



BELLIS BROS LTD

PROPOSED RESIDENTIAL DEVELOPMENT

ROSSETT ROAD

ROSSETT

Transport Assessment

November 2018

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1 EXECUTIVE SUMMARY

- 1.1.1 Following submission of the Transport Assessment, various comments have been received from the local highway authority's engineer. The latest comments received (dated 11th September 2018) were the subject of a meeting held with the Council's highways department and planning case officer on 11th October 2018.
- 1.1.2 The application sites form part of the Council's 'draft' allocation plan for residential development.
- 1.1.3 The highways consultation response confirmed that adequate access could be achieved on Rossett Road with appropriate visibility splays, providing a safe and efficient means of access. The introduction of street lighting along the site frontage will automatically introduce a 30mph speed limit, with a view to this being reduced further to 20mph, as part of the 'Safe Routes for Schools' initiative being pursued by the Council.
- 1.1.4 In his response, the highways officer also raised concerns to the baseline survey data, which was collected in 2015 and in his view potentially no longer representative of current traffic flows. As such, an Automatic Traffic Counter was installed on Chester Road and the new survey data showed that contrary to expectations, there had been a reduction in traffic since 2015. On that basis, the highways officer confirmed that the original survey data was still valid and suitable for use for the capacity assessments. It was requested that assessments be undertaken for 2028 scenario.
- 1.1.5 The highways officer has continued to raise concerns in respect to the lack of footway provision in the area and in particular along Holt Road between its junction with Chapel Street and The Green. While a number of potential improvements options were put forward in previous revisions of the TA, the highways officer confirmed at the meeting that given the reduction in speed limit through the village and the fact that walking routes through Trevalyn Way, the adjoining residential development to the west of the southern site are comparable, it is considered likely that other, safer routes exist and so the increase in footfall as a result of the proposals is unlikely to give rise to any road safety issues or detrimental impact on personal injury accidents.

- 1.1.6 In addition to the above, the proposals include a range of elements that will benefit not only residents at the site but the wider community as well. These include the provision of 3 metre shared pedestrian/cycle links along the northern sites' western boundary, which with additional improvements to the footways on Trevalyn Hall View will improve access to St Peters Primary School. The new route will extend all the way to Darland View, with potential for a direct link to the school to be created, subject to further discussions. The proposals also include improvements to the existing car park (which will be maintained by a private management company) and bring benefit to the existing residents on Trevalyn Hall View and provide off-road parking for people during school drop off and pick up times.
- 1.1.7 Walking and cycling will be promoted and encouraged through the Travel Plan that will be implemented across both sites and this will include a residents 'Welcome Pack' that will include plans and maps showing the safest/quickest walking and cycling routes to schools, local shops and amenities.
- 1.1.8 In light of the above, this version of the Transport Assessment incorporates all of the matters raised during the meeting and demonstrates that the proposals will not give rise to any highways related issues and will assist in delivering a highly sustainable development, as set out in the National Planning Policy Framework.

2 INTRODUCTION

2.1 Introduction

2.1.1 Croft have been commissioned by Bellis Bros Ltd to produce a Transport Assessment and Travel Plan to support a planning application relating to proposals to develop two sites off Rossett Road in Rossett for residential development.

2.1.2 The application site comprises two separate parcels of land, bisected by the B5102 Rossett Road, which are located approximately 800 metres to the north-east of the village and approximately 10.5 kilometres to the north of Wrexham town centre.

2.1.3 Following additional comments received from the highway officer at the Council following submission, the report has been revised to take account of the issues raised.

2.2 Summary of Proposals

2.2.1 It is proposed to develop both sites, to deliver a combined total of 132 residential dwellings, along with associated car parking, landscaping and areas of public open space.

2.2.2 Vehicular access to both sites is proposed via two new priority controlled junctions directly off Rossett Road, thus forming a staggered crossroads arrangement.

2.3 Scope of Report

2.3.1 This report has been prepared to consider the proposed development in transport and highways terms, in order to provide the necessary reassurance to the local highway authority that the proposals can be delivered in a sustainable manner and be accommodated by the local transport network.

2.3.2 A Framework Travel Plan has also been prepared to ensure that travel to and from the site by sustainable modes is maximised.

2.3.3 In light of the above, the scope of this Transport Assessment has been agreed with the local highway authority, Wrexham County Borough Council, (WCBC).

2.4 Structure of Report

- 2.4.1 Following this introduction, Section 3 of the Report details the existing site conditions and describes the adjacent highway network. Section 4 provides details of the proposed development including vehicular access.
- 2.4.2 Section 5 of the report briefly considers the aspects of national and local planning policy which are relevant to the proposals, including consideration of the proposed Traffic Regulation Orders, which will change the traffic flows on the network, as a sensitivity test.
- 2.4.3 Section 6 considers the accessibility of the site by non-car modes, including walking, cycling and public transport, including details of the walking routes, distances and walking times to local facilities in the village.
- 2.4.4 Section 7 considers the trip generation and traffic impact assessment of the local highway network, while Section 8 provides an analysis of road safety in the vicinity of the site.
- 2.4.5 Section 9 contains details of the Framework Travel Plan and Section 10 draws together the Report's findings and conclusions.

3 EXISTING CONDITIONS

3.1 Introduction

3.1.1 This section of the report provides an overview of the current conditions on the highway network within the vicinity of the sites.

3.2 Existing Site

3.2.1 The application refers to land either side of the B5102 Rossett Road, located approximately 800 metres to the north-east of the centre of the village and approximately 10.5 kilometres to the north of Wrexham town centre, as shown in **Plan 1**.

3.2.2 The site is split into two parcels of land, one north of Rossett Road, which extends to around 6.9 hectares and one to the south, comprising approximately 8.5 hectares. The two sites are identified in **Figure 2.1** below.

