing speed cushions and signed cycle route

A523 Buxton Road

3.8 Buxton Road in the vicinity of the development site has an east-west alignment. The general alignment of the A523 as a whole is southwest to northeast where it runs from Stoke-on-Trent, through Leek, and on to Buxton. Buxton Road is a principal route into Leek town centre, which is some 380 metres west of the priority T-junction with Prince Street.

3.9 Buxton Road is a single carriageway, 30 mph road. Road markings are present along its length, and there are double yellow parking restrictions in place along the length of road close to the development site. The road benefits from street lighting and has footways on both sides, each in excess of some two metres. To the immediate west of the junction with Prince Street, and to the east of Osborne Street, is a pedestrian refuge island that provides a safe and convenient crossing point for pedestrians en-route to (and from) the town centre, including those from Prince Street and the proposed development site (see photograph 3.7). The centrelines of Prince Street (north of Buxton Road) and Shirburn Road (south of Buxton Road) are offset by some 10 metres; Shirburn Road being located to the east of Prince Street.

Photograph 3.7: View west from Prince Street along the A523 Buxton Road. Showing pedestrian refuge island and double yellow line markings

3.10 With Buxton Road forming a principal route into the town centre, it also benefits from a number of bus services accessible from stops conveniently located immediately west of Prince Street. On its approach to Leek town centre, Buxton Road (westbound) meets the A523 Stockwell Street at a signal controlled crossroads. The A53 continues south from here, named Ball Haye Street. The town centre is enclosed by a ring road made up of the A53, A523 and A520.

3.11 Between Osborne Street and the aforementioned traffic signals, there are three further priority T-junctions with Brunswick Street (to the south), Portland Street (also to the south) and North Portland Street (to the north). In addition, a Co-operative foodstore (to the north) is accessed via a separate, but adjacent, signalised crossroads, where the fourth (southern) arm is formed by Earl Street. These signals are shown in photograph 3.8.

Photograph 3.8: Approach to signal controlled junction at Co-op access and Earl Street (looking east)

3.12 East from Prince Street, Buxton Road is predominantly fronted by residential dwellings, with a series of priority junctions providing access to the suburbs of the town. A priority junction with right turn lane exists where the A523 Springfield Road connects with Buxton Road, some 240 metres east of Prince Street. Springfield Road is the main A road route to the A523 Ashbourne Road, for destinations to the southeast of Leek. Shirburn Road, offset slightly from Prince Street provides a more direct route to the A523 Ashbourne Road, which residents of the proposed development may choose to use instead.

Shirburn Road

3.13 Shirburn Road, as already related, is slightly offset from Prince Street, and leads south from the A523 Buxton Road. Vehicles turning from Shirburn Road into Buxton Road must observe the stopline and 'Stop' sign at this location. The road is subject to a 7.5 tonne weight limit and is a predominantly a residential street with on-street parking on both sides, preventing vehicles from passing in opposite directions along most of its length. It also provides a route to Leek High School via East Street, which leads from Shirburn Road, and will form part of the pedestrian route to this school from the proposed development site.

3.14 Shirburn Road provides a shorter route to the A523 Ashbourne Road, for destinations to the southeast of Leek. The alternative, A road route, from the proposed development site to the A523 Ashbourne Road is via the A523 Buxton Road eastbound and then along Springfield Road.

Ball Haye Green

3.15 Ball Haye Green has a southwest to northeast alignment, is a single carriageway road subject to a 30 mph speed limit and has footways on each side. Rows of Victorian terrace houses immediately front onto the road in the vicinity of Prince Street, as shown in photograph 3.9 below.

3.16 Ball Haye Green benefits from street lighting and has parking restrictions in place, indicated by a single yellow line along its southern side. Buses also route along this road, with the nearest bus stops located some 60 metres southwest of the junction with Prince Street, for each direction of travel.

Photograph 3.9: View west along Ball Haye Green across the junction with Prince Street

Personal Injury Accidents (PIAs)

3.17 Data relating to personal injury accidents (PIAs) in the vicinity of the development site was previously obtained from Staffordshire County Council. The data relates to the three year period between 1st January 2007 and 31st December 2009 and is shown in relation to the local road network on CEC Plan 2972/202 [*Personal Injury Accident Plan*] contained within Appendix 1. In total, there were 10 PIAs in the area resulting in 11 personal injuries. All personal injuries were slight in severity. There were no serious injuries or fatalities.

3.18 The results are summarised below in Table 3.1 whilst the full accident data is contained on a CD-ROM within Appendix 6. CEC Plan 2972/202 [*Personal Injury Accident Plan*] contained within Appendix 1 summarises this data and identifies information relating to the individual accidents.

Table 3.1: Summary of Personal Injury Accidents [Period 1st January 2007 to 31st December 2009]

Severity	*Slight*	*Serious*	*Fatal*
Accidents	10	0	0
Casualties	11	0	0

Conditions	*Dry*	*Wet*	*Light*	*Dark*
	7	3	7	3

Type	*Car*	*Car/Car*	*Car/Pedal Cycle*
	1	7	2

3.19 CEC Plan 2972/202 [*Personal Injury Accident Plan*] in Appendix 1 reveals that the majority of accidents (7 out of 10) in the area occurred at junctions along Buxton Road. Three of these accidents occurred at the junction with Ball Haye Street and Stockwell Road. Only one 'slight' accident, which involved a car colliding with another, occurred near the junction with Buxton Road and Princes Street. Police reports suggest that the accident was due to driver error, where one of the drivers was distracted in the vehicle and also failed to judge the other driver's path or speed. Only one 'slight' accident occurred just south of the priority junction with the Adams Foods site access and Princes Street, which involved a car colliding with a pedal cyclist. Police reports suggests that the accident was due to carelessness on the part of the cyclist.

