

**PROPOSED DEVELOPMENT OF  
LAND AT HIGHFIELD FARM,  
TETBURY**

**TRANSPORT ASSESSMENT**

**MAY 2010**



**PROPOSED DEVELOPMENT OF  
LAND AT HIGHFIELD FARM,  
TETBURY**

**TRANSPORT ASSESSMENT**

**PREPARED FOR**

**Fay & Son Ltd**

**FMW CONSULTANCY LIMITED**

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**MAY 2010**

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## 1 INTRODUCTION

### Brief

- 1.1 FMW has been instructed by Fay & Son Ltd to prepare a Transport Assessment (TA) in support of a planning application for a proposed residential development of land at Highfield Farm to the north of Tetbury, Gloucestershire.
- 1.2 This TA will address the key highway and transport issues in relation to the development proposals and consider the accessibility of the site by sustainable modes of transport. A supporting Framework Travel Plan has also been prepared by FMW which forms an Appendix to this report.
- 1.3 The report follows the hierarchy of transport modes as promoted by National, Regional and Local transport policy, namely;
- Pedestrians;
  - Cyclists;
  - Public Transport; and
  - Private Transport.
- 1.4 The report provides an audit of the existing transport conditions in the vicinity of the site including a description of the local highway network and its operation. It also determines the anticipated level of trip generation, the distribution of these trips, and the impact of this development traffic on the local highway network and its junctions.
- 1.5 The report also gives full regard to the potential for trips to be made to and from the site by sustainable modes of transport.
- 1.6 The scope and scale of the TA has been discussed and agreed with Highway Officers from Gloucestershire County Council.
- 1.7 The structure of this report is summarised below:
- Section 2: Describes the site location and the existing highway network in the vicinity of the site. It also provides an analysis of local Personal Injury Accident (PIA) data and the findings of recently completed traffic surveys within the agreed study area;

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- Section 3: Outlines the existing accessibility of the site by sustainable modes of transport such as walking, cycling and public transport;
- Section 4 Outlines the relevant characteristics of the proposed development including access and parking arrangements;
- Section 5: Considers the trip generation likely to be associated with the proposed development together with its likely distribution on the road network within the agreed study area;
- Section 6: Considers the impact on the surrounding road network of the additional trips generated by the proposed development. Trips associated with other committed developments in the area are also included as appropriate; and
- Section 7: Presents a summary of the report and identifies the main conclusions that can be drawn from the Transport Assessment.

## 2 EXISTING HIGHWAY CONDITIONS

### Site Location

- 2.1 The application site is located at Highfield Farm on the northern fringe of Tetbury as illustrated on **Figure 2.1**.
- 2.2 The site is bounded to the north by the residential properties and outbuildings associated with Highfield Farm itself together with agricultural fields. To the east the site is bounded by the A433 London Road and its roundabout junction with Quercus Road. The rear of existing residential properties that front Shepherds Mead and Northlands Way form the southern boundary of the application site, while a public footpath and the boundary fence of the Sir William Romney's School grounds form the western boundary. The site is currently in agricultural use, primarily pasture.
- 2.3 Vehicular access to the site is currently taken via the Highfield Farm complex itself but Northlands Way abuts its southern boundary and is fitting with a field gate.
- 2.4 Tetbury town centre, represented by the Market Hall is approximately 1,100m south of the centre of the application site.
- 2.5 Tetbury itself is a market town of approximately 6,000 population located at the intersection of the A433 Cirencester to Bath road and the B4014 Nailsworth to Malmesbury road. The A4135 also connects Tetbury through to Dursley.
- 2.6 Cirencester is some 10 miles to the north east, Malmesbury 4.5 miles to the south east and Stroud 8 miles to the north west. The M4 Motorway can be readily accessed to the south at either Junction 17 or 18 and the M5 Motorway can also be readily accessed at Junction 13 to the north west.

### Local Highway Network

- 2.7 The local highway network is also identified on **Figure 2.1**.
- 2.8 It is proposed that the development site will be accessed from a new fourth arm off the existing A433 London Road roundabout junction with Quercus Road. The principle of such an access arrangement has been agreed with officers of the Highway Authority with this report providing technical details of the layout and operation of the revised junction.

- 2.9 The A433 London Road is the main road in to Tetbury from Cirencester and the north. To the north of the Quercus Road roundabout, London Road is approximately 6.5m in width while to the south of the roundabout it is approximately 6.75m in width. The roundabout itself has an inscribed circle diameter of approximately 40m and benefits from a high standard of street lighting. Notwithstanding, the speed limit through the roundabout is 40mph. Quercus Road is a recently constructed industrial access road of 7.3m width and subject to a 30mph speed limit.
- 2.10 Approximately 200m to the south of the Quercus Road roundabout, London Road forms a mini roundabout junction with Shepherds Mead and then again with Braybrooke Close a further 30m south of Shepherds Mead. The speed limit on London Road reduces to 30mph approximately half way between the Quercus Road roundabout and the Shepherds Mead mini roundabout.
- 2.11 The A433 London Road continues towards the south west and passes a Tesco Supermarket before it turns towards the south east. At this point it becomes known as Long Street which forms the main street through Tetbury town centre.
- 2.12 At the western end of Long Street there are two priority junctions in very close proximity to each other; one being the B4014 north west towards Nailsworth and the other being the A4135 west towards Dursley. The two junctions are both provided with a ghost island right turn lane that extends to serve both side roads. Site observations have identified that the close proximity of the two junctions leads to an element of driver confusion.
- 2.13 At the eastern end of Long Street is a four arm mini roundabout junction adjacent to the Market Hall building. The northern arm, Chipping Street, provides a link towards the north which effectively runs parallel to the A433 London Road and indeed joins back in with it some 600m to the north of the Quercus Road roundabout. The eastern arm, Newnton Road, is the B4014 south east towards Malmesbury with the southern arm being the A433 Bath Road towards the south.
- 2.14 Directly to the south of the Highfield Farm site is the Shepherds Mead residential road. This road is approximately 6.0m in width and has traffic calming features in the form of speed humps at regular intervals. The road connects through to Northlands Way which as previously mentioned abuts the proposed development site at its northern end.