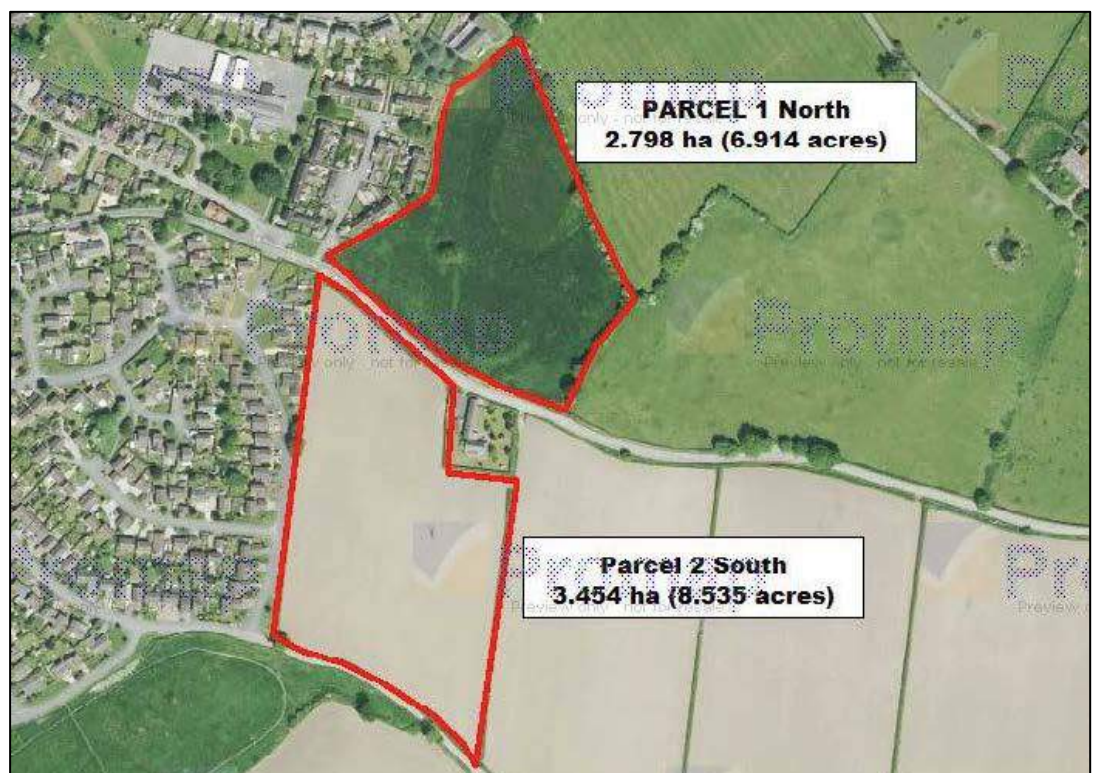


Figure 2.1 – The Application Sites

- 3.2.3 For the purpose of this report, the sites will be referred to as the northern site and the southern site.
- 3.2.4 The northern site is bordered to the south by the B5102 Rossett Road, while existing residential properties on Waverley Crescent are situated along the site's western boundary. Open land lies to the north and north-east of the site.
- 3.2.5 Rossett Road forms the northern border of the southern site, while a single residential dwelling (Lane Farm) is located in the north-eastern corner. Residential properties along Trevalyn Way are situated directly to the west of the site, while Harwood's Lane forms the sites boundary to the south. Undeveloped open land lies to the immediate east of the site.

3.3 Adjacent Highway Network

- 3.3.1 The B5102 Rossett Road runs in a broadly east-west alignment and borders each of the sites, as detailed above. From the east of the site, the B5102 continues in a south-easterly direction and links to Holt and Farndon approximately 6 kilometres away, while to the west, the B5102 links the site to Llay and beyond that, Cefn-y-Bedd, which is approximately 5 kilometres from the site.
- 3.3.2 A gateway entry feature and associated traffic calming is located on Rossett Road, adjacent to Lane Farm, as shown in **Figure 2.2** below.



Figure 2.2 – View along Rossett Road (looking west)

- 3.3.3 The existing 30mph speed limit commences just to the west of both sites, and the carriageway between the two sites is subject to further traffic calming, as shown in **Figure 2.3** below.



Figure 2.3 – View further along Rossett Road (looking west)

- 3.3.4 The traffic calming takes the form coloured surfacing along the carriageway centreline and road humps for a distance of approximately 200 metres. Just prior to the 30mph speed limit, there are high-sided containment kerbs and ‘*dragons-teeth*’ carriageway markings, although it is noted that these are in a poor state of repair.
- 3.3.5 However, the speed limits in the area are currently under review and the new limit at this location will be 20mph.
- 3.3.6 Following discussions with the Traffic Management officer at the Council, there is potential for the 20mph limit to commence to the south of the application site boundary and continue along the site frontage, but this will need to be discussed and agreed with WCBC further along the planning process.
- 3.3.7 From the site, the B5102 Rossett Road, continues in a westerly direction and forms the major arm of a priority junction with a short stretch of road which links to the B5445 Chester Road.

- 3.3.8 From this point, it continues westwards before forming the minor arm of another priority controlled junction with the B5445 Chester Road, adjacent to The Butchers Arms Public House.

3.4 Potential Modifications to Existing Traffic Regulation Orders

- 3.4.1 During discussions with the highways officer, it is understood that the traffic section is currently reviewing existing traffic regulation orders in the vicinity of the site with a view to potentially introducing a 'No Entry' at the Chester Road/The Green junction (the short link between Chester Road and Holt Road), with a possible one-way operation from Chester Road along The Green in a southbound direction. This would have no impact on traffic arriving at the site, but would mean that all traffic bound for Chester Road leaving the site would have to continue along Holt Road to the B5102 Holt Road/B5445 Chester Road junction, located to the west.
- 3.4.2 However, it is understood that discussions are in their early stages and in any event would be subject to a consultation period.
- 3.4.3 Notwithstanding the above, to demonstrate that any Traffic Regulation Order modifications in the village would not result in any additional off-site impact a sensitivity test has been included in Section 7 of this revised TA, assuming that all traffic leaving the site and accessing Chester Road would do so via the Holt Road to the B5102 Holt Road/B5445 Chester Road junction.
- 3.4.4 As the scheme is not yet committed, this is considered to provide a reasonable approach to inform highways officers of its potential implications.

3.5 Baseline Transport Data

- 3.5.1 The two sites are currently undeveloped, and so apart from any associated agricultural traffic, do not generate any traffic movements.

4 CONSIDERATION OF PLANNING POLICY

4.1 Introduction

4.1.1 The national policy presented in this document focuses on the Planning Policy Wales document which was published in November 2012 and sets out the Welsh Assembly's planning policies for achieving sustainable development.

4.1.2 In addition to the above, further reference has been made to the following documents;

- Technical Advice Note 18: Transport' and North Wales Regional Transport Plan;
- North Wales Regional Transport Plan, TAITH 2009; and
- North Wales Regional Transport Plan, Walking & Cycling Strategy.

4.1.3 This section will briefly review relevant transportation policy and demonstrate that the proposed development will be in accordance with that policy.

4.2 National Policy

Planning Policy Wales

4.2.1 The 'Planning Policy Wales' (PPW) document sets out the planning policies on the delivery of sustainable development through the planning system.

4.2.2 With regard to transport policy it aims to extend choice in transport and secure accessibility in a way which supports sustainable development and helps to tackle the causes of climate change.

4.2.3 Within the Transport chapter of the PPW it states that land-use planning can help achieve the Welsh Government's objectives for transport through the following;

- Reducing the need to travel, especially by private car, by locating development where there is good access by public transport, walking and cycling;

- Locating development near other related uses to encourage multi-purpose trips to reduce the length of journeys;
- Improving accessibility by walking, cycling and public transport;
- Ensuring that transport is accessible to all, taking into account the needs of disabled and other less mobile people.
- Promoting walking and cycling.
- Supporting the provision of high quality public transport;
- Supporting traffic management measures;
- Promoting sustainable transport options for freight and commerce;
- Supporting sustainable travel options in rural areas;
- Supporting necessary infrastructure improvements; and
- Ensuring that, as far as possible, transport infrastructure does not contribute to land take, urban sprawl or neighbourhood severance.

Technical Advice Note 18 (TAN 18) - Transport

4.2.4 Technical Advice Note 18 (TAN 18) Transport document which was published in March 2007 and is a supplementary document to 'Planning Policy Wales'. TAN 18 provides national policy guidance relating to a variety of transport related issues including the preferred location for new development and transport guidance on how the objectives of the PPW should be achieved.

4.2.5 In terms of guidance specifically related to the proposed development, it states that;

"Development in rural locations should embody sustainable principles, balancing the need to support the rural economy, whilst maintaining and enhancing the environmental, social and cultural quality of rural areas".

- 4.2.6 The site's accessibility credentials are detailed in Section 5, but in summary, the site is well placed to provide residents a choice about how they travel with good opportunities for sustainable travel. The proposed upgraded and new footpath links to St Peters Primary School and Darland High School will assist in delivering this goal, improve connectivity to existing infrastructure and provide a safe continuous walking route to the local public transport network and local facilities.
- 4.2.7 The proposed 3 metre pedestrian/cycleway running along the sites western boundary will create an attractive route and further enhance the existing pedestrian and cyclist infrastructure.
- 4.2.8 TAN 18 discusses the general importance of promoting the integration between transport and land use planning, so as to contribute to the delivery of the key objective of sustainability.
- 4.2.9 In order to facilitate better integration, TAN 18 discusses the importance of managing parking provision and ensuring that new development appropriately provides for pedestrians and cyclists.
- 4.2.10 As already stated above, Section 5 of this TA discusses access to the proposed site via different modes of transport and details the proposed improvements to pedestrian infrastructure.
- 4.2.11 Section 6 of TAN 18 explains that it is imperative that local councils take walking and cycling into consideration when assessing planning applications. This will be addressed in Sections 4 and 5 of this Transport Assessment and the implementation of the Travel Plan at both sites will allow the use of sustainable travel modes to be encouraged and maximised, thus assisting to deliver a highly sustainable development.
- 4.2.12 Section 9 of TAN 18 confirms the need for Transport Assessments (TA) to be produced when a development is likely to result in significant trip generation. As such, the preparation of this TA to accompany the planning application is fully compliant with these requirements.