3.20 The number of accidents occurring within the vicinity of the site is considered moderate, as their frequency averages some 3.3 per year. The recorded accidents do not suggest a single contributory factor, such as poor highway alignment, for example. CEC considers that the prevalence of accidents on the local highway network in the vicinity of the site is unlikely to be materially affected by the proposed development, where this conclusion was previously supported by the LHA. Timescales for this most recent application have meant that updated accident statistics have not been sought, albeit we would not anticipate any significant deterioration when compared to the summary statistics above.

4.0 DEVELOPMENT PROPOSALS

Construction Proposals

4.1 The planning application seeks permission for the construction of some 60 residential dwellings, made up of the following:

- 14no. 1-bedroom flats
- 4no. 1 bedroom bungalows
- 5no. 2-bedroom bungalows
- 24no. 2-bedroom houses
- 13no. 3-bedroom houses
- **60no. dwellings TOTAL**

4.2 The indicative site layout plan, which accords with the principles of DfT's *Manual for Streets*, is included within Appendix 3 of this report. The previously approved site layout plan was the subject of several pre-application meetings with SMDC, and therefore this latest site plan seeks to retain that design philosophy.

Development Car Parking Proposals

4.3 At the time of the previous application, the *Leek Town Centre Masterplan* stipulated two parking spaces per dwelling for the Opportunity Site named 'Eaton and Surrounding Area'. However, no such reference can be found in this latest approved version. Notwithstanding, as that level of parking provision was previously approved, it has broadly been used as a guide in these latest development proposals. A total of some 100 spaces are proposed, representing an average of some 1.67 spaces per dwelling. This lower provision reflects the excellent accessibility of the site, and the provision of one parking space per dwelling for the one-bedroom dwellings, which we consider to be a common-sense approach.

Proposed Means of Vehicular Access

4.4 The proposed residential development will be served by the existing access on Prince Street, which currently caters for the industrial unit that occupies the site. Visibility splays of 2.4m x 90m are available in accordance with the 30mph speed limit in force on Prince Street, with no infrastructure changes required. The access road has been designed with a 5.0m wide carriageway, with footways on each side.

4.5 The only accident recorded within the vicinity of the existing site access during the assessed accident period was attributed to a cyclist's carelessness, having entered the road from the carriageway, 'failing to look', and being 'reckless or in a hurry'. As such, there is no suggestion of any road safety problem on Prince Street.

4.6 Two-way traffic flows on Prince Street are relatively low, and were recorded by the traffic count undertaken in March 2010 as 105vph and 133vph during the AM and PM peak hour periods respectively. The low traffic flows, together with the speed humps located along Prince Street, suggest that the proposed means of vehicular access to the residential development will operate safely, and with sufficient operating capacity (demonstrated later in Section 9.0 of this report).

Pedestrian & Cycle Access

4.7 The internal layout of the proposed residential development will be conducive to non-vehicular modes of travel, by encouraging slow vehicular speeds and utilising shared space principles where appropriate. The site plan, which accords with *Manual for Streets* and is included within Appendix 3 of this report, helps to illustrate this.

Refuse Collection

4.8 The layout of the development allows for safe and efficient manoeuvrability for all types of refuse vehicles that will visit the residential development. Following a successful outcome to this application, the detail design undertaken during the reserved matters stage will ensure that refuse vehicles can safely access and egress the development.

5.0 MODAL CHOICE & TRIP ATTRACTION

5.1 The site is located within the ward of 'Leek North' within the district of 'Staffordshire Moorlands'. Data from the 2001 Census for the ward of Leek North identifies how those people living in the area (aged 16-74 years) usually travel to work. This data is summarised below in Table 5.1. Refer to Appendix 4, which shows the detailed travel to work statistics for Leek North ward. Note that the same data for the 2011 Census is yet to be released by the Office for National Statistics.

Table 5.1: How People Living in Leek North Ward Travel to Work

Mode	Leek North Ward	Staffordshire Moorlands (Non-Metropolitan District)	England
Work at Home	8.0%	11.3%	9.2%
Underground, Light Rail or Tram	0.0%	0.0%	3.2%
Train	0.0%	0.3%	4.2%
Bus, Mini Bus or Coach	3.5%	3.4%	7.5%
Motorcycle or scooter	0.9%	0.9%	1.1%
Car Driver	52.4%	65.7%	54.9%
Car Passenger	8.9%	7.3%	6.1%
Taxi	0.0%	0.1%	0.5%
Bicycle	2.4%	1.4%	2.8%
Foot	23.8%	9.2%	10.0%
Other	0.3%	0.4%	0.5%
Total	**100%**	**100%**	**100%**

5.2 Table 5.1 above demonstrates that almost two thirds (52.4% as car drivers and 8.9% as car passengers) of people living in the ward of Leek North in Year 2001 chose to travel to work by private car. This statistic is lower when compared to that of the Staffordshire Moorlands district (65.7% car drivers and 7.3% car passengers). Walking was the second highest mode of travel to work, accounting for some 23.8% of residents in Leek North. This statistic compares favourably to that for the Staffordshire Moorlands district (9.2%) and England as a whole (10.0%) and suggests that walking is an attractive option in Leek, reflecting the relatively compact nature of the town. Public bus transport is also used by 3.5% of residents in Leek North. This statistic is similar to Staffordshire Moorlands District, which accounts for some 3.4% of residents using public bus transport. Cycling to work accounts for some 2.4% of residents in Leek North.

People Living in Leek North who Travel to Work by Car

5.3 The 2001 Census also provides the workplace destination of people living in the Leek North ward who travel to work by car, which is summarised below in Table 5.2. This shows that 66% of residents drive to work in the district of Staffordshire Moorlands, with a significant proportion (some 48%) of residents driving to destinations of work within the Leek wards. The other workplaces with significant car driver percentages are shown in Table 5.2 below. Note that 'other' workplaces account for only 5.9% of car drivers and is a sum of all local authority areas with individual car driver percentages below 1%.