- 2.15 Northlands Way is wider than Shepherds Mead at approximately 7.0m and travels southbound before connecting with Conygar Road. Just south of the Shepherds Mead / Northlands Way junction is a traffic calming feature in the form of a road narrowing which allows only one vehicle to pass at any one time.
- 2.16 Conygar Road is also 7.0m when travelling east back towards the A433 London Road but narrows to 6.0m towards the west where it becomes a cul-de-sac. Shepherds Mead, Northlands Way and Conygar Road therefore form three sides of a square with the A433 London Road being the fourth. The junction of Conygar Road with London Road is a standard priority type junction with no ghost island right turn facilities provided. The alignment of London Road at this point is such that the visibility for drivers emerging from Conygar Road is very good.
- 2.17 Further afield, discussions with officers of the Highway Authority have identified the need to consider the A433 junction with the side road towards Kemble as this is the route to the nearest Railway Station likely to be used for any rail related journeys. The junction takes the form of a cross roads with the A433 having the priority. The A433 is straight at this location and speeds can be high however there are double white lines to the north east of the junction on the approach to a narrowing in the road as it passes under a railway line. Visibility in either direction for traffic turning out of the side arms is very good but there is no ghost island for traffic turning right off the A433.
- 2.18 Further north again, and on the approach to Cirencester, the A433 forms a priority junction with the A429 with the latter being the side road. The junction offers good visibility in both directions however the straight alignment of the A433 results in relatively high traffic speeds. This in turn leads to frequent queuing on the A429 in the highway peak hours. As a consequence the Highway Authority has asked that the impacts of the proposed development on the operation of this junction be considered despite its relative remoteness from the site itself.

### **Existing Traffic Flows**

- 2.19 It has been agreed with the Highway Authority that this report should allow for detailed assessment of the following junctions:
- A433 Tetbury Road / A429 priority junction near Cirencester;

- The cross roads junction between the A433 Tetbury Road, Tarlton Road and Kemble Road.
- A433 London Road / Quercus Road / site access roundabout;
- A433 London Road / B4014 Hampton Street / A4135 New Church Street / A433 Long Street priority junctions; and
- A433 Long Street / Chipping Street / B4014 Market Place / A433 Church Street mini roundabout.

2.20 A March 2006 turning count survey for the A433 / A429 junction near Cirencester has been obtained from Gloucestershire County Council. Otherwise, detailed turning movement counts were undertaken at the remaining junctions on Tuesday November 24<sup>th</sup> 2009. The full survey results are attached as **Appendix A** with the AM and PM peak hour flows being summarised on **Figure 2.2**.

2.21 The site report from the survey company identified that the weather was wet and windy throughout the survey but there were no incidents around the surveyed junctions that would have influenced the flow of traffic or caused abnormal queuing or similar.

2.22 Although full queue length surveys were not undertaken the survey company identified that all junctions generally flowed freely in both peak hours apart from the London Road / Hampton Street / New Church Street / Long Street junction at the western end of the town centre.

2.23 Here, the longest queue was approximately 10 to 15 vehicles on New Church Street during the AM period 08.00 to 08.30 and also during the PM period 16.00 to 16.30. On the Hampton Street approach, the longest queue was approximately 8 to 10 vehicles during the same AM and PM peak periods as above. The right turn lane on the London Road approach generally had between 3 and 5 vehicles waiting again during the same AM and PM peak periods.

### **Link Capacity**

2.24 Urban roads have a flow capacity that is linked to their width and the number of side roads, degree of frontage access etc.

- 2.25 The tables contained in the Department for Transport guidance TA79/99: Traffic Capacity of Urban Roads, provide the relevant capacity values and are quoted in **Table 2.1** below in relation to the surveyed flows on the various links within Tetbury.
- 2.26 It should be noted that where the actual carriageway widths are different from those quoted in TA79/99 the link capacity values have been extrapolated between or beyond the TA79/99 width values.

Location	Width	Category	Link Capacity (two-way)	Surveyed Flow (two-way)	Spare Capacity
A433 London Road north of Quercus Road	6.5m	UAP2	1,946	AM = 855 PM = 876	AM = 56.1% PM = 55.0%
A433 London Road south of Quercus Road	6.5m	UAP3	1,715	AM = 888 PM = 905	AM = 48.2% PM = 47.2%
A433 Long Street through town centre	7.0m	UAP4	1,682	AM = 988 PM = 848	AM = 41.3% PM = 49.6%
B4014 Hampton Street	6.5m	UAP3	1,715	AM = 592 PM = 525	AM = 65.5% PM = 69.4%
A4135 New Church Street	6.0m	UAP3	1,446	AM = 712 PM = 643	AM = 50.8% PM = 55.5%
B4014 Market Place	6.5m	UAP3	1,715	AM = 640 PM = 546	AM = 62.7% PM = 68.2%
A433 Church Street	6.0m	UAP3	1,446	AM = 689 PM = 556	AM = 52.4% PM = 61.5%

**Table 2.1: Link Capacity Assessment within Tetbury**

- 2.27 The above table identifies that all the highway links within the study area operate with a high degree of spare capacity. Any operational difficulties, queuing or delays that occur can therefore be attributed to the operation of the junctions and inappropriate parking or loading rather than the links between the junctions.

### Accident Analysis

- 2.28 Details of the number of accidents recorded on the highway network on the northern side of Tetbury have been obtained from Gloucestershire County Council for the period January 2004 to October 2009 (which represents the most recent five year data period available at the time of writing). The information is based on STATS19 Police Accident Reports and refers to three categories of accidents:

- A **fatal** accident is one in which at least one person is fatally injured;
  - A **serious** accident is one in which at least one person is seriously injured, but no-one suffers a fatal injury, and which is in one (or more) of the following categories:
    - (a) an injury for which a person is detained in hospital as an in-patient; or
    - (b) any of the following injuries (whether or not the person is detained in hospital): fractures, concussion, internal injuries, crushing, severe cuts and lacerations, severe general shock requiring treatment.
  - A **slight** accident is one in which at least one person suffers "slight" injuries (i.e. a sprain, bruise or cut which is not judged to be severe, or slight shock requiring roadside attention), but no-one is seriously or fatally injured.
- 2.29 A plan showing the location of the recorded accidents is attached as **Appendix B** and the full report can be provided on request. In summary however there were 36 recorded personal injury accidents over the five year period of which 31 were classified as slight and 5 classified as serious. There were no fatal accidents recorded.
- 2.30 In total there were 50 reported casualties split as 6 serious and 44 slight.
- 2.31 Of the 36 accidents, 9 involved pedestrians (1 serious) and 2 involved cyclists (both slight). Children were involved in 3 of the pedestrian accidents (all slight) and 1 of the cyclist accidents (again slight).
- 2.32 The plan attached as **Appendix B** shows that the accidents are spread relatively evenly over the highway network as a whole. There are small clusters at the junctions either end of Long Street but these are not considered to be excessive in number given the quantity of turning traffic and the general town centre environment. Beyond the town centre area there is a small cluster of accidents at the A433 London Road / Cirencester Road junction and again at the A433 London Road / Conygar Road junction.
- 2.33 The only concentration of pedestrian accidents is in the vicinity of the mini roundabout at the eastern end of Long Street. This is effectively the town centre with high numbers of pedestrians interacting with vehicles turning at the junction.