North Wales Regional Transport Plan, TAITH 2009

- 4.2.13 The North Wales Regional Transport Plan (NWRTP) was adopted in September 2009 and outlines the strategic vision for transport of six Local Authorities in the North Wales area; namely Anglesey, Conwy, Denbighshire, Gwynedd, Flintshire and Wrexham Councils.
- 4.2.14 The document outlines the local authorities' transport strategy for the next 25 years in the context of national policy as well as the social and economic aspirations of the six local authorities. The overall vision of the NWRTP is summed up as follows *"TAITH will deliver safe, sustainable and efficient transport networks to support the economic and social activities of North Wales' diverse communities and businesses having regard to its strategic European role"*.
- 4.2.15 The document includes seven main objectives, two of which are directly relevant to the proposed development and are to:-
- *"Optimise accessibility to employment, education, health and services for all the diverse communities in North Wales"*. This TA demonstrates that the proposed site is suitably located for residents to access local facilities, services and areas of employment in the local area.
 - *"Provide, promote and improve sustainable forms of transport and infrastructure to minimise the negative impacts of transport on the local and global environment"*. The TP submitted in conjunction with this TA helps to support this objective by actively promoting and encouraging the use of sustainable modes of transport to travel to and from the site".

North Wales Regional Transport Plan, Walking & Cycling Strategy

- 4.2.16 The overall aim of the strategy is to encourage more people to walk or cycle for journeys, such as the commute to work and school, trips to local shops, leisure and health facilities and for leisure activities.

- 4.2.17 The document discusses '*smarter choices*' which are defined as '*imaginative ways of encouraging efficient and sustainable ways of travel*'. Section 3 of the TP submitted in support of this outline planning application proposes a variety of measures that may be implemented to support sustainable transport choices and, in turn, support the overall aim of the NWRTP walking and cycling strategy.
- 4.2.18 The document states that "*the facilitation of the needs of pedestrian and cyclists should be given priority over those of other road users for local trips and it should never be something that is just considered as an after-thought*". Again, Chapter 3 of the TP demonstrates a commitment to promoting the use of cycle and pedestrian access to the site.
- 4.2.19 One of the objectives of the strategy is to "*Encourage modal shift to healthier forms of transport to contribute towards climate change targets and reduction in CO2 emissions*". Section 4 of the TP considers a modal shift target for the proposed development.
- 4.2.20 As already stated the provision of 3 metre shared pedestrian/cycleways within the site behind the hedgerows will create safe routes for residents and the proposed off-site improvement works and new zebra crossing will enhance road safety and provide benefit not only for new residents but for the wider

4.3 Planning Policy Summary

- 4.3.1 Reference to national guidance has helped to establish that the site is well related to the surrounding area and will contribute towards the creation of a sustainable development.
- 4.3.2 The proposed pedestrian and cyclist improvements will improve connectivity and the new zebra crossing will have a positive benefit on road safety. This will be assisted further by the Councils intended implementation of a 20mph zone along Rossett Road and Chapel Lane.
- 4.3.3 A Travel Plan for residents will be implemented at both sites to ensure the use of non-car modes is maximised while reducing dependence on the private car.
- 4.3.4 It can therefore be concluded that the proposed development accords with national policy and will assist in delivering a highly sustainable development.

5 PROPOSED DEVELOPMENT

5.1 Development Proposals

5.1.1 It is proposed to develop the two sites to provide a total of approximately 132 residential dwellings across the two sites, with associated car parking and landscaping. The proposed Masterplan for the site showing the internal layout is shown in **Plan 2**. More specifically, it is proposed to develop the northern site with around 61 dwellings comprising the following mix of house types;

- Two bed terrace - 10 units;
- Three bed terrace - 28 units;
- Three bed semi-detached - 4 units; and
- Four bed detached - 19 units.

5.1.2 The southern site will be developed in a similar manner and will comprise approximately 71 units. The proposed mix of dwellings includes;

- Two bed terrace - 2 units;
- Three bed terrace - 32 units;
- Three bed semi-detached - 9 units; and
- Four bed detached - 28 units.

5.2 Vehicular Access

5.2.1 Vehicular access to the site will be taken from two locations on Rossett Road, with one serving the northern site and the other serving the site to the south. The proposed priority-controlled site access junctions and other off-site works including footpath improvements and a new zebra crossing (to replace the existing sub-standard crossing) are shown in **Plan 3**.

- 5.2.2 The proposed junction layouts show that visibility splays of 2.4 metres by 70 metres can be achieved in both directions from each access, which are commensurate with traffic speeds of 30mph based on the guidance set out in DMRB.
- 5.2.3 The highways officer has confirmed in the latest correspondence that *“It would be possible to provide the required visibility splays based on speeds of 30mph for both proposed access points subject to modifications to the existing hedgerow”*.
- 5.2.4 As already stated, it is proposed to implement the 30mph or 20mph speed limit to the south of our site, meaning the splays shown are more than adequate. The frontage development and introduction of the new points of access on Rossett Road are also likely to have a positive effect on this part of the road network, as it will change the nature of the road and surroundings and help to create a more residential/street feel to the local environment.
- 5.2.5 In relation to the above, the highways officer has confirmed that *“Any proposed modifications to the speed limit along this section of Holt Road will need to be agreed with our traffic section and will require public consultation. I assume that if the application is to be supported, a Grampian style condition will be required in respect of lowering the speed limit to 30mph (or 20mph) along this section of Holt Road subject to public consultation”*.
- 5.2.6 However, during the meeting with the highways officer, it was confirmed that the introduction of street lighting on Rossett Road along the site frontage would mean the speed limit would automatically be reduced to 30mph and as such no consultation would be required. The limit could still be reduced further down to 20mph should this be deemed necessary by the local highway authority. The re-location of the speed limit further away from the village and the introduction of the two new junctions, will mean vehicle speeds will be reduced sooner than they are at present, meaning vehicles will have significantly reduced in speed by the time they approach the village.
- 5.2.7 The highways officer confirmed that a speed limit reduction would be considered favourably and would comply with the Councils current ‘Safe Route to Schools Strategy’.

- 5.2.8 It is therefore considered that the development proposals will have a beneficial impact on overall traffic conditions and provide a more conducive environment for pedestrians, thus enhancing overall road safety in the area.

5.3 Servicing

- 5.3.1 In order to demonstrate that the site can be adequately serviced, a swept path analysis for an 11.2 metre refuse vehicle (confirmed by WCBC as being the appropriate vehicle) has been undertaken and shown in **Plan 4**.
- 5.3.2 The internal layout has been designed to facilitate such vehicles and allow them to enter the site, turn around and exit in a forward gear. This will ensure there is no detrimental impact to the adjoining highway or result in any road safety issues.

5.4 Pedestrian and Cycle Access

- 5.4.1 The main point of pedestrian and cycle access will be from the main access points on Rossett Road, although to maximise permeability at the southern site, further pedestrian/cyclist access is proposed at two locations off Trevalyn Way, with a further one being provided directly onto Harwood Lane, located on the southern boundary.
- 5.4.2 The internal layout of both sites has been designed to provide a safe environment for pedestrians and cyclists with clearly defined walkways, crossing points and speed reducing features where appropriate.
- 5.4.3 Shared pedestrian/cycleways of 3 metres in width will be provided along each site frontage, within the site, to the rear of the existing hedgerow.
- 5.4.4 In addition to the above, the proposals include a range of elements that will benefit not only residents at the site but the wider community as well. These include the provision of 3 metre shared pedestrian/cycle links along the northern sites' western boundary, which with additional improvements to the footways on Trevalyn Hall View will improve access to St Peters Primary School.