Table 5.2: People Living in Leek North Ward who Travel to Work by Car

Place of Work	Car Driver (%)
Staffordshire Moorlands (Leek)	66.0% (47.6% of total)
Stoke-on-Trent	12.7%
Newcastle-under-Lyme	3.5%
Macclesfield	3.3%
Derbyshire Dales	2.3%
Congleton	2.2%
High Peak	1.9%
East Staffordshire	1.1%
Stafford	1.1%
Other*	5.9%
Total	**100%**

* Other classified as LAAs each with <1% of car drivers.

5.4 The Census 2001 data contained within Appendix 4 shows car driver distribution based on the average directional split of Local Authorities Areas (LAAs).

6.0 SUSTAINABILITY AND ACCESSIBILITY

6.1 This section considers the accessibility of the site by sustainable modes of transport, specifically walking, cycling and public transport. It also identifies the locations of important day-to-day services and facilities such as schools and supermarkets in relation to the site, and considers how these facilities can be reached by sustainable modes.

Access to Key Services

6.2 Table 6.1 below provides a summary of travel distances to nearby amenities.

Table 6.1: Approximate Distances to Local Services

Description	Approx. Distance from Site by car	Approx. Distance from Site for walking/cycling	Local Service
Convenience Store	220m (0.1 miles)	220m (0.1 miles)	Prince Street Stores, ST13 6DB
Primary School	450m (0.3 miles)	450m (0.3 miles)	Leek First School, ST13 6LF
	1.1km (0.7 miles)	1.1km (0.7 miles)	Churtnet View Middle School, ST13 6PU
Hairdresser	600m (0.4 miles)	600m (0.4 miles)	Silhouettes, ST13 6JP
Public House	260m (0.2 miles)	260m (0.2 miles)	The Blue Mugge Public House, ST13 6LJ
Secondary School	550m (0.3 miles)	550m (0.3 miles)	Leek High Specialist Technology School, ST13 6EU
Gym	600m (0.4 miles)	600m (0.4 miles)	Brough Park Leisure Centre, ST13 6AT
Supermarket	450m (0.3 miles)	450m (0.3 miles)	United Norwest Co-op, ST13 6AH
Pharmacy	350m (0.2 miles)	350m (0.2 miles)	Lloyds pharmacy, ST13 6AG
Dentist	300m (0.2 miles)	300m (0.2 miles)	Park Dental Practice, ST13 6AF
Doctors/GP	300m (0.2 miles)	300m (0.2 miles)	Park Medical Centre, ST13 6QR
Post Office	220m (0.1 miles)	220m (0.1 miles)	United Norwest Co-op, ST13 6AH
Petrol Station	1.0km (0.6 miles)	1.0km (0.6 miles)	Poplar Service Station, ST13 5BJ
Bank	700m (0.4 miles)	700m (0.4 miles)	Barclays Bank PLC, ST13 5JN
Railway Station	17.6km (10.9 miles)	17.5km (10.9 miles)	Longport Railway Station, ST6 4ND
Sixth Form / College	550m (0.3 miles)	550m (0.3 miles)	Leek High Specialist Technology Sixth Form, ST13 6EU
	550m (0.3 miles)	550m (0.3 miles)	Leek College, ST13 6DP

Distances taken from the centre of the development site and measured using Google maps

6.3 It can be seen from Table 6.1 that distances to these local destinations from the site are generally within convenient walking and/or cycling distance thereby reducing the need to travel by car. In particular, the site benefits from a Co-operative food store within close proximity (450m). Refer to CEC Plan 2972/203 [*Accessibility Plan*] in Appendix 1.

Pedestrian Access

6.4 Residents of the proposed development will benefit from the wide footways (approximately three metres) south of the site on Prince Street en-route to the A523 Buxton Road and Leek town centre. North of the site, the footways on Prince Street are set back from the road carriageway by grass verges that are broken only by private driveway accesses.

6.5 The pedestrian refuge island to the west of Prince Street on Buxton Road facilitates safe and convenient movement across the A523 for access to the town centre located further west, or to the primary and high schools via Shirburn Road to the south. The signalised junctions en-route to the town centre benefit from having either pedestrian phases or central pedestrian islands.

6.6 Alternatively, access to the town centre for pedestrians and cyclists can be gained via the network of quieter residential streets to the south of Buxton Road. The route via Shirburn Road and Fountain Street, for example, is designated as an advisory cycle route. CEC Plan 2972/203 [*Accessibility Plan*] shows the locations of existing pedestrian crossing points within close proximity to the proposed development site.

6.7 Whilst now superseded by *NPPF*, *PPG13* outlines that walking is the most important mode of travel at the local level and *"offers the greatest potential to replace short car trips, particularly under 2 kilometres"*. It further states *"more direct, safe and secure walking routes, particularly in and around town centres and local neighbourhoods, and to schools and stations, to reduce the actual walking distance between land uses, and to public transport"* should be created. That guidance remains valid.

6.8 The proposed development site offers good pedestrian access to amenities located within Leek. As stated above, the Co-operative food store is located adjacent to the proposed development site is just 450 metres walking distance from the centre of the site offering a range of products including an in-store post office. Off-site footway links are good and serve the food store as well as a GP Surgery, pharmacy and dentist some 300m (0.2 miles)

away. Assuming a walking speed of 4.8kph (3mph)[1], the health facilities and food store mentioned above can be reached in approximately 4 and 6 minutes respectively. These along with other local services, including nearby employment sites, are shown on CEC Plan 2972/203 [*Accessibility Plan*] contained within Appendix 1. Much of the built up area of Leek is within the 2km maximum walking distance previously recommended by the Department for Transport (DfT).

6.9 As shown in Table 6.1, the closest first (for 4 to 9 year olds) and high schools are located some 450m (0.3 miles) and 550m (0.3 miles) from the site respectively. The nearest middle school is located north of the site approximately 1.1km (0.7 miles) away. Assuming a walk speed of 4.8kph (3mph), these schools can be reached in approximately 6, 7 and 14 minutes respectively. This means that parents can easily walk primary school children to/from the nearby schools in the morning and afternoons. Cycling to the first, middle and high schools would take approximately 2, 6 and 3 minutes respectively based on a cycle speed of 12kph (7.5mph)[2].