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- 2.34 Pedestrian crossing facilities are available and traffic speeds are generally low so there is considered little extra that could be implemented to reduce the occurrence of such accidents.
- 2.35 In the vast majority of cases however the accidents within Tetbury are attributable to driver, pedestrian or cyclist error rather than any particular deficiency in the highway network.
- 2.36 Accident records have also been obtained for the A433 junctions with the A429 near Cirencester and the A433 junction with the link to Kemble. A plan showing the location of accidents in this area is also attached as part of **Appendix B** with the full accident reports being available on request.
- 2.37 Only one personal injury accident has been recorded at the crossroads junction of the A433 and the link to Kemble. This involved a car stopped waiting to turn right towards Kemble being hit in the rear by another car resulting in a slight injury to a passenger. A single personal injury accident at this junction in the last five years suggests no adverse safety issues associated with its configuration.
- 2.38 At the junction of the A433 and the A429, a total of six accidents have been recorded over the five year period all of which were classified as slight. A total of 11 casualties were identified. In the majority of cases, it would appear that the accidents were caused by vehicles pulling out of the A429 towards Cirencester being hit by vehicles already travelling on the A433 in one direction or the other. The visibility at the junction is generally good given its straight alignment but traffic speeds on the A433 can be high and this is likely to be a contributory factor in a number of cases.
- 2.39 That said, both the A433 and the A429 are relatively heavily trafficked so just over one accident per year at the junction is not considered to identify any major safety concerns.

### 3 ACCESSIBILITY BY SUSTAINABLE MODES OF TRANSPORT

#### Introduction

3.1 The accessibility of the site by sustainable modes of transport is important as it is likely to impact upon the number of private car trips made to the site and the localised impacts of the additional traffic associated with the development. This Section outlines the existing accessibility of the site by sustainable modes of transport (walking, cycling and public transport) and suggests a number of possible improvements.

#### Location of Day to Day Services and Facilities

3.2 Government guidance is such that new residential developments must be located where they are not solely dependant on the use of the private car. The location of day to day services and facilities in relation to a proposed site is therefore of key consideration. The nearer services and facilities are to the site the more likely it is that future residents will choose to travel sustainably by walking, cycling or the use of public transport.

3.3 The locations of a number of key local destinations are shown on **Figure 3.1**. The walking distance to these destinations is summarised in **Table 3.1** below measured to and from the centre of the Highfield Road site via the most direct route.

Service or Facility	Location	Walking Distance
Primary School	St Mary's, St Mary's Road	960m
Secondary School	Sir William Romney, Lowfield Road	730m
Convenience Store	Tesco, London Road	615m
Post Office	Market Place	1,425m
Town Centre	Market Hall	1,390m
Doctor's Surgery	Romney House, Long Street	1,300m
Hospital	Newnton Road	1,870m
Library	Close Gardens	1,400m
Leisure Centre	Cotswold Leisure, Lowfield Road	825m

**Table 3.1: Walking Distance to Local Facilities**

- 3.4 For the Secondary School and the Leisure Centre the walking distances via existing routes is given although a pedestrian connection between the site and the School grounds would reduce the distances given. The walking distances assume that a new pedestrian / cycle link is provided from the site connecting through to Northlands Way.
- 3.5 Guidance on appropriate walking distances is given in the Institution of Highways and Transportation document: Providing for Journeys on Foot. In general terms, this document identifies the preferred maximum walking distance to a town centre as being 800m, for commuting or walking to school as being 2,000m and for other more general destinations as being 1,200m.
- 3.6 Comparing these values with the walking distances identified in the above Table indicates that it is only really the town centre and the services located therein that are in excess of the preferred maximum values. It should be noted however that the town centre is also accessible by public transport services as discussed later in this section.
- 3.7 The majority of the employment opportunities within Tetbury can be accessed directly from the A433 London Road so are within a convenient walking distance of the proposed development.
- 3.8 The government document Planning Policy Guidance Note 13: Transport (PPG13) states that walking has the greatest potential to replace short car journeys particularly on trips of less than 2km. Similarly, PPG13 states that cycling also has the potential to replace short car journeys particularly on trips of less than 5km. The town centre and beyond falls within this increased walking distance with the whole of the built up area of Tetbury being within the appropriate cycling distance.

### **Pedestrian Routes**

- 3.9 For pedestrian trips to the local Primary School, it is likely that the majority of new residents would use the proposed pedestrian and cycle link through to Northlands Way and from there across Conygar Road to Bartley Croft. All of these roads are provided with good quality footways. At the end of Bartley Croft is a pedestrian link through to the A433 London Road which in turn benefits from high quality footways that link through to St Mary's Road and the Primary School.

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- 3.10 The majority of the likely walking route to the Primary School is therefore via lightly trafficked residential streets where traffic speeds are low.
- 3.11 Should a new pedestrian access to the School site not be achievable then an alternative route exists running around the perimeter of the school playing fields. This takes the form of a Public Footpath that links Northlands Way through to the end of Conygar Road and beyond to the top end of Lowfield Road adjacent to the school access. This footpath is approximately 2m in width, metalled and street lit throughout. These walking routes apply equally to the Leisure Centre as it shares the Secondary School site.
- 3.12 To access the Tesco Supermarket by foot is likely to involve a similar walking route through to London Road as identified above in relation to the Primary School. Once on London Road there is a signalised pedestrian crossing on London Road that allows safe and convenient access to the Tesco store located on the opposite side.
- 3.13 From the Tesco Supermarket there is a pedestrian link through to Northfield Road from which the traffic free Love Lane Public Footpath links through to Chipping Street and the town centre. It is considered that this is the most likely route for pedestrians wishing to walk between the town centre and the proposed Highfield Farm development. This route utilises lightly trafficked or car free routes for the majority of its length.
- 3.14 Those future residents of the Highfield Farm development whose houses are located close to the A433 London Road may choose to use the London Road footways to access the Tesco Supermarket and the town centre beyond. The existing footway on the western side of London Road ends just north of the Shepherds Mead junction however it is proposed that this be extended further to the north before being tied back into the development site itself. This will ensure that there is a continuous pedestrian link between the eastern boundary of the Highfield Farm site, the Tesco Supermarket and beyond. Again, the signal controlled pedestrian crossings in the vicinity of the Tesco Supermarket provide a safe and convenient crossing point of London Road for pedestrians.
- 3.15 In general terms, the existing pedestrian infrastructure in the vicinity of the proposed development and on the walking routes to key day to day services and facilities is considered to be very good.