- 5.4.5 The new route will extend all the way to Darland View, with potential for a direct link to the school to be created to Darland School, subject to further discussions.
- 5.4.6 The proposals also include improvements to the existing car park (which will be maintained by a private management company) and bring benefit to the existing residents on Trevalyn Hall View and provide off-road parking for people during school drop off and pick up times.
- 5.4.7 During discussions with regard to the above, it has been established that some of the land required is currently under the ownership of the Councils' Housing Department and so these works have been discussed and agreed in principle with the relevant officers at WBC, as confirmed in correspondence within **Appendix 1**. The correspondence also confirms that the improved footpaths would be dedicated over as highway land, so they can be maintained by the Council. It is anticipated that the works will be implemented via a combination of Section 278 and Section 38 agreements, although the precise details will need to be discussed and agreed with the local planning and highway authority.
- 5.4.8 In addition to the above, a new zebra crossing is proposed as shown in Plan 3, which will replace the existing sub-standard crossing point on Holt Road. However, at the meeting the highways officer suggested that a new zebra crossing at this location may be implemented as part of the Councils' 'Safer Routes to Schools' initiatives. While this has not yet been confirmed, the applicant is willing to fund the new crossing facility, should it ultimately not form part of the Councils improvement scheme.
- 5.4.9 This provision will ensure there is safe route to St Peter's Primary School, not just for residents at the development but for existing residents as well and will allow the potential for walking and cycling trips to and from the site to be maximised, as will be promoted through the Travel Plan for the site. The improvements proposed will ensure that existing pedestrian infrastructure is substantially improved in this area.
- 5.4.10 A public right of way runs along the eastern boundary of the southern site and extends in a north-south direction from Lane Farm, all the way down to Trevalyn Lane. This will be retained as part of the proposals, with a link from the development being provided via a kissing gate or similar.

6 ACCESSIBILITY BY NON CAR MODES

6.1 Introduction

6.1.1 The Welsh Government aims to extend choice in transport and secure accessibility in a way which supports sustainable development and helps to tackle the causes of climate change by;

“Encouraging a more effective and efficient transport system, with greater use of the more sustainable and healthy forms of travel, and minimising the need to travel. This will be achieved through integration:

- *within and between different types of transport;*
- *between transport measures and land use planning;*
- *between transport measures and policies to protect and improve the environment; and*
- *between transport measures and policies for education, health, social inclusion and wealth creation”.*

6.1.2 Land use planning can help to achieve the Welsh Government’s objectives for transport through:

- *reducing the need to travel, especially by private car, by locating development where there is good access by public transport, walking and cycling;*
- *locating development near other related uses to encourage multi-purpose trips and reduce the length of journeys;*
- *improving accessibility by walking, cycling and public transport;*
- *ensuring that transport is accessible to all, taking into account the needs of disabled and other less mobile people;*
- *promoting walking and cycling;*
- *supporting the provision of high quality public transport;*
- *supporting traffic management measures;*
- *promoting sustainable transport options for freight and commerce;*
- *supporting sustainable travel options in rural areas;*

- *supporting necessary infrastructure improvements; and*
- *ensuring that, as far as possible, transport infrastructure does not contribute to land take, urban sprawl or neighbourhood severance.*

6.1.3 New proposals should therefore attempt to influence the mode of travel to the development in terms of gaining a shift in modal split towards non-car modes, thus assisting in meeting the aspirations of current national and local planning policy.

6.1.4 To demonstrate the above, the accessibility of the proposed site has been considered by the following modes of transport:

- Accessibility on foot.
- Accessibility by cycle.
- Accessibility by bus.
- Accessibility by rail.

6.2 Accessibility on Foot

6.2.1 It is important to create a choice of direct, safe and attractive routes between where people live and where they need to travel in their day-to-day life. This philosophy clearly encourages the opportunity to walk whatever the journey purpose and also helps to create more active streets and a more vibrant neighbourhood.

6.2.2 Footways of 2 metres in width will be provided within the development and will connect in to the existing provision at the Rossett Road/Chapel Lane junction. The provision of a new zebra crossing at this location will significantly improve the current provision, which is substandard and have a positive impact on road safety.

6.2.3 During the pre-application process, the highway officer raised concerns over the availability of safe walking routes in the vicinity of the site and stated that;

“The main bus stop serving Wrexham and Chester are located on the B5445 Chester Road. It is highly likely that anyone wishing to access these bus stops on foot from the proposed development sites (north and south) will walk along the B5102 Holt Road or Chapel Lane”.

Both Holt Road and Chapel Lane have limited footway provision leading to Chester Road and some sections have no footway provision which is a concern in highway/pedestrian safety terms.

During a site visit on 07/03/2016 between 08:20 – 09:00, a significant number of schoolchildren on their way to Darland School were observed walking from the Rossett Shops along Holt Road in order to cut through the footpath running through St. Peters School. Vehicles including cars and HGVs travelling along this section of Holt Road had to slow down as school children walked along the carriageway due to the lack of adequate footway provision.

I therefore raise serious concerns regarding the proposed increase in vehicle & pedestrian movements likely to be generated by the development site given the significant lack of suitable pedestrian provision/footways along both Holt Road and Chapel Lane. I would recommend that you give serious consideration to proposed measures to address these concerns.

Although a number of highway improvements have been proposed as part of the proposed development, the above issues along Rossett Road and Chapel Lane are still a concern. These issues will inevitably be raised by objectors to the scheme as part of the planning process”.

- 6.2.4 As set out in the previous Section, the proposals seek to address these issues by the provision of upgraded and new footpath links to both St Peters Primary School and Darland High School.
- 6.2.5 It is also worth noting that during the pre-application process, a number of footway improvements were discussed with the highways officer including the creation of a new footway along Holt Road between Chapel Lane and The Green.

- 6.2.6 Indeed, a potential improvement was also discussed in relation to Chapel Lane where the provision of a pedestrian walking strip (demarcated with white lining) was also discussed with a view to improving the safety of people walking along this route, particularly school children.
- 6.2.7 However, having considered such improvements, it was later confirmed by the highways officer that while a potential scheme was prepared *“It would appear difficult for the developer to carry out any footway pedestrian improvements along this section of Holt Road and Chapel Lane due to limited carriageway and verge widths”*.
- 6.2.8 In acknowledgment that Chapel Lane only permits ‘Access Only’ vehicular traffic and is subject to a 20mph speed limit, it was agreed that such provision was not required.
- 6.2.9 It is also worth noting that in respect of another application site, Vicarage Road, Gresford (Appeal Ref APP/H6955/A/15/3095184) which had a similar issue in terms of pedestrian connectivity and safety, the Inspector reported that;

“There are no footpaths along Vicarage Lane and there is a high level of on-street parking between the site and the junction with Chester Road to the north. The Council is concerned that this does not provide a safe route for pedestrians from the site to the local shops and bus stops on Chester Road.

It is clear from the discussion at the hearing that existing residents on the site walk or use mobility scooters between the site and Chester Road and I observed staff from the Hall and local residents walking along Vicarage Lane as I also did. Whilst it would be preferable to segregate pedestrians from the main highway the Council confirmed this was not possible.

Notwithstanding this, the route is within a 30mph area and the nature of the road together with the parked cars actively slow vehicles. Pedestrians do have to be more aware of the traffic when using a shared surface rather than when there is a dedicated footway and I accept that some residents may choose not to walk to local services. However, I do not consider the situation to be significantly different from numerous roads in rural settlements.

Furthermore, I do not consider that the increase in the use of Vicarage Lane by pedestrians as a result of the proposed development would be so significant as to be detrimental to highway safety”.

6.2.10 It can be concluded that in respect to this development, while the situation would not be ideal, the provision of new links and the upgrading of those existing ones will go a long way to improving pedestrian linkages and safety in the area.