6.10 The *National Travel Survey 2011* (published December 2012) reveals that some 84% of primary school children walk to their school where the trip length is within 1.6km (1 mile), whereas 89% of secondary school children walk to their school within the same distance 1.6km (1 mile). The close proximity of the development site to first, middle and high schools should encourage new residents to access them on foot or by bicycle. The promotion of walking and cycling for these school journeys could relieve road traffic, improve child health and offer greater access to a range of educational opportunities. Walking and cycling (and scooting) to school offers children the opportunity for regular exercise at a time when the health consequences of sedentary lifestyles are becoming increasingly apparent.

Cycle Access

6.11 The area around the development site is generally conducive to cycling. There is a network of 'advisory' cycle routes within the vicinity of the site. An advisory cycle route is located along Prince Street to the east of the development site and Ball Haye Green to the north of the site. There is a cycle path within Brough Park. There is also a cycle path located within the western fringe of Leek, which extends north westerly through Rudyard and towards Rushtonhall. Note that the cycle routes highlighted on CEC Plan 2963/203

[1] *Traffic Planning and Engineering, Third Edition, Volume 1, C A O'Flaherty*
[2] As recommended by the DfT

[*Accessibility Plan*] contained within Appendix 1 have been based on Staffordshire Moorlands' Cycle Map.

6.12 *PPG13: Transport* also outlines that cycling can replace car trips up to 5km. This suggests that residents working within Leek will have the option of walking or cycling to and from work if they live within 2km and 5km of their workplace respectively.

Bus Access

6.13 The principal bus route serving the site is service 18. The nearest bus stops to the development site are located on Buxton Road ('Osborne Street'), just south of the site and Abbots Road ('Buxton Road' and 'The Crescent') to the east of the site. The 'Osborne Street' bus stops providing westbound and eastbound services are some 215m and 205m away respectively with the bus stops located on Abbots Road located some 500m away (distances have been measured from the centre of the proposed development site). The Chartered Institution of Highways & Transportation document *Planning for Public Transport in Developments* suggests that new development should be located so that public transport trips involve a walking distance of no greater than 400m to the nearest bus stop. The bus stops identified on Buxton Road are therefore within this distance requirement and reflect a good level of accessibility to public bus transport.

6.14 Assuming a walking speed of 4.8kph (3mph), walking to 'Osborne Street' bus stops would take approximately 3 minutes. Although outside of the *Planning for Public Transport in Developments* recommended walking distance of 400m, the bus stops located on Abbots Road would each only take approximately 6 minutes to walk to; providing an additional two services (including the regular 18 bus route) for the residents of the proposed development site.

6.15 The majority of bus routes serving the aforementioned bus stops provide limited services. Three routes on the 'Osborne Street' bus stops are circular routes which start and terminate in Leek and provide one or two services per day. 'Osborne Street' bus stops also cater for bus service 108 from Ashbourne to Macclesfied (which stops once per day) and 118 from Hanley to Buxton (which operates once every 3 hours).

6.16 The principal bus service is bus route 18 which provides service for 'Buxton Road' and 'The Crescent' bus stops every 20 minutes during the day. This regular route operated by First Potteries Ltd serves Leek Town Centre to Hanley Bus Station and Haregate.

6.17 Refer to the summary of bus services in Table 6.2 below and the full public transport timetables contained within Appendix 6.

Table 6.2: Summary of Bus Services near the development site

Service No.	Route	Typical Frequency	Bus stop
16 SCRAGG'S TAXIS AND COACHES	Hanley - Bucknall - Werrington - Cheddleton - Leek	Sundays only NB: 0915 2350	Buxton Road The Crescent
18 FIRST POTTERIES LTD	Hanley - Sneyd Green - Endon - Leek - Haregate	Mon-Sat every 20 mins (every 50 mins 2000-0030) Hourly Sunday service until 1800	Buxton Road The Crescent
108 CLOWES COACHES	Ashbourne - Leek - Macclesfield	Mon-Sat SB: 0704 NB: 1840 No Sunday service	Osborne Street
118 HIGH PEAK	Buxton - Leek - Endon - Baddeley Green - Hanley	Mon-Fri 1714* No weekend service	Osborne Street
118 WARDLE TRANSPORT	Hanley - Baddeley Green - Endon - Leek - Buxton	Mon-Sat every 3 hours until 1830 Sun every 3 hours until 1730	Osborne Street
165 CLOWES COACHES	Leek Town Centre - Barrow Moor	Mon-Fri 1531 (Non-school days) Sat 1411 No Sunday service	Osborne Street Buxton Road The Crescent
166 CLOWES COACHES	Leek - Westwood - Haregate - Leek	Mon-Sat 0858 (Non-school days) No Sunday service	Osborne Street Buxton Road The Crescent
445 CLOWES COACHES	Leek - Blackshawmoor - Leek	Mon-Fri 1046 1425 No weekend service	Osborne Street
446 CLOWES COACHES	Leek - Longnor - Hartington - Bakewell	Mon-Fri EB: 0930 WB: 1444 No weekend service	Osborne Street
447 CLOWES COACHES	Leek - Bridge End - Leek	Mon-Fri 0905 No weekend service	Osborne Street
495 CLOWES COACHES	Leek - Kniveden - Leek	Mon-Fri 0933 1133 1233 No weekend service	Osborne Street

6.18 Reference to Table 6.2 demonstrates that bus travel to and from desirable destinations will be available to residents throughout the week.

Rail Access

6.19 Longport Rail Station is the nearest rail station to the development site, located some 17.6km (10.9 miles) away. Longport Rail Station is on the Crewe to Nottingham line and provides hourly services to Stoke-on-Trent, Derby and Crewe. Services are operated by East Midlands Trains. Refer to the summary of direct rail services in Table 6.3 below.