### Cycling Facilities

- 3.16 Dedicated cycling facilities within Tetbury are limited. There is however a short length of shared footway/cycleway adjacent to Quercus Road that continues south on the eastern side of London Road before ending just prior to the Shepherds Mead mini roundabout.
- 3.17 Apart from this cyclists utilise the existing road carriageway. Traffic flows are generally low and the accident records suggest that there are no particular safety problems in this respect.
- 3.18 The proposed link between the Highfield Farm site and Northlands Way will be designed to allow its use by cyclists

### Public Transport

- 3.19 Bus services to and from Tetbury are summarised in **Table 3.2** below and shown diagrammatically on **Figure 3.2**:

Service No	Route	Weekday Frequency
29	Stroud - Tetbury - Yate	6 per day e/w
278	Tetbury - Malmesbury	1 per day e/w Wed & Fri
881	Tetbury - Kemble - Cirencester	7 per day e/w

**Table 3.2: Availability of Public Transport**

- 3.20 It should also be noted that Service 29 extends beyond Yate to and from Bath as Service 620 with through journeys being available.
- 3.21 The nearest bus stop to the site is believed to be located on the eastern side of the A433 London Road approximately equidistant between Quercus Road and Shepherds Mead. There is no physical evidence of a bus stop in this location but it is identified as such within various internet information sites. It is possible that the bus stop sign was removed as part of the recent implementation of the footway/cycleway along this length but not re-erected following completion of the works.
- 3.22 Walking distance to this stop from the centre of the Highfield Road site is approximately 200m.

- 3.23 Beyond this the next nearest bus stop on London Road is just south of the Northfield Road junction (400m walking distance). This stop consists of a flag sign only. These two London Road stops are both served by the 881 service travelling southbound only.
- 3.24 All the bus services listed in the above Table call at the Tesco Supermarket off London Road approximately 615m walking distance from the centre of the Highfield Farm site. The walking distance is beyond that normally considered as a preferred maximum (400m).
- 3.25 The existing accessibility of the Highfield Farm site by public transport therefore has to be considered as poor. Not only are the number of available services low but the walking distance to the nearest stop from which a range of services can be accessed is relatively high. Improvements to bus services in the area may therefore be appropriate to support future development.
- 3.26 Further discussions with the Public Transport team at the Highway Authority will be required but at this stage it is considered that services 29 and 278 could be extended up to the Quercus Road roundabout before returning to the Tesco Supermarket without adversely affecting the existing timetable. A new bus stop could be provided on the western side of the A433 London Road approximately equidistant between Quercus Road and Shepherds Mead which would then be located no more than 400m from any of the new properties on the Highfield Farm site.

#### **Recent Tesco Store Extension Approval**

- 3.27 The Tesco store on London Road has recently been granted planning permission for an extension. As part of the scheme, the car park access will be relocated approximately 120m to the north necessitating the relocation of the existing Pelican crossing points. The highway works also involve the creation of a 3.5m wide shared footway / cycleway across the extended store frontage together with reconfiguration of the on-site bus stop facilities and provision of a £70,000 contribution towards local community transport schemes.
- 3.28 The above highway works will further improve the non-car accessibility of the Tesco store for future residents of the Highfield Farm site. The works will also improve the pedestrian links beyond towards the town centre.

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## Summary

- 3.29 In summary, it is considered that the proposed development site is relatively well located in relation to the opportunity to use sustainable, non-car modes of travel for journeys to and from local services and facilities. Opportunities exist to provide pedestrian and cycle links to the existing residential areas to the south which will help to reduce walking distances to local facilities. Improvements to public transport services are likely to be required and this can be achieved through a short extension to existing services and a new bus stop.

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## 4 DEVELOPMENT PROPOSALS

- 4.1 The application is to be submitted in Outline with full details of the site layout and development quantum to follow as part of a future Reserved Matters or Full application. Notwithstanding, an initial indicative layout for the proposed development is attached as **Appendix C** of this report.
- 4.2 This Transport Assessment has been based on an assumption of 270 new residential units which will include a range of sizes and tenures. Community facilities are also likely to form part of the final development although the exact nature of these facilities has yet to be identified. For a robust assessment at this stage, the traffic flows associated with a 70 bed Nursing Home have also been included for this element. It should be noted that these values are considered to be very much a worst case scenario with the actual quantum of development likely to be less. The traffic impacts identified within this Transport Assessment should therefore also be considered as representing the worst case position.
- 4.3 Primary vehicular access will be taken from a new fourth arm on the London Road / Quercus Road roundabout at the eastern end of the site. The ability to provide a secondary point of access to Northlands Way also exists but this Transport Assessment assumes that all development traffic will be to and from the London Road roundabout. This again provides for a worst case assessment of the local highway network.
- 4.4 Should a through vehicle route to Northlands Way become a requirement of Gloucestershire County Council highways then it would be designed at a width and to an alignment that would not encourage its use as such. In this way it would only be lightly trafficked and not have an adverse impact on the operation of the existing Northlands Way, Shepherds Mead and Conygar Road or the associated junctions with London Road.
- 4.5 The proposed access arrangements for the site are shown on the Ashley Design plan 969.03F. The main spine road from the London Road roundabout will be provided at a 6m carriageway width as GCC highways wish to safeguard the possibility of providing a new vehicular link into the adjacent School at some time in the future.

- 4.6 A gas main runs across the site with the first approximately 250m of the spine road from the London Road roundabout being aligned such that this can be incorporated within the extents of the new road. Along the western boundary of the site, adjacent to the school grounds, runs a hedge row that incorporates a number of trees that are subject to Tree Preservation Orders. The location of any future connection from the development site to the school is therefore constrained at this western boundary. The need to potentially cater for buses to and from the school should such a link be provided at a later date also clearly has an impact on the alignment of the spine road as it can not be provided with tight radius bends. Given these various constraints, there is little flexibility in relation to the alignment of the main spine road shown on the Ashley Design plan.
- 4.7 The proposed development will be highly permeable so that all future residents can access a convenient walking route to the off-site services and facilities. Pedestrian links will be provided to Public Footpath NTU/7/1 which runs along the western boundary of the site and also to Northlands Way and the existing residential areas to the south. The existing footway on the western side of London Road in the vicinity of Shepherds Mead will be extended north to connect into the site before continuing further north to serve the proposed development along the London Road frontage. This new pedestrian link will also run west from London Road to the pedestrian and cycle link to Northlands Way via the proposed buffer area between the existing and proposed residential areas. This buffer area is proposed as the location for new formal and informal recreation areas together with community allotments so pedestrian connections to the various housing zones will be provided at appropriate locations to ensure the overall permeability of the site.
- 4.8 Public Footpath NTU/8/1 crosses London Road just to the south of the Quercus Road roundabout with drop kerbs and tactile paving being provided on either side and across the roundabout splitter island. The proposed development will provide pedestrian connections to this existing crossing facility thereby providing a safe walking route to the eastern side of London Road, the local employment opportunities and beyond southwards towards the town centre. Within the proposed development site, the Public Footpath will require diverting subject to the associated statutory procedures.