6.2.11 Furthermore, the reduction in speed limit from 30mph to 20mph, being sought by the Council on Holt Road and Chapel Lane will have a positive effect and further improvement the pedestrian environment and make it safer than the current situation for all road users including those with mobility problems.

6.2.12 The above matter was also raised at the meeting and it was considered that this was not an issue in light of the alternative routes available to residents wishing to walk to the village and local amenities.

6.2.13 To that end, a plan to show the comparable walking times and distances to the junction of B5445 Chester Road/B5102 Holt Road (close to the Co-operative Foodstore) has been prepared, as shown in **Plan 5**. It shows the difference in distance and walking times between using Holt Road or roads within the existing residential development located to the west of the southern site. For ease the walking distances and times are summarised in **Table 6.1** below.

Route	Northern Site		Southern Site	
	Distance (m)	Time (mins)	Distance (m)	Time (mins)
Holt Road	650	8	595	8
Trevalyn Way	708	9	570	7
Harwood's Lane	872	11	665	9

Table 6.1 – Summary of Walking Routes, Distances and Walking Times

- 6.2.14 As can be seen on the plan, the route through the housing estate (Trevalyn Way) is very similar in length and walking time to the route along Holt Road for residents at the northern site, being just one minute longer and the Trevalyn Way route is both shorter and quicker for residents at the southern site.
- 6.2.15 The route along Harwood's Lane is slightly longer of those at the northern site but, the walking time is only 2 minutes longer than the walk along Holt Road, so residents are likely to still choose the route through the estate. Similarly, the walking route along Harwood's Lane for residents at the southern site is only a minute longer than the Holt Road route, so again, this may seem to be the more favourable option.
- 6.2.16 In light of the above, and considering the reduced speed limit through the village, it is not considered that even with an increase in pedestrian traffic, that the proposals will give rise to any highway safety issues. Clearly, residents will have the choice about which route they take but the improved linkages to St Peters School and potentially Darland High School should encourage school children to use these off-road routes where appropriate, thus having a positive impact on road safety and assisting in delivering safer route to schools.
- 6.2.17 Within the Institution of Highways and Transportation (IHT) document, entitled "Guidelines for Providing for Journeys on Foot", a distance of 800 metres is identified as the preferred maximum distance for town centres, whilst a distance of 2 kilometres is defined as a preferred maximum for commuting.
- 6.2.18 Walking is the most important mode of travel at the local level and offers the greatest potential to replace short car journeys, particularly those under 2 kilometres.
- 6.2.19 In addition, the DFT National Travel Survey of 2015 confirms that 78% of all trips less than a mile (1.6km) are carried out on foot. **Plan 6** shows the pedestrian catchment for 800 metres and 2 kilometres from the centre of the site and provides an illustrative indication of the areas that can be reached based on a leisurely walk from the site. In addition to the pedestrian catchment plan, a review of the proximity of local facilities such as pharmacies/doctor's surgeries, schools (both primary and secondary) local shops/retail outlets and leisure facilities has been undertaken.

- 6.2.20 The locations of such facilities in relation to the site are also identified in Plan 6. As can be seen, the 800 metres catchment includes residential areas of Rossett along with Rossett village centre and its amenities, such as Christ the King Catholic Church, The Golden Lion Public House, Rossett Pharmacy, The Village store and St Peter's Primary School.
- 6.2.21 The 2 kilometre pedestrian catchment illustrates that the whole of Rossett can be accessed including areas such as Darland, Lavister, Trevalyn and Marford.
- 6.2.22 In addition to the above, there are a variety of retail, leisure, healthcare and community facilities located within the catchment, these include Rossett Parish Church, The Alyn Public House, Darland Golf Course, a SPAR convenience store, Rossett Dental Care, Rossett and Burton Village Hall and The Griffin Inn Public House.
- 6.2.23 **Table 6.2** below, shows the walking distances from the centre of the site to the local retail facilities and other nearby key amenities in the vicinity of the site:

Local Amenity	Distance (metres)
Christ the King Catholic Church	520
St Peter's Primary School	370
The Village store	680
The Golden Lion Public House	700
Rossett Pharmacy	800
Rossett Parish church	950
The Alyn Public House	970
SPAR	1030
Burton Village Hall	1130
Rossett Dental Care	1140
The Griffin Inn Public House	1240
Darland Golf Course	1770

Table 6.2 - Distance from Site to Local Facilities

6.2.24 As can be seen in the above table, the site is located within close proximity to a number of key local amenities including primary services, as well as retail and healthcare facilities.

6.2.25 It is therefore considered that the existing and proposed pedestrian infrastructure will facilitate safe and direct pedestrian linkages between the site and local destinations.

6.3 Access by Cycle

6.3.1 An alternative mode of travel to the site could be achieved by bicycle.

6.3.2 A distance of 5 kilometres is generally accepted as a distance where cycling has the potential to replace short car journeys. This distance equates to a journey of around 25 minutes based on a leisurely cycle speed of 12 kilometres per hour and would encompass Marford, Gresford, Llay, Pulford and Belgrave.

6.3.3 An on-road local cycle route is located approximately 3.5 kilometres south-west from the centre of the site, this cycle route travels into Wrexham town centre before linking up with various other local cycle routes.

6.3.4 The site can therefore be considered as being accessible by cycle.

6.4 Access by Bus

6.4.1 The nearest bus stops to the site are located on Harwood's Lane, Rossett Road and Chester Road, with the closest stop approximately 140 metres from the centre of the site.

6.4.2 However, it is noted that the main bus stops serving Wrexham town centre are located on Chester Road and these bus stops consist of a bus shelter along with a bus service timetable.

6.4.3 In light of the above, it is highly likely that anyone wishing to access these services on foot from the two development sites will walk along the B5102 Holt Road or Chapel Lane. It is acknowledged that both Holt Road and Chapel Lane have limited footway provision but it is likely that the introduction of the 20 mph speed limit through the village will have a positive effect, keeping traffic speeds low and hence will create a more pedestrian friendly environment.

6.4.4 The location of the nearest bus stops to the development site are shown on Plan 6.

6.4.5 A summary of the services available from the nearest bus stops of the development site is provided in **Table 6.3** below.

Serv. No.	Route	Mon-Fri Frequency Per Hour				Sat	Sun
		AM Peak	Mid-day	PM Peak	Eve		
1	Wrexham – Gresford – Pulford - Chester	6	5	6	2	5	2
34	Wrexham – Trevalyn 3 services daily (Weds/Fri/Sat)	0945	1145	1545	0	3	0

Table 6.3 - Existing Bus Services Operation in the Vicinity of the Site

- 6.4.6 As can be seen above, the nearest bus stops to the centre of the site offer up to 7 services per hour, providing direct access into Wrexham and Chester.
- 6.4.7 These services operate from 0540 hours in the morning until 2329 hours in the evening, proving the opportunity for residents to travel by public transport for commuting and leisure trips.
- 6.4.8 In order to demonstrate the level of accessibility some example journey times by bus are presented below **Table 6.4** below.

Destination	Duration
Wrexham	17 mins
Chester (railway station)	31 mins

Table 6.4 Example Bus Journey Times

- 6.4.9 The above table demonstrates that Wrexham is a 17 minute bus journey from the site and Chester railway station is a 31 minute bus journey.

6.4.10 As recommended by the highways officer, (and detailed in Section 4) the proposals incorporate the provision of an additional bus stop/lay-by, raised kerb and hard-standing along the site frontage along Holt Road to improve/promote travel by public transport. The new bus stop and lay-by have been agreed with the highways officer in principle and are shown in Plan 3.

6.4.11 It is therefore concluded that the proposed development site is accessible by bus and this will be Improved as part of the proposals.

6.5 Access by Rail

6.5.1 The nearest train stations to the site are Wrexham Central and Wrexham General, and although these fall outside the recommended 2 kilometre pedestrian catchment, they are accessible via a 17 minute bus journey from the site and a short walk, equating to an overall journey time of approximately 20 minutes.