Table 6.3: Summary of Local Direct Rail Services

Destination	Typical Journey Time	Typical Frequency	Weekend Services
Crewe	Approx. 22 minutes	Approx. hourly service	Sat: Approx. hourly service Sun: 8 direct trains per day
Derby	Approx. 57 minutes	Approx. hourly service	Sat: Approx. hourly service Sun: 8 direct trains per day
Manchester Piccadilly	Approx. 1 hour	2 direct trains per day	No direct weekend service

6.20 Alternatively, Stoke-on-Trent railway station can be accessed by bus services 16, 18 and 118 to Hanley, followed by a connecting service or walk of some 2km. The railway station at Stoke-on-Trent is located on the same railway line as Longport, and is only a little further from the proposed development site, at a total of some 18km (11.2 miles) away.

Summary

6.21 The development site complies with latest guidance and concepts for sustainable development by providing residential dwellings within close proximity to Leek town centre with public transport links nearby. The site is also located in close proximity to a Co-operative food store, health facilities and schools. The development proposal provides a choice of travel by sustainable means, which suggests that residents will not have to rely solely on the private car.

6.22 In terms of sustainable transport modes, centres such as Buxton, Stoke-on-Trent, Derby and Crewe can be accessed by public transport services. The relatively small size of Leek suggests that sustainable travel modes such as walking and cycling offer convenient modes of transport for local travel to nearby local services within the town, as well as employment within the town.

7.0 EXISTING VEHICLE TRIP GENERATION

7.1 When evaluating the impact of the proposed development on the local highway network, it is important to first establish the potential permitted trip generation of the existing Adams Foods industrial facility that currently occupies the site. The net impact of the proposed development will then be the subject of assessment for the planning application.

7.2 In order to establish the current potential, and permissible, trip generation of the existing facility, vehicle trip generation rates were assessed using the *TRICS 2010(a) v6.5.1 database*. We understand that Adams Foods will be relocating to premises elsewhere within Leek irrespective of whether this latest proposal for residential development at the site is successful. As such, should the site be sold to another industrial or manufacturing company, continuing the existing permitted use of the site, then that new facility would also have the potential to generate similar movements to that suggested by the *TRICS* database.

7.3 For the purposes of this report, therefore, the baseline conditions against which the impact of the proposed development will be assessed is that over and above the vehicle trip generation suggested by the *TRICS* database for the existing use of the site, i.e. the 'net' impact. This approach of considering the proposed development's impact over and above the existing use was previously agreed with officers representing Staffordshire County Council, the local highway authority.

7.4 We considered 'employment' sites, namely, 'industrial unit' within the *TRICS* database which consists of units of between 2,800 and 17,675m^2 Gross Floor Area (GFA) for weekdays only. Units in Greater London were excluded from the selection procedure due to the unique characteristics of the London conurbation. The resulting *TRICS* surveys were then interrogated for comparisons to the Adams Foods facility at Leek, and unsuitable sites manually excluded from the selection.

7.5 The *TRICS database* analysis resulted in predicted vehicle trip generation rates in terms of number of trips/100m^2 GFA.

7.6 Table 7.1 below shows the resulting potential vehicle trip generation rates for the existing facility during the AM (08:00 to 09:00) and PM (17:00 to 18:00) peak hour periods. Appendix 5 contains the full *TRICS* output.

Table 7.1 Vehicle Trip Generation Rates for the existing industrial use of the development site (Trip Rate/100m^2 GFA)

	Arrivals	Departures	Total
AM Peak (0800-0900)	0.420	0.126	0.546
PM Peak (1700-1800)	0.069	0.309	0.378
Daily	2.570	2.642	5.212

7.7 The existing facility has a GFA of some 5,299m^2 (5,099m^2 ground floor; 200m^2 first floor). Table 7.2 below indicates the potential volume of vehicle trips that will be generated on this basis.

Table 7.2 Potential Vehicle Trip Generation Movements for the existing industrial use of the development site (5,299m^2 GFA)

	Arrivals	Departures	Total
AM Peak (0800-0900)	22 vph	7 vph	29 vph
PM Peak (1700-1800)	4 vph	16 vph	20 vph
Daily	136 vpd	140 vpd	276 vpd

Note: vph – vehicle trips per hour, vpd – vehicle trips per day

7.8 Table 7.2 above suggests that during an average weekday, some 276 daily two-way vehicle trips (136 arrivals and 140 departures) could be generated by the existing Adams Foods (or other similar) facility at the proposed development site. Flows in the order of some 29 and 20 two-way vehicle movements per hour could be generated in the AM and PM peak hour periods respectively. This analysis, using the *TRICS 2010(a) v6.5.1 database*, was previously undisputed by technical officers representing Staffordshire County Council, and therefore we have not re-visited the trip generation estimates using a more recent version of the *TRICS* database. The analysis is considered to remain valid.

7.9 For the purposes of this report, the impact of the proposed residential development over and above this potential permitted vehicle trip generation is considered at the staggered priority junction between the A523 Buxton Road / Prince Street / Shirburn Road, as detailed in Section 9.0.

7.10 CEC Figure 2972/204 [*Potential Industrial Trip Distribution*] in Appendix 2 shows these 'industrial trips' distributed through the site access and the staggered priority junction, and is based on 10% travelling to and from Prince Street (north) via Ball Haye Green, and the remaining 90% travelling to and from Prince Street (south) via the staggered priority junction. The surveyed turning movements have been used as the basis for distributing the 'industrial trips' through this junction.

7.11 Where the number of potential 'industrial trips' exceeds the number surveyed arriving and departing via the site access, the difference is indicated on CEC Figure 2972/204 [*Potential Industrial Trip Distribution*] in Appendix 2. Half of these 'extra' trips (the difference between the potential 'industrial trips' and the surveyed traffic arriving and departing the site access) have been assumed to be HGVs.