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### Residential Travel Plan

- 4.9 A Residential Travel Plan for the site will be a requirement of any planning consent and a Framework version of such is attached as **Appendix D**. For convenience, a summary of the suggested Travel Plan measures are given below.
- 4.10 A Travel Plan Co-ordinator will be appointed at the appropriate time to promote, implement and monitor the progress of the Travel Plan and to be the first point of contact for future residents.
- 4.11 A key role for the Co-ordinator will be to provide personalised travel planning information for new residents thereby helping to identify the availability of more sustainable modes of travel for all purposes.
- 4.12 A welcome pack containing public transport timetables and route maps, local cycle networks and a map detailing the location of, and walking routes to and from, local services and facilities will be prepared and given to all new residents. This will make sure that all residents will have the necessary information to choose more sustainable modes of transport and make full use of local services. The welcome pack will also promote the Council's car share scheme that can be accessed through the website [WWW.CARSHAREGLOUCESTERSHIRE.COM](http://WWW.CARSHAREGLOUCESTERSHIRE.COM).
- 4.13 Cycle parking facilities will be incorporated into the design of the various residential units and a discount voucher scheme could be arranged for new residents at a local cycle store to help encourage cycle use. Additionally, high visibility items (reflective arm and ankle bands), umbrellas and personal attack alarms could be provided for each household to further encourage walking and cycling during all weathers and at all times of the day.
- 4.14 It may also be appropriate to arrange a discount voucher scheme for new residents in relation to the use of public transport in order to encourage travel by bus. It is often difficult to change people's travel habits once they have become established so providing a voucher from first occupation may help to encourage a more sustainable mode of transport from the outset.
- 4.15 The Travel Plan Co-ordinator would also be responsible for monitoring the effectiveness of the Travel Plan in relation to set targets and reporting appropriately to the Council.

## 5 TRIP GENERATION AND DISTRIBUTION

### Residential Person Trip Generation

- 5.1 Person trip rates for the residential element of the development have been taken from the TRICS 2010(a) database using average values. The assessment is based on the AM (08.00 to 09.00) and PM (17.00 to 18.00) peak hours and a 12 hour day (07.00 to 19.00).
- 5.2 The mixed private/non private housing category within TRICS has been used as Cotswold District Council's policy is to achieve 50% affordable/social housing on major residential developments. Only sites located in suburban or edge of town locations have been used and the residential population within 1 mile of the site has been limited to 15,000 to represent the size of Tetbury as far as possible while retaining a sufficient number of survey sites.
- 5.3 The resultant person trip rates and trip generation based on 270 residential units are shown in **Table 5.1** below with the full TRICS data being attached as **Appendix E**.

	AM Peak		PM Peak		Daily
	Arrive	Depart	Arrive	Depart	Two-Way
Trip Rates	0.305	0.849	0.572	0.446	10.116
Person Trips	82	229	154	120	2,731

**Table 5.1: Residential Development Person Trips**

- 5.4 The above identifies that the residential element of the development is likely to generate 311 two-way person trips during the morning peak hour, 274 two-way person trips during the evening peak hour and 2,731 two-way person trips over the course of a 12 hour day.

### Existing Residential Modal Split

- 5.5 The modal split of the person trips identified for the residential development has been based on 2001 national census 'Method of Travel to Work – Resident Population' data for the Tetbury Ward. A summary of this census data is shown in **Table 5.2** overleaf.

Mode of Travel	Persons	Percentage of Total People	Percentage of Travellers
All people	3,736	100%	100%
Works mainly at or from home	290	7.8%	n/a
Underground, metro, light rail or tram	3	0.1%	0.1%
Train	24	0.6%	1.0%
Bus, minibus or coach	25	0.7%	1.1%
Taxi or minicab	4	0.1%	0.2%
Driving a car or van	1,609	43.1%	68.8%
Passenger in a car or van	170	4.6%	7.3%
Motorcycle, scooter or moped	15	0.4%	0.6%
Bicycle	64	1.7%	2.7%
On foot	418	11.2%	17.9%
Other	5	0.1%	0.2%
Not currently working	1,109	29.7%	n/a

**Table 5.2: Tetbury Ward ‘Method of Travel to Work – Resident Population’**

- 5.6 In order to accurately identify the modal split of journey’s to work it is necessary to discount those who work mainly at or from home and also those who are not currently working as these two categories do not generate work related trips. The third column of the above table therefore identifies the appropriate modal split values.
- 5.7 It should also be noted that Tetbury does not have a railway station therefore trips by underground etc and train are first likely to involve a short car journey, presumably towards Kemble railway station. This needs to be represented in the car based trips to and from the site itself, i.e. adding the 1.1% from rail based modes to the 68.8% car based modes to give a total of 69.9% by car.
- 5.8 The results in Table 5.2 show that based on existing travel patterns, the majority of those who travel to work from and within Tetbury do so as a car driver whilst the second largest mode of travel is on foot. Given the size and accessibility of Tetbury as a whole these overall findings are as expected.

### Residential Vehicular Trip Generation

5.9 The above percentage values have been used to identify the number of vehicular trips likely to be generated by the proposed residential element of the development in the peak hours. A summary of the residential vehicle trips is given in **Table 5.3** below.

	AM Peak		PM Peak		Daily
	Arrive	Depart	Arrive	Depart	Two-Way
Trip Rates	82	229	154	120	2,731
Person Trips	57	160	108	84	1,909

**Table 5.3: Residential Development Vehicle Trips**

5.10 The above identifies that, based on existing modal splits, the residential element of the development will generate 217 two-way vehicle trips during the morning peak hour, 192 two-way trips during the evening peak hour and 1,909 two-way vehicular trips over the course of a 12 hour day.

5.11 Working backwards based on 270 residential units this equates to vehicular trip rates of 0.21 arrivals and 0.59 departures per residential unit in the AM peak with 0.40 arrivals and 0.31 departures in the PM peak. These values are considered to be extremely robust.

### Residential Trip Distribution

5.12 Travel to Work data from the 2001 national census has also been used to identify the likely distribution of new vehicular trips. Tetbury Ward has been set as the place of residence, i.e. the origin of a work related trip. The destination of work related trips has been set at the Ward level within Cotswold District but at Local Authority level for those travelling to work beyond Cotswold.

5.13 The resultant trips have been combined as a total and distributed to the various roads leading out of Tetbury namely the A433 (north and south), the A4135 and the B4014 (east and west). This exercise has been undertaken 'by eye' attributing the trip to the destination to the most likely route and where a number of routes could be used, by splitting the total accordingly. The full data is attached as **Appendix F** and summarised within **Table 5.4** below.

	Total People	Predicted Car Route				
		A433 (N)	A433 (S)	A4135	B4014 (W)	B4014 (E)
Total	1,249	403	314	276	103	153
Percentage	100%	32.3%	25.1%	22.1%	8.2%	12.2%

**Table 5.4: Trip Distribution for Tetbury Ward**

5.14 The above indicates that the majority of Tetbury residents commute to work using the A433 towards the north followed by the A433 towards the south and the A4135. These percentage values will be used to distribute the additional trips associated with the residential element of the development site.