6.5.2 Wrexham Central train station is managed by Arriva Trains Wales and has 1 platform, offering an hourly service to Bidston, whilst Wrexham general train station has 4 platforms, offering 4 services per hour to Cardiff, Birmingham, Holyhead and Bidston.

6.5.3 It is also worth noting that Chester train station is also accessible via a 31 minute bus journey using service number 1. This train station is also managed by Arriva Trains Wales but has 7 platforms, offering 13 services per hour to destinations throughout the UK such as Liverpool, Manchester, Birmingham and London Euston.

6.5.4 In conclusion, the proposed site can be considered as being highly accessible in terms of travel by rail.

6.6 Summary

6.6.1 The site has been considered in terms of its accessibility by non-car modes and the following conclusions can be drawn from this section of the Report:

- The site is accessible on foot and these provisions will be substantially improved as part of the proposals, with new and upgraded footpath links.
- While it is acknowledged that Holt Road has limited footway provision, it has been demonstrated that there are other routes available to residents with comparable walking times and distances and so this is not considered to give rise to any highway safety issues.
- The provision of a new zebra crossing, to replace the existing sub-standard crossing on Holt Road will also have a positive impact and improve road safety in the area, not just for residents but for the wider community as well, including school children.
- The site is well located to generate trips on foot and provides potential for a high degree of linked walk trips between the development and the surrounding area.
- It has been demonstrated that the site is accessible by cycle, with a local cycle route situated 3.5 kilometres south west of the site, which travels into Wrexham centre.
- The close proximity of bus stops on Harwoods Lane, the B5102 and Chester Road offering services to Wrexham and Chester demonstrates that the proposed development can be considered as highly accessible by bus.
- Residents can also travel to and from the site by rail using services from the two Wrexham rail stations which can be accessed via the bus services that run very close to the site.

6.6.2 In light of the above, it is considered that site is highly accessible and able to cater for needs of the development's residents and visitors and assist in promoting a choice of travel modes other than the private car.

7 TRAFFIC IMPACT ANALYSIS

7.1 Introduction

7.1.1 Having established that the development site is highly accessible by modes of transport other than the private car and that the site can be satisfactorily accessed, the following section considers the traffic impact of the development proposals on the local highway network.

7.2 Assessment Criteria

7.2.1 Given the proposed residential land use, it is assumed reasonable to consider whether the traffic increases at the site would have any material impact within the local highway network during the typical morning and evening peak periods.

7.3 Traffic Survey Data

7.3.1 In order to establish current levels of traffic, manual traffic counts were undertaken on Thursday 18th June 2015 between 0730 and 0930 hours in the morning and 1630 and 1830 hours in the evening.

7.3.2 The junctions included in the survey are set out below;

- B5445 Chester Road/Link to Rossett Road
- B5445 Chester Road/B5102 Rossett Road; and
- Rossett Road/Link to B5445 Chester Road.

7.3.3 The full traffic survey data is contained within **Appendix 2**.

7.3.4 The peak hours were identified as 0800 to 0900 hours and 1645 to 1745 hours, for the AM and PM peaks respectively.

7.3.5 The surveyed flows for the peak hours converted into Passenger Car Units (PCU's) are shown in **Figures 1 and 2**.

7.3.6 In the latest consultation response, the highways officer raised concern regarding the validity of the originally collected count data (2015) given it was more than 3 years old.

7.3.7 As such, an Automatic Traffic Counter (ATC) was installed on Chester Road (between its' junctions with Holt Road and The Green for a period of one week. The ATC recorded vehicles volumes and speeds.

7.3.8 A comparison of the 2015 and 2018 traffic data has been undertaken and is summarised in **Table 7.1** below.

2015 (Thursday)		
Time	North-eastbound	South-westbound
AM (0800 to 0900)	824	424
PM (1700 to 1800)	515	501
2018 (Thursday)		
Time	North-eastbound	South-westbound
AM (0800 to 0900)	625	339
PM (1700 to 1800)	312	379
2018 (Average Weekday)		
Time	North-eastbound	South-westbound
AM (0800 to 0900)	607	277
PM (1700 to 1800)	329	350
Difference between the two Thursdays	-199 in the AM	-85 in the AM
	-203 in the PM	-122 in the PM

Table 7.1 – Comparison of ATC Data

7.3.9 As can be seen above, the 2018 data shows there has been a reduction in traffic since the original surveys were undertaken on 2015.

7.3.10 When considering the comparison between the 2015 and 2018 Thursday south-westbound counts, the 2015 data is higher by 199 vehicles in the AM peak and by 203 vehicles in the PM peak.

7.3.11 Similarly, when considering the comparison between the 2015 and 2018 Thursday north-eastbound counts, the 2015 data is higher by 85 vehicles in the AM peak and by 122 vehicles in the PM peak.

7.3.12 On that basis, it is considered that the original 2015 data is suitable and appropriate for use for the assessments. Indeed, this was confirmed by the highways officer during the meeting and so no additional surveys have been undertaken.

7.3.13 For completeness, the 2018 ATC data is also included within Appendix 1.

7.4 Growthed Traffic Flows

7.4.1 For the purpose of this Report, the impact of the proposals has been considered for a likely opening year of 2028, which is considered to provide a robust assessment.

7.4.2 The future year traffic flow factors have been derived using the National Traffic Model (NTM) factors adjusted by the TEMPRO regional and local growth factors for Wrexham.

7.5 Base Flows

7.5.1 The growthed 2028 flows for the peak hours, which form the 2028 'Without Development' flows, converted into Passenger Car Units (PCU's), are shown in **Figures 3 and 4**.

7.6 Committed Development

7.6.1 At the time of preparing the original Transport Assessment, it was understood from WCBC that there were no committed developments in the area that would require inclusion within this report.

7.6.2 Following further discussions with the highways officer, it is understood that there may be a potential proposed development being pursued on land owned by the Welsh Government to the rear of the Golden Lion Public House. While a formal planning application has not yet been submitted, it is understood that the proposals could relate to the provision of between 60 and 80 residential dwellings and would result in modifications to the B5445 Chester Road/B5102 Rossett Road junction.

7.6.3 As the application has not yet been submitted and so does benefit from planning approval, this potential development has not been considered as part of this TA.

7.7 Trip Distribution

7.7.1 The directional distribution of the traffic associated with the proposals has been assigned to the local highway network in line with the observed vehicle movements, which is considered to present a suitable approach.

7.7.2 The trip distribution from the northern and southern access points for the AM peak hour is shown in **Figures 5a** and **5b** whilst the trip distribution from each access point for the PM peak traffic is shown in **Figures 6a** and **6b**.

7.7.3 The highways officer also requested confirmation of the split of traffic at the site access which can be confirmed as being 10% to the east and 90% towards the village which can be considered to be robust. To demonstrate the likely traffic impact of the development on Rossett Road at the site access points **Table 7.2** presents a summary of trips below.

Time	90%	10%
	Towards village (wb)	Away from village (eb)
AM	72	8
PM	88	10

Table 7.2 – Development Trips at the Site Access Points

7.7.4 The number of vehicles associated with the proposals that could potentially travel through each of the junctions through the village, assuming the road network remains unchanged i.e. the TRO's are not implemented is summarised in **Table 7.3** below.

Junction	AM	PM
B5102 Rossett Rd/The Green	72	88
B5102 Rossett Rd/B5445 Chester Road	51	59
B5445 Chester Road/The Green	21	29

Table 7.3 – Development Trips through the Village (No TRO's)

7.7.5 The total number of vehicles passing through the village assuming the TRO's have been implemented will be the same as the previous scenario, but the actual number of trips at two of the junctions will change as summarised in **Table 7.4** below.