8.0 PREDICTED FUTURE VEHICLE TRIP GENERATION, DISTRIBUTION & ASSIGNMENT

Vehicle Trip Generation

8.1 Likely vehicle trip generation to and from the proposed development site has been based on the current proposals as defined in Section 4.0 of this *Transport Statement*.

8.2 Vehicle trip generation rates were assessed for the development site by using the *TRICS 2010(a) v6.5.1 database*. For the purposes of that assessment, we considered residential sites, namely, 'houses privately owned' within the *TRICS database* which consisted of 11 to 237 dwellings within 'edge of town' and 'suburban' locations.

8.3 Predicted trip rates associated with the proposed development (60 dwellings) are based on four 'houses privately owned' survey sites available on the *TRICS* database at that time, with comparable locations and accessibility criteria to that of the development site in Leek. Refer to *TRICS* output data contained within Appendix 4.

8.4 The *TRICS database* analysis resulted in predicted vehicle trip generation rates in terms of number of trips/dwelling.

8.5 Table 8.1 below shows the predicted vehicle trip generation rates for the proposed development site during the AM (08:00 to 09:00) and PM (17:00 to 18:00) peak hour periods. Appendix 5 contains the full *TRICS* output. It should be noted that these trip rates have previously been agreed with Staffordshire County Council Officers as part of our pre-application scoping discussions. Therefore we have not re-visited the trip generation estimates using a more recent version of the *TRICS* database. The analysis is considered to remain valid.

Table 8.1 Vehicle Trip Generation Rates for the Proposed Residential Development (Trip Rate/Dwelling)

	Arrivals	Departures	Total
AM Peak (0800-0900)	0.178	0.515	0.693
PM Peak (1700-1800)	0.440	0.244	0.684
Daily	2.951	2.896	5.847

8.6 Table 8.2 below indicates the likely volume of proposed vehicle trips that will be generated by the proposed 60 dwellings:

Table 8.2 Predicted Vehicle Trip Generation Movements for the Proposed Residential Development based on 60 dwellings

	Arrivals	Departures	Total
AM Peak (0800-0900)	11 vph	31 vph	42 vph
PM Peak (1700-1800)	26 vph	15 vph	41 vph
Daily	177 vpd	174 vpd	351 vpd

Note: vph – vehicle trips per hour, vpd – vehicle trips per day

8.7 Table 8.2 above suggests that during an average weekday, some 351 daily two-way vehicle trips (177 arrivals and 174 departures) are likely to be generated by the proposed development. Flows in the order of some 41 to 42 two-way vehicle movements per hour are predicted to be generated in both the AM and PM peak hour periods.

Net Impact

8.8 As discussed in Section 7.0 *[Existing Vehicle Trip Generation]*, the impact of the proposed development on the local highway network should only be considered where it results in vehicle trips over and above that of the existing industrial use of the proposed development site, i.e. the 'net' impact. Table 8.3 below, shows the net vehicular trip generation of the proposed development that is to be considered.

Table 8.3 Net Predicted Vehicle Trip Generation Movements for the Proposed Residential Development based on 53 dwellings (Table 8.2 minus Table 7.2)

	Arrivals	Departures	Total
AM Peak (0800-0900)	-11 vph	+24 vph	+13 vph
PM Peak (1700-1800)	+22 vph	-1 vph	+21 vph
Daily	+41 vpd	+34 vpd	+75 vpd

Note: vph – vehicle trips per hour, vpd – vehicle trips per day

8.9 Table 8.3 above suggests that during an average weekday, there could be a net reduction in vehicles arriving at the proposed development site during the AM peak hour and a net reduction in vehicles departing the proposed development site during the PM peak hour.

There are predicted to be only small increases in vehicular movements at other times. The net change in vehicle numbers therefore suggests that the impact of the proposed residential development on the local highway network will be negligible. This impact is considered later in Section 9.0.

Vehicle Trip Assignment

8.10 The vehicle assignment along the local highway network has been derived from the 2001 Census Travel to Work data. The resulting development trip assignment through principal junctions local to the proposed development site that will be used en-route to the new residents' place of work is as follows:

- via Ball Haye Green / Prince Street priority T-junction: 6%;
- via A53 Buxton Road eastbound: 8%;
- via Shirburn Road: 19%;
- via A523 Mill Street: 21%;
- via A53 Broad Street: 32%; and
- via A520 'Compton': 14%.

9.0 PREDICTED VEHICLE IMPACT ON HIGHWAY NETWORK

Scope of Assessment

9.1 As part of the scoping exercise for this *TS*, SCC agreed that capacity analysis should be undertaken for the AM and PM peak hours (08:00-09:00 and 17:00-18:00) for the Prince Street / A523 Buxton Road / Shirburn Road staggered priority junction.

9.2 It was agreed that further junction capacity tests on the A523 Buxton Road corridor toward the town centre would only be required should the predicted net increase in traffic flows on Buxton Road due to the proposed residential development be 5% or more over existing flows on the Buxton Road approaches to these junctions.

9.3 Traffic surveys undertaken and obtained for a *Transport Assessment* prepared in support of a superstore planning application (reference no. 09/01198/OUT_MJ) on the Adams Foods site and adjacent Eaton House have been used to quantify the potential increase in traffic over existing levels along this corridor due to the proposed residential development (predicted net increase).

9.4 Table 9.1 below demonstrates that the predicted net increase in traffic flows over existing flows on the Buxton Road corridor will be significantly less that 5%. Both the western and eastern approaches to junctions on Buxton Road for which traffic count information is available have been tested. Only the PM peak hour period (17:00 to 18:00) has been assessed, since this is the only assessment period used in this *TS* that corresponds with the assessment periods of the superstore application. The traffic flows used are taken from the superstore application's traffic surveys undertaken in 2006 (refer to Appendix 3).