### Nursing Home

5.15 For the Nursing Home, vehicular trip rates have been obtained directly from the TRICS 2010(a) database using average values. The assessment is based on the AM (08.00 to 09.00) and PM (17.00 to 18.00) peak hours and a 12 hour day (07.00 to 19.00).

5.16 As for the residential, only sites located in suburban or edge of town locations have been used and the residential population within 1 mile of the site has been limited to 15,000 to represent the size of Tetbury as far as possible.

5.17 The resultant vehicular trip rates and trip generation based on a 70 bed Nursing Home are shown in **Table 5.5** below with the full TRICS data being attached as part of **Appendix E**.

	AM Peak		PM Peak		Daily
	Arrive	Depart	Arrive	Depart	Two-Way
Trip Rates	0.071	0.042	0.024	0.065	1.796
Vehicle Trips	5	3	2	5	126

**Table 5.5: Nursing Home Vehicular Trips**

5.18 The above identifies that the Nursing Home element of the development is likely to generate 8 two-way vehicle trips during the morning peak hour, 7 two-way vehicle trips during the evening peak hour and 126 two-way vehicle trips over the course of a 12 hour day.

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5.19 For convenience, and given the relatively low number of peak hour vehicle trips associated with the Nursing Home, the distribution of these trips is assumed to be the same as that derived for the residential element above.

## 6 ASSESSMENT OF TRAFFIC IMPACT

### Existing Traffic Flows

- 6.1 As previously mentioned, traffic surveys were undertaken in the vicinity of the site during the AM and PM peak hours of Tuesday 24<sup>th</sup> November 2009. The junctions surveyed were agreed with the Highway Authority in advance with the traffic survey data being attached as **Appendix A** of this report.
- 6.2 The existing 2009 peak hour traffic flows across the network in the vicinity of the site are shown on Figure 2.2 and as part of the flow diagrams attached as **Appendix G** of this report.

### Assessment Years and Traffic Growth

- 6.3 It has been agreed with Gloucestershire County Council that the traffic impacts of the development be assessed for the year of application and a date five years thereafter. The assessment years will therefore be 2010 and 2015.
- 6.4 A growth factor therefore needs to be applied to the 2009 surveys so that the likely base traffic flows in the 2010 and 2015 assessment years can be calculated. The TEMPRO trip end model referenced to National Road Traffic Forecast central growth values has been used to calculate the growth factors. For 2009 to 2010 the growth factor is 1.012 while for 2009 to 2015 the growth factor is 1.071 with these values being daily values based on the average of the AM and PM factors. The predicted 2010 and 2015 peak hour traffic flows on the network are shown on the flow diagrams attached as **Appendix G**.
- 6.5 A central growth forecast is considered appropriate in this case as one of the major influences on traffic growth is new development. The proposed Highfield Farm site is likely to be the only major residential development in the area up to the 2015 assessment year and therefore will represent a significant proportion of the growth in traffic flows going forward. Applying a greater growth value to the existing background traffic flows would clearly involve an element of double counting.

### Committed Development

- 6.6 Gloucestershire County Council has requested that the additional traffic flows associated with the proposed extension to the Tesco store on London Road be included within the assessments of traffic impact. The Transport Assessment submitted as part of the Tesco application has been viewed at the Cotswold District Council offices and the number and distribution of the additional vehicle movements associated with the extension identified.
- 6.7 For the Highfield Farm application the weekday AM and PM highway peak hours are to be assessed but unfortunately the Tesco application considered the trading peaks of Friday evening 17.00 to 18.00 and Saturday 12.00 to 13.00. The Tesco Friday evening values can be used directly in the Highfield Farm assessments but these need to be converted through trip rate comparisons to represent the weekday AM peak.
- 6.8 The Tesco Transport Assessment identified weekday AM peak (08.00 to 09.00) trip rates of 4.477 arrivals and 2.841 departures per 100sqm of floor area while the weekday PM peak (17.00 to 18.00) trip rates were identified as being 8.818 arrivals and 8.982 departures per 100sqm of floor area. The difference between the trip rates for the peak hours therefore allows the AM peak turning movements at the Tesco access to be derived from the PM peak turning movements used in the Tesco Transport Assessment as summarised in Table 6.1 below:

	PM Peak Trips from Tesco Transport Assessment	PM to AM Peak Trip Rate Factor	AM Peak Trips Derived from Trip Rate Comparison
Left turn in to Tesco	35	$4.477/8.818 = 0.508$	18
Right turn in to Tesco	60	$4.477/8.818 = 0.508$	30
Left turn out of Tesco	65	$2.841/8.982 = 0.316$	21
Right turn out of Tesco	25	$2.841/8.982 = 0.316$	8

**Table 6.1: Derivation of Tesco Extension AM Peak Trip Numbers**

- 6.9 For simplicity it is assumed that the distribution of arrivals and departures in the AM peak will be the same as that used for the PM peak in the Tesco Transport Assessment.

6.10 The above committed development flows are distributed across the highway network as shown on the flow diagram attached as part of **Appendix G**.

### Junction Assessments

6.11 The Council has requested that three junctions within Tetbury be assessed for both the base case (no development) and the base case with development scenario. In addition, two junctions on the A433 to the north east of Tetbury are also to be assessed. The five junctions are considered separately below.

6.12 The 2010 base assessments provide details of the operation of the existing junctions under current traffic conditions. The 2015 base assessments provide similar information but for the predicted year of completion of the development. The 2015 with development assessments then include the additional traffic flows likely to be generated by the proposed development allowing appropriate comparisons to be made with the base conditions. The traffic flows used in the assessments are therefore those shown in Figures G1, G4 and G6 of the flow sheets attached as **Appendix G**.

#### Long Street/Chipping Street/Church Street Mini Roundabout

6.13 The results of the ARCADY assessments for this junction are attached as **Appendix H** of this report and summarised in **Tables 6.2 and 6.3** below:

Scenario	Approach	Flow to Capacity Ratio	Max Queue (veh)	Max Delay (min/veh)
2010 AM Base	Long Street	0.626	1.7	0.17
	Chipping Street	0.371	0.6	0.24
	Market Place	0.536	1.1	0.24
	Church Street	0.614	1.6	0.25
2015 AM Base	Long Street	0.678	2.1	0.20
	Chipping Street	0.422	0.7	0.27
	Market Place	0.593	1.4	0.28
	Church Street	0.674	2.0	0.29
2015 AM Base + Development	Long Street	0.747	2.9	0.25
	Chipping Street	0.466	0.9	0.32
	Market Place	0.639	1.7	0.33
	Church Street	0.706	2.4	0.33