Junction	AM	PM
B5102 Rossett Rd/The Green	72	88
B5102 Rossett Rd/B5445 Chester Road	67	68
B5445 Chester Road/The Green	5	20

Table 7.4 – Development Trips through the Village (With TRO's)

7.7.6 The above shows that the traffic impact of the proposal will be similar whether the proposed TRO's are implemented or not and the development will not prejudice their delivery, should the works come forward in the future.

7.8 Proposed Development

7.8.1 As previously stated, it is proposed to develop the two sites for up to 132 residential properties in total.

- 7.8.2 In order to establish the number of trips which the proposed development is forecast to generate the TRICS database was originally used and the trips rates were agreed with the highways officer.
- 7.8.3 Notwithstanding the above, however, it has been requested by the highways officer that the following trip rates be used for robustness. The trip rates have been derived from recently conducted traffic counts at a relatively new housing development which has similar characteristics to the application site and are contained within **Appendix 3**.
- 7.8.4 The peak hour trip rates and forecast trip generation for the proposed 132 units are shown within **Table 7.5**.

Peak Hour	Trip Rates		Trip Generation	
	Arr	Dep	Arr	Dep
AM	0.124	0.476	16	63
PM	0.482	0.259	64	34

Table 7.5 - Forecast Trip Generation of Proposed Residential Development

- 7.8.5 As demonstrated above, the residential development is forecast to generate a two-way total of approximately 79 trips in the AM peak hour and 98 trips in the PM peak hour.
- 7.8.6 In order to assign traffic forecast to be generated by the proposed development, the trip distribution shown in the Figures 5a and 5b and 6a and 6b has been utilised for the AM and PM peaks respectively.
- 7.8.7 The resulting trips to and from each access point for the AM peak hour are shown in **Figures 7a** and **7b** whilst the trips from each access point for the PM peak traffic are shown in **Figures 8a** and **8b**.

7.9 With Development Flows

7.9.1 In order to calculate the 2028 'With Development' flows, the development flows shown in Figures 7a and 7b have been added to the 2028 'Without Development' flows contained within Figure 3 for the AM peak.

7.9.2 Similarly, the development flows shown in Figures 8a and 8b have been added to the 2028 'Without Development' flows contained within Figures 4 for the PM peak.

7.9.3 The resulting 2028 'With Development' Flows are presented in **Figures 9 and 10** respectively for the AM and PM peak hour periods.

7.10 Capacity Assessments

7.10.1 As already stated, there will be two new priority controlled junctions to serve each of the sites.

7.10.2 In addition to the site access junctions, in order to assess the operation of the junctions on the local highway network, capacity assessments have been undertaken at the following junctions;

- B5445 Chester Road/The Green (link to B5102 Holt Road)
- B5445 Chester Road/B5102 Holt Road; and
- B5102 Holt Road/The Green (link to B5445 Chester Road).

7.10.3 The assessment year 2028 is considered to provide a robust assessment of the potential impact of the development in highway terms.

Rossett Road/Northern Site Access

7.10.4 The access to the northern site off Rossett Road will be priority controlled and so has been assessed using PICADY.

- 7.10.5 The results for the 'With Development' flow scenarios for 2028 are summarised within **Table 7.6** with the full results contained within **Appendix 4**.

Arm Name	2028 Assessment			
	AM		PM	
	RFC	Max Q	RFC	Max Q
Site Access	0.07	0	0.04	0
Rossett Road	0.00	0	0.01	0

Table 7.6 – Summary of PICADY Results for Rossett Road/Site Access (Northern)

- 7.10.6 As demonstrated, the proposed northern site access off Rossett Road is forecast to operate with reserve capacity in the 2028 'With Development' flow scenario in both the AM and PM peak hours.

Rossett Road/Southern Site Access

- 7.10.7 The access to the southern site off Rossett Road will also be priority controlled and so has been assessed using PICADY. The results for the 'With Development' flow scenarios for 2028 are summarised within **Table 7.7** with the full results contained within **Appendix 5**.

Arm Name	2028 Assessment			
	AM		PM	
	RFC	Max Q	RFC	Max Q
Site Access	0.06	0	0.03	0
Rossett Road	0.01	0	0.06	0

Table 7.7 – Summary of PICADY Results for Rossett Road/Site Access (Southern)

- 7.10.8 As demonstrated, the proposed southern site access off Rossett Road is forecast to operate with reserve capacity in the 'With Development' 2028 flow scenario in both the AM and PM peak hours.

B5445 Chester Road/The Green (Link to Rossett Road)

- 7.10.9 The B5445 Chester Road/The Green (link to Rossett Road) is priority controlled and so has been modelled using PICADY.
- 7.10.10 The results for the 'Without Development' and 'With Development' flow scenarios for 2028 are summarised within **Table 7.8** with the full results contained within **Appendix 6**.

Arm Name	2028 Without Development				2028 With Development			
	AM		PM		AM		PM	
	RFC	Max Q	RFC	Max Q	RFC	Max Q	RFC	Max Q
The Green	0.16	0	0.18	0	0.17	0	0.22	0
Chester Road	0.07	0	0.06	0	0.10	0	0.07	0

Table 7.8 – Summary of PICADY Results for B5445 Chester Road/The Green

- 7.10.11 As can be seen in the above table, the 'Without Development' results for the AM and PM peak hours show that the junction will operate with reserve capacity with no queuing.
- 7.10.12 The 2028 'With Development' results for the AM and PM peak hour show the junction will continue to operate with reserve capacity, in a similar manner to the base situation.

B5445 Chester Road/B5102 Holt Road

- 7.10.13 The B5445 Chester Road/B5102 Holt Road is priority controlled and so has been modelled using PICADY.

- 7.10.14 The results for the 'Without Development' and 'With Development' flow scenarios for 2028 are summarised within **Table 7.9** with the full results contained within **Appendix 7**.

Arm Name	2028 Without Development				2028 With Development			
	AM		PM		AM		PM	
	RFC	Max Q	RFC	Max Q	RFC	Max Q	RFC	Max Q
B5102 Holt Road	0.32	1	0.25	0	0.40	1	0.29	0
Chester Road	0.37	1	0.24	0	0.39	1	0.32	1

Table 7.9 – Summary of PICADY Results for B5445 Chester Road/B5102 Holt Road

- 7.10.15 As can be seen in the above table, the 'Without Development' results for the AM and PM peak hours show that the junction will operate with reserve capacity.
- 7.10.16 The 2028 'With Development' results for the AM and PM peak hour show the junction will continue to operate with reserve capacity. The proposals will have a minimal impact on the operation of this junction.

Holt Road/The Green (link to B5445 Chester Road)

- 7.10.17 The Holt Road/The Green (link to B5445 Chester Road) is priority controlled and so has been modelled using PICADY.
- 7.10.18 The results for the 'Without Development' and 'With Development' flow scenarios for 2028 are summarised within **Table 7.10** with the full results contained within **Appendix 8**.

Arm Name	2028 Without Development				2028 With Development			
	AM		PM		AM		PM	
	RFC	Max Q	RFC	Max Q	RFC	Max Q	RFC	Max Q
Link Road	0.25	0	0.18	0	0.31	0	0.22	0
Chester Road	0.00	0	0.01	0	0.00	0	0.01	0

Table 7.10 – Summary of PICADY Results for Holt Road/The Green

- 7.10.19 As can be seen in the above table, the ‘Without Development’ results for the AM and PM peak hours show that the junction will operate with reserve capacity.
- 7.10.20 The 2028 ‘With Development’ results for the AM and PM peak hour show the junction will continue to operate efficiently.

7.11 Sensitivity Test

B5445 Chester Road/B5102 Rossett Road

- 7.11.1 As set out in Section 2, consideration is currently being given to the modification of existing TRO’s in the area, although the final scheme is yet to be agreed and will be subject to consultation.

- 7.11.2 The highways officer stated in his latest (and previous) consultation response that;

“Our Traffic Section is currently reviewing existing traffic regulation orders in the vicinity of the site i.e. possible no entry at the junction of Chester Road/Holt Road, possible one-way system along The Green off Chester Road”.