Table 9.1: Predicted increase over existing traffic flows on the A523 Buxton Road resulting from the proposed residential development (net increase in traffic)

Junction	Location	Surveyed two-way traffic flows (PM)	Net Development Trips (two-way) (PM)	Percentage Change
Prince Street / A523 Buxton Road / Shirburn Road	East of Junction	1,191	-3	-0.3
	West of Junction	1,269	+16	+1.3
A523 Buxton Road / Eaton House Access	East of Junction	1,258	+16	+1.3
	West of Junction	1,269	+16	+1.3
A523 Buxton Road / Co-op Access / Earl Street	East of Junction	1,303	+16	+1.2
	West of Junction	1,299	+16	+1.2
A523 Buxton Road / Ball Haye Road / Ball Haye Street	East of Junction	1,280	+16	+1.3
	West of Junction	1,159	+16	+1.4
Prince Street / A523 Buxton Road / Shirburn Road*	East of Junction	781	-3	-0.4
	West of Junction	839	+16	+1.9

* CEC commissioned traffic count undertaken in 2010

9.5 It can be seen from Table 9.1 that the predicted net changes in traffic due to the proposed residential development will generally be about +1.2 to 1.3% during the PM peak hour. This assumes that the net increase in traffic due to the proposed development that turns right from Prince Street continues along the length of Buxton Road toward the town centre. The development proposal is predicted to have a net benefit on the local highway just east of Prince Street / Buxton Street junction and this is reflected by a 0.3% decrease in vehicular flows. The impact of the proposed residential development will further reduce with background traffic growth on the local highway network. The table demonstrates that, as per the agreement reached with SCC, no further junction capacity analysis is necessary.

9.6 It is noted that the traffic turning count commissioned by CEC at the Buxton Road / Prince Street / Shirburn Road straggered priority junction and undertaken on Wednesday 24th March 2010 has revealed lower two-way traffic flows than those surveyed in year 2006 for the superstore *Transport Assessment*. Despite this, the change in traffic during the PM peak hour due to the proposed development is a reduction of 0.4% to the east of this junction and an increase of 1.9% to the west of the junction. The conclusion therefore remains the same; that is, as per the agreement reached with SCC, no further junction capacity analysis beyond the staggered priority junction is necessary.

Future Year Assessment

9.7 It was previously anticipated that development would be complete in year 2013 and analysis was undertaken on that basis. A sensitivity test was also provided that took account of background traffic growth to year 2018 (five years after completion). These assessment years were agreed with the highway officers from SCC. Given the nominal increases in traffic predicted (+13vph [AM Peak] and +21vph [PM Peak]), it is considered that the above forecast year of 2018 remains appropriate, as it will still reflect a point in time beyond completion of the development.

9.8 To estimate the effects of traffic growth over time, the Year 2010 base flow data was increased using the National Road Traffic Forecast (NRTF) (Low) constrained to local trip ends for Leek (*"West Midlands / Staffordshire / Staffordshire Moorlands / Leek"*). The adjusted local peak hour growth factors are summarised in Tables 9.2 and 9.3 below:

Table 9.2: Adjusted Local Weekday AM Peak Hour Period Growth Factor*

Growth Period	(A) NRTF (Low)	(B) TEMPRO Weekday AM Peak Car Driver Trip End Growth for Leek (average of productions & attractions)	(C) TEMPRO Average Day Car Driver Trip End Growth for GB	(D) Adjusted Local AM Peak Period Growth Factor
2010-2013	1.034	1.017	1.032	1.019
2010-2018	1.083	1.038	1.078	1.042

Table 9.3: Adjusted Local Weekday PM Peak Hour Period Growth Factor*

Growth Period	(A) NRTF (Low)	(B) TEMPRO Weekday PM Peak Car Driver Trip End Growth for Leek (average of productions & attractions)	(C) TEMPRO Average Day Car Driver Trip End Growth for GB	(D) Adjusted Local AM Peak Period Growth Factor
2010-2013	1.034	1.021	1.032	1.023
2010-2018	1.083	1.049	1.078	1.054

* Formula: (A)×(B) / (C) = (D)

9.9 A series of traffic flow diagrams have been developed to help illustrate the inputs to the junction analysis. Each shows the traffic flows for the AM and PM peak hour periods. These are as follows:

- Figure 2972/201 - Surveyed 2010 traffic flows
- Figure 2972/202 - Residential development vehicle trip assignment based on Census data

- Figure 2972/203 - Total residential development vehicle trip distribution (also showing the net change in traffic flows due to the change of use of the site from industrial to residential use)
- Figure 2972/204 - Potential permitted 'industrial trip' distribution
- Figure 2972/205 - 2013 without residential development (whereby Adams Foods has vacated the site and been replaced by a similar industrial unit)
- Figure 2972/206 - 2013 with residential development
- Figure 2972/207 - 2018 without residential development (whereby Adams Foods has vacated the site and been replaced by a similar industrial unit)
- Figure 2972/208 - 2018 with residential development

Capacity Assessments

Proposed Site Access Arrangement on Prince Street

9.10 We provide analysis of the future operation of this simple priority junction in capacity terms using the *PICADY 5* computer software program. The AM (08:00 to 09:00) and PM (17:00 to 18:00) peak hour periods have been assessed using the 'with development' year 2018 scenario. This access point already serves the existing Adams Foods industrial facility. Only minor alterations will be necessary to this junction should the proposal for residential development be successful.

9.11 The through-movements on Prince Street are based on the surveyed movements into and out of Prince Street at the staggered priority junction between the A523 Buxton Road / Prince Street / Shirburn Road.

9.12 Full details of the *PICADY* analysis are contained on a CD-ROM within Appendix 6 and summarised in Table 9.4 below:

Table 9.4: Summary of *PICADY* results for the proposed site access junction on Prince Street

Scenario		Movement	AM Peak Hour (08:00-09:00)		PM Peak Hour (17:00-18:00)	
			RFC (Max)	Queue (Max)	RFC (Max)	Queue (Max)
2018	With Dev.	Proposed Development Egress	0.074	0	0.036	0
		Right turn from Prince Street	0.004	0	0.006	0

9.13 The *PICADY* summary results shown above indicate that the proposed site access arrangement is predicted to operate efficiently, with no discernible difference with traffic growth on Prince Street to Year 2018. Demand to capacity ratios (RFC values) are well below the recommended maximum value of 0.85, and queue lengths are negligible.