**Table 6.2: ARCADY Results for Market Place Mini Roundabout (AM Peak)**

Scenario	Approach	Flow to Capacity Ratio	Max Queue (veh)	Max Delay (min/veh)
2010 PM Base	Long Street	0.346	0.5	0.09
	Chipping Street	0.434	0.8	0.20
	Market Place	0.667	2.0	0.34
	Church Street	0.385	0.6	0.16
2015 PM Base	Long Street	0.389	0.6	0.10
	Chipping Street	0.485	0.9	0.23
	Market Place	0.830	4.6	0.61
	Church Street	0.451	0.8	0.19
2015 PM Base + Development	Long Street	0.422	0.7	0.10
	Chipping Street	0.503	1.0	0.25
	Market Place	0.879	6.4	0.79
	Church Street	0.509	1.0	0.22

**Table 6.3: ARCADY Results for Market Place Mini Roundabout (PM Peak)**

- 6.14 The above results indicate that the mini roundabout currently operates well within its theoretical capacity in the AM peak and will continue to do so in the 2015 design year. The additional development flows lead to a small increase in queuing and delays but the overall operation of the junction in the AM peak remains within capacity.
- 6.15 For the PM peak period, the mini roundabout is currently operating within capacity and will continue to do so by 2015. The additional development flows will lead to a slight increase in the Ratio of Flow to Capacity values (RFC) at the junction with that for the Market Place approach reaching 0.879. The difference between the 2015 with and without development assessments is however considered to be negligible.

Long Street/New Church Street/Hampton Street/London Road Priority Junctions

- 6.16 This junction takes the form of two priority junctions located in very close proximity to each other. It has therefore been assessed as two separate junctions but for convenience the results are summarised together in **Tables 6.4 and 6.5** below. The results of the PICADY assessments for this junction are attached as **Appendix I**.
- 6.17 The results identify that the only capacity difficulty encountered in either peak hour is on the New Church Street approach in the AM peak. Here the effects of the development are to increase the RFC from 0.907 to 0.965 and to increase the maximum queue length from approximately 8 to 15 vehicles.

Scenario	Turning Movement	Flow to Capacity Ratio	Max. Queue (veh)	Max. Delay (min/veh)
2010 AM Base	London Road R to New Church St	0.259	0.4	0.15
	New Church St. – L, R	0.815	4.1	0.58
	London Road R to Hampton Street	0.123	0.1	0.11
	Hampton St. – L, R	0.473	0.9	0.21
2015 AM Base	London Road R to New Church St	0.291	0.4	0.16
	New Church St. – L, R	0.907	8.3	1.08
	London Road R to Hampton Street	0.137	0.2	0.11
	Hampton St. – L, R	0.722	2.5	0.41
2015 AM Base + Development	London Road R to New Church St	0.361	0.6	0.18
	New Church St. – L, R	0.965	14.8	1.87
	London Road R to Hampton Street	0.160	0.2	0.12
	Hampton St. – L, R	0.756	3.0	0.48

**Table 6.4: PICADY Results for London Rd/Long St Priority Junctions (AM Peak)**

Scenario	Turning Movement	Flow to Capacity Ratio	Max. Queue (veh)	Max. Delay (min/veh)
2010 PM Base	London Road R to New Church St	0.439	0.8	0.19
	New Church St. – L, R	0.441	0.8	0.20
	London Road R to Hampton Street	0.248	0.3	0.13
	Hampton St. – L, R	0.293	0.4	0.15
2015 PM Base	London Road R to New Church St	0.519	1.1	0.24
	New Church St. – L, R	0.526	1.1	0.23
	London Road R to Hampton Street	0.295	0.4	0.14
	Hampton St. – L, R	0.341	0.5	0.17
2015 PM Base + Development	London Road R to New Church St	0.573	1.3	0.26
	New Church St. – L, R	0.578	1.4	0.28
	London Road R to Hampton Street	0.312	0.5	0.14
	Hampton St. – L, R	0.365	0.6	0.18

**Table 6.5: PICADY Results for London Rd/Long St Priority Junctions (PM Peak)**

London Road/Quercus Road/Site Access Roundabout

6.18 The results of the ARCADY assessments for this junction are attached as **Appendix J** of this report and summarised in **Tables 6.6 and 6.7** below:

Scenario	Approach	Flow to Capacity Ratio	Max Queue (veh)	Max Delay (min/veh)
2010 AM Base	London Road (east)	0.252	0.3	0.06
	Quercus Road	0.008	0.0	0.05
	London Road (west)	0.413	0.7	0.07
	Site Access	-	-	-
2015 AM Base	London Road (east)	0.279	0.4	0.07
	Quercus Road	0.008	0.0	0.05
	London Road (west)	0.442	0.8	0.08
	Site Access	-	-	-
2015 AM Base + Development	London Road (east)	0.307	0.4	0.07
	Quercus Road	0.009	0.0	0.05
	London Road (west)	0.473	0.09	0.08
	Site Access	0.193	0.2	0.07

**Table 6.6: ARCADY Results for London Rd/Quercus Rd Roundabout (AM Peak)**

Scenario	Approach	Flow to Capacity Ratio	Max Queue (veh)	Max Delay (min/veh)
2010 PM Base	London Road (east)	0.354	0.5	0.06
	Quercus Road	0.031	0.0	0.05
	London Road (west)	0.229	0.3	0.05
	Site Access	-	-	-
2015 PM Base	London Road (east)	0.397	0.7	0.07
	Quercus Road	0.034	0.0	0.05
	London Road (west)	0.254	0.3	0.05
	Site Access	-	-	-
2015 PM Base + Development	London Road (east)	0.430	0.8	0.07
	Quercus Road	0.036	0.0	0.06
	London Road (west)	0.305	0.4	0.06
	Site Access	0.077	0.1	0.06

**Table 6.7: ARCADY Results for London Rd/Quercus Rd Roundabout (PM Peak)**

6.19 The above results indicate that the roundabout currently operates well within its theoretical capacity and will continue to do so in the 2015 design year. The additional traffic flows associated with the Highfield Farm development have little effect with the maximum RFC not exceeding 0.473 on any approach in either peak hour.

A433/Kemble Lane Crossroads

6.20 The results of the PICADY assessments for this junction are attached as **Appendix K** and summarised in **Tables 6.8 and 6.9** below.

Scenario	Turning Movement	Flow to Capacity Ratio	Max. Queue (veh)	Max. Delay (min/veh)
2010 AM Base	A433 (E) R towards (N)	0.009	0.0	0.11
	Unnamed (N) – A, L, R	0.085	0.1	0.18
	A433 (W) R towards Kemble (S)	0.065	0.1	0.11
	Kemble Lane – A, L, R	0.257	0.3	0.19
2015 AM Base	A433 (E) R towards (N)	0.009	0.1	0.11
	Unnamed (N) – A, L, R	0.092	0.1	0.19
	A433 (W) R towards Kemble (S)	0.070	0.1	0.11
	Kemble Lane – A, L, R	0.278	0.4	0.20
2015 AM Base + Development	A433 (E) R towards (N)	0.010	0.1	0.12
	Unnamed (N) – A, L, R	0.096	0.1	0.20
	A433 (W) R towards Kemble (S)	0.074	0.1	0.11
	Kemble Lane – A, L, R	0.289	0.4	0.21

**Table 6.8: PICADY Results for A433/Kemble Lane Crossroads (AM Peak)**

6.21 The results indicate that the existing crossroads junction currently operates with only very minimal queuing and delay in both peak hours. This situation will not change as a consequence of traffic growth up to the 2015 design year.