9.14 The results show that there is predicted to be no noticeable impact on existing drivers travelling along Prince Street as a result of the proposed priority junction. They will not suffer delay at this new junction as a result of the development proposals. Indeed, residents of Prince Street will benefit since the proposed development will not attract HGV movements in the numbers that the current Adams Foods facility does.

Prince Street / A523 Buxton Road / Shirburn Road

9.15 The vast majority of vehicles travelling to and from the development site will pass through this junction. The assessment has used the net trip generation vehicle flows presented in Table 8.3. This shows that with the change of use of the site from industrial to residential, there will be fewer arrivals and more departures during the AM peak hour period, and more arrivals and fewer departures during the PM peak hour period, as would be expected for this change of use.

9.16 The base traffic flows in the model have been established from a traffic count undertaken on Wednesday 24th March 2010 during the AM (08:00 to 09:00 hours) and PM (17:00 to 18:00 hours) peak hour periods.

9.17 Full details of the *PICADY 5* analysis for this junction are contained on a CD-ROM within Appendix 6 and summarised in Table 9.5 below.

Table 9.5: *PICADY* Results Summary – Prince Street / A523 Buxton Road / Shirburn Road Staggered Priority Junction

Scenario		Movement	AM Peak Hour (08:00-09:00)		PM Peak Hour (17:00-18:00)	
			RFC (Max)	Queue (Max)	RFC (Max)	Queue (Max)
2018	Without Dev	Shirburn Road Egress	0.112	0	0.099	0
		A523 Buxton Road Westbound	0.099	0	0.084	0
		Prince Street Egress	0.249	0	0.223	0
		A523 Buxton Road Eastbound	0.066	0	0.031	0
	With Dev	Shirburn Road Egress	0.094	0	0.107	0
		A523 Buxton Road Westbound	0.044	0	0.093	0
		Prince Street Egress	0.288	0	0.179	0
		A523 Buxton Road Eastbound	0.080	0	0.030	0

9.18 The assessment predicts that this junction will continue to operate efficiently, under all scenarios. It will continue to have significant reserve capacity and experience next to no queues.

9.19 With fewer arrivals and more departures compared to the permitted potential industrial use of the site during the AM peak hour period, the Shirburn Road egress and Buxton Road westbound approaches show improved RFCs, while the remaining two approaches (Prince Street egress and Buston Road eastbound) are predicted to experience slightly higher RFCs. The reverse is predicted to occur during the PM peak hour period due to more arrivals and fewer departures compared to the permitted potential industrial use of the site.

9.20 Overall, the assessment predicts that the junction will experience little change from the current permitted use of the site. It is important to note, however, that this junction will benefit from the removal of HGVs visiting the proposed development site, freeing up some capacity and improving general road safety.

Summary

9.21 The junction analyses undertaken and summarised within this section demonstrate that the site access arrangement and the existing staggered priority junction between the Buxton Road and Prince Street / Shirburn Road can both easily accommodate the change in traffic movements associated with the proposed development. In highway capacity and road safety terms, the proposed development is predicted to have no detrimental impact at

these junctions. Furthermore, the change of use will have a beneficial impact in that it will remove the majority of HGV turning movements in this largely residential area.

10.0 DISCUSSION AND CONCLUSIONS

10.1 This *Transport Statement* (*TS*) has been prepared in support of a full planning application for the proposed redevelopment of land off Prince Street, Leek to accommodate some 60 dwellings, accessed from an existing priority junction arrangement. The site is currently occupied by an Adams Food factory unit.

10.2 The scope of work required in the *TS* and the methodology employed for the assessment of the impact of the proposed development on the local highway network was previously discussed and agreed in advance with highway officers from Staffordshire County Council.

10.3 The *TS* has provided a description of the site and the local highway network, reviewed relevant planning and transportation policy, and provided a detailed review of the accessibility of the site by sustainable modes of transport. It has also described the development proposals and considered the impact of the development on the operation of the local highway network.

10.4 The conclusions of this *TS* are thus:

- the site offers good access to the local highway network, with the existing access from Prince Street considered to be suitable;
- the site accords well with national and local policy insofar as it offers accessibility by sustainable modes of transport, and is located within short walking distance of a range of important services and facilities, including those offered within the town centre itself;
- the site offers good accessibility by sustainable modes of transport, with frequent buses running between Buxton and Stoke-on-Trent via Leek;
- Census data confirms a high Walking mode share (23.8%) and a lower Car Driver mode share (52.4%) when compared to both the District of Staffordshire Moorlands and England as a whole, demonstrating the suitability of Leek for such trips;
- the impact of the proposed development on the local highway network has been considered where it results in vehicle trips over and above that of the existing permitted industrial use of the proposed development site, i.e. the 'net' impact. This approach has previously been agreed with highway officers of Staffordshire County Council;
- this net change in vehicle numbers suggests that the impact of the proposed residential development on the local highway network will be negligible;

- the junction analysis work undertaken demonstrates that the proposed site access arrangement and the existing staggered priority junction between the Buxton Road and Prince Street / Shirburn Road can both easily accommodate the change in traffic movements associated with the proposed development. In highway capacity and road safety terms the proposed development is predicted to have no detrimental impact at these junctions, especially given the removal of HGVs that currently service the existing industrial premises at the site, which can be seen as a benefit of the change of use proposal; and
- it has been shown that the increase in traffic flows along the A523 Buxton Road corridor will be less than 5%, and as such no further junctions require analysis. This approach has been agreed with highway officers of Staffordshire County Council.

10.5 It is concluded that there are no highway or transportation reasons to preclude the development of the site, subject to the implementation of the measures identified in this report.

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