6.22 The additional traffic flows associated with the Highfield Farm development lead to a very minor change in the operation of the junction with the worst case RFC on the Kemble Lane approach during the AM Peak only increasing from 0.278 to 0.289.

Scenario	Turning Movement	Flow to Capacity Ratio	Max. Queue (veh)	Max. Delay (min/veh)
2010 PM Base	A433 (E) R towards (N)	0.025	0.3	0.10
	Unnamed (N) – A, L, R	0.015	0.0	0.13
	A433 (W) R towards Kemble (S)	0.060	0.1	0.12
	Kemble Lane – A, L, R	0.165	0.2	0.17
2015 PM Base	A433 (E) R towards (N)	0.027	0.0	0.10
	Unnamed (N) – A, L, R	0.15	0.0	0.13
	A433 (W) R towards Kemble (S)	0.064	0.1	0.12
	Kemble Lane – A, L, R	0.177	0.2	0.18
2015 PM Base + Development	A433 (E) R towards (N)	0.029	0.0	0.10
	Unnamed (N) – A, L, R	0.015	0.0	0.13
	A433 (W) R towards Kemble (S)	0.067	0.1	0.12
	Kemble Lane – A, L, R	0.185	2.3	0.18

**Table 6.9: PICADY Results for A433/Kemble Lane Crossroads (PM Peak)**

A433/A429 Priority Junction Southwest of Cirencester

- 6.23 Given the remoteness of this junction from the Highfield Farm development site in Tetbury (approximately 12.5km) and the potential for development trips to disperse away from the A433 over this distance, it is considered appropriate first to assess the junction on a percentage impact basis.
- 6.24 The total traffic flows through the junction under the various assessment scenarios are shown in **Table 6.10** below together with the percentage increase in these flows associated with the proposed development.

	Total Traffic Flows	
	AM Peak	PM Peak
2010 Base	1,352	1,264
2015 Base	1,430	1,337
2015 Base + Development	1,500	1,401
Percentage Increase	4.9%	4.8%

**Table 6.10: Total Flows at A433/A429 Junction**

- 6.25 The increase in traffic flows through the A433/A429 junction as a consequence of the proposed development does not exceed 5% in either peak hour. It should also be noted that the trip rates used for the Highfield Farm, Tetbury site are very robust with the associated with development traffic flows assuming that all development trips remain on the A433 over the full 12.5km distance to the A429 junction. This in itself is considered extremely unlikely.
- 6.26 Notwithstanding the above, a PICADY assessment for this junction has been undertaken with the results attached as **Appendix L** and summarised in **Tables 6.11** below and **6.12** below.

Scenario	Turning Movement	Flow to Capacity Ratio	Max. Queue (veh)	Max. Delay (min/veh)
2010 AM Base	A429 (S) – L, R	0.882	6.3	1.42
	A433 (W) – R to A429	0.002	0.0	0.11
2015 AM Base	A429 (S) – L, R	0.964	12.2	2.60
	A433 (W) – R to A429	0.002	0.0	0.11
2015 AM Base + Development	A429 (S) – L, R	0.998	16.5	3.47
	A433 (W) – R to A429	0.002	0.0	0.11

**Table 6.11: PICADY Results for A433/A429 Priority Junction (AM Peak)**

- 6.27 The results indicate that the junction currently operates in excess of its theoretical capacity in the AM Peak hour. Traffic growth to 2015 is likely to exacerbate this situation with the addition of the development flows taking the capacity close to its physical limit.

Scenario	Turning Movement	Flow to Capacity Ratio	Max. Queue (veh)	Max. Delay (min/veh)
2010 AM Base	A429 (S) – L, R	0.634	2.0	0.46
	A433 (W) – R to A429	0.006	0.0	0.12
2015 AM Base	A429 (S) – L, R	0.689	2.2	0.56
	A433 (W) – R to A429	0.006	0.0	0.12
2015 AM Base + Development	A429 (S) – L, R	0.705	2.3	0.60
	A433 (W) – R to A429	0.006	0.0	0.12

**Table 6.12: PICADY Results for A433/A429 Priority Junction (PM Peak)**

- 6.28 In comparison to the AM peak hour; the results for the PM peak indicates that the junction will operate within its theoretical capacity under all flow scenarios.

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## 7 SUMMARY AND CONCLUSIONS

### Summary

- 7.1 This Transport Assessment has been prepared in support of a planning application for the proposed construction of a residential led development on land at Highfield Farm, Tetbury in Gloucestershire.
- 7.2 The report has examined the potential highway and transportation impacts associated with the development proposals. The existing transport conditions in the vicinity of the site have been described, including a review of the accessibility of the site by the more sustainable modes of transport and a review of personal injury accident data on the local highway network.
- 7.3 The anticipated vehicular trip generation of the proposals have been determined, and the potential traffic impact of the development proposals discussed.

### Conclusions

- 7.4 The conclusions of this Transport Assessment are:
- The site is considered to be in a sustainable location being situated within a comfortable walking and cycling distance of all parts of Tetbury, and with a reasonable level of accessibility to and by public transport.
  - There are no particular accident problems associated with the local highway network;
  - The development is not expected to significantly increase traffic flows on the local highway network beyond the existing weekday peak hour volumes; and
  - The junction assessments identify that the likely additional traffic flows generated by the proposed development are capable of being accommodated on the existing highway network without the need for significant highway improvements.
- 7.5 FMW considers that there are no highway or transportation matters to direct against development of the proposed site for 270 residential units and a 70 bed Nursing Home.

## FIGURES

## APPENDICES

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## **APPENDIX A**

### **Traffic Survey Data**

## **APPENDIX B**

### **Personal Injury Accident Locations**

## **APPENDIX C**

### **Indicative Layout Plan**

## **APPENDIX D**

### **Framework Travel Plan**

## **APPENDIX E**

### **TRICS Outputs**

## **APPENDIX F**

### **Census Trip Distribution Information**

## **APPENDIX G**

### **Traffic Flow Diagrams**

## **APPENDIX H**

### **ARCADY Results for Long St/Chipping St/Church St Junction**

## **APPENDIX I**

### **PICADY Results for Long St/London Rd/Hampton St Junctions**

## **APPENDIX J**

### **ARCADY Results for London Rd/Quercus Rd/Access Junction**

## **APPENDIX K**

### **PICADY Results for A433/Kemble Lane Junction**

**APPENDIX L**

**PICADY Results for A433/A429 Junction**