- 7.11.3 While the precise form of the proposals are not yet confirmed, in light of the above, a sensitivity test has been undertaken for the B5445 Chester Road/B5102 Rossett Road junction, where flows could potentially be higher once the amended scheme is in place, assuming the no-entry into Holt Road TRO is in place.

7.11.4 The removal of right turning traffic associated from the development at the Holt Road/The Green junction will reduce impact, as traffic will be travelling straight ahead along Holt Road from the site (rather than turning right) and so the original assessments undertaken provide a more robust scenario. As such, no additional assessments are deemed necessary.

7.11.5 Should the possible no entry be implemented at the Chester Road/Holt Road junction then turning movements will be simplified and reduced and so again, the assessments already undertaken and those in this TA are robust and demonstrate that such changes would not give rise to any capacity problems.

7.11.6 The results for the 'With Development' flow scenarios for 2028 sensitivity test assuming the modifications to the TRO's are in place are summarised within **Table 7.11** with the full results contained within Appendix 7.

Arm Name	2028 With Development and			
	AM		PM	
	RFC	Max Q	RFC	Max Q
B5102	0.79	4	0.52	1
Chester Road	0.39	1	0.32	1

Table 7.11 – Summary of PICADY Results for B5445 Chester Road/B5102 Rossett Road

7.11.7 As can be seen in the above table, the 2028 'With Development' sensitivity test results for the AM and PM peak hour show the junction will continue to operate with reserve capacity.

7.11.8 It can therefore be concluded that the proposals will have a minimal impact on the operation of this junction, even if the new TRO's are implemented.

7.12 Traffic Impact Summary

7.12.1 This section of the Report has considered the impact of the proposals in transport terms for a 2028 flow scenario, which is considered to provide a very robust set of assessments.

Rossett Road/Site Access (Northern and Southern)

- 7.12.2 The PICADY analysis for the two new access points show the junctions will operate with no capacity issues.
- 7.12.3 This demonstrates that the proposed access junctions are appropriate in their scale and design to adequately serve the sites.

B5445 Chester Road/The Green (link to Holt Road)

- 7.12.4 The results for the 2028 'Without Development' scenario show the junction would be operating with reserve capacity in the AM and PM peak hours.
- 7.12.5 The results for the 2028 'With Development' scenario show the junction would operate at a similar level and the impact of the development would be minimal.

B5445 Chester Road/B5102 Holt Road

- 7.12.6 The results for the 2028 'Without Development' scenario show the junction is forecast to operate without any capacity issues in both the AM and PM peak hours.
- 7.12.7 The 2028 'With Development' scenario shows the junction would continue to operate with reserve capacity and the development traffic would not have an impact on the overall operation of the junction.
- 7.12.8 The sensitivity test undertaken for the B5445 Chester Road/B5102 Rossett Road junction, assuming the changes to existing TRO's have been implemented shows that the proposals will not result in any capacity problems and that the junction will continue to operate with reserve capacity in both peak hours.

B5445 Chester Road/The Green (link to Rossett Road)

- 7.12.9 The results for the 2028 'Without Development' flows show the junction would be operating efficiently with no queuing in both peak hours.

- 7.12.10 The results for 2028 which include addition of the traffic associated with the proposals show that the junction would operate in a similar manner to the base flow scenario and that the development would not have a material impact.
- 7.12.11 The capacity assessments undertaken therefore demonstrate that the local highway network would remain operating well within its capacity and the development traffic can be accommodated in both peak hours, even based on the higher, particularly robust trip rates.
- 7.12.12 It is concluded that the development will not have a material impact on the local network and will not give rise to any traffic impact issues.

8 ACCIDENT ANALYSIS

8.1 Introduction

8.1.1 In order to consider the potential impact of the development on road safety, a brief review of the Crashmap website (www.crashmap.co.uk) has been undertaken. The review has been updated following submission of the previous version of the TA.

8.1.2 The personal injury accident information provided on the website covered the 3-year period between 2015 and 2017 in the vicinity of the development site.

8.2 Accident Analysis

8.2.1 The analysis of road traffic accidents has been focused on the same road network as the junction capacity assessments.

8.2.2 A review of the data contained within **Appendix 9** however, showed that there have only been **three** personal injury accidents with the area of study over the last 3 years, as illustrated in **Figure 7.1** below.



Figure 7.1 – Location of Accidents

8.2.3 The first accident took place in 2015 when the weather conditions and road surface were dry. The details show it involved three cars in shunt type accident, while one of the cars was overtaking a parked vehicle. The accident can therefore be attributed to driver error or the driver not paying sufficient attention to other road users and resulted in a slight injury being sustained.

8.2.4 The second accident took place in 2016, when again the weather and road surface was dry. The records show that it involved a car and a goods vehicle where the car collided with the other vehicle as it was in the act of turning left, resulting in slight injuries being sustained. It is therefore highly likely that one or both of the drivers was not paying adequate attention to other road users, rather than there being any issues with the road or junction layout.

8.2.5 The third incident also took place in 2016 when the road conditions and weather was dry. The details show that the incident only involved 1 vehicle which struck a lamp post while it was in the act of turning left. As no other vehicles was involved, it is likely that the driver was travelling in excess of the posted speed limit and was unable to react in time.

8.3 Summary

8.3.1 The data reviewed has not identified any untypical accidents.

8.3.2 The evidence shows that there are no particular engineering issues or problems with the road network or junction layouts.

8.3.3 There have only been three recorded incidents in the last 3 years, one in 2015 and two in 2016, thus showing a trend of accidents reducing.

8.3.4 Having considered the accidents that have taken place over the last 3 years in the study area, it is not considered that there are any accident or highway safety problems in the area.

- 8.3.5 It should be noted that the internal layout of the site will be focused on providing safe access for all road users, including pedestrians and cyclists and the proposed new footway along Rossett Road will provide residents with a continuous safe walking to the village and the surrounding area.
- 8.3.6 In addition, the new footway/cycleway links, as detailed in Section 6, will enhance the existing pedestrian/cyclists' environment and ensure that residents can move safely between the site and the local area.
- 8.3.7 As such, there is no evidence to suggest that the proposed residential development will have an adverse effect on road safety or the number of accidents in the vicinity.

9 SMARTER TRAVEL CHOICES VIA TRAVEL PLANS

9.1 Introduction

9.1.1 In order to manage the travel by residents at the new development, the applicant wishes to offer a Travel Plan to encourage travel to the site by non-car modes.

9.2 Travel Planning Guidance

9.2.1 The management of residents' travel represents an important element in pursuing the overall aims of the latest national guidance included within the DfT's Best Practice Guide and the Welsh Assembly's Smarter Choice: Wales document.

9.2.2 The preparation and adoption of a Travel Plan is an important element of managing the demand for travel to all modern developments.

9.2.3 The Welsh Government aims to extend choice in transport and secure accessibility in a way which supports sustainable development and helps to tackle the causes of climate change by "Encouraging a more effective and efficient transport system, with greater use of the more sustainable and healthy forms of travel, and minimising the need to travel".

9.2.4 Land use planning can help to achieve the Welsh Government's objectives for transport through:

- *reducing the need to travel, especially by private car, by locating development where there is good access by public transport, walking and cycling;*
- *improving accessibility by walking, cycling and public transport;*
- *ensuring that transport is accessible to all, taking into account the needs of disabled and other less mobile people;*
- *promoting walking and cycling;*
- *supporting the provision of high quality public transport;*
- *supporting traffic management measures; and*
- *supporting sustainable travel options in rural areas;*

- 9.2.5 Travel Plans should focus on achieving the lowest practical level of single occupancy vehicle trips to or from a site and widening the use of other travel modes and assist in the wider aims of encouraging sustainable travel, improving health, reducing congestion, energy consumption and pollution.
- 9.2.6 A Residential Travel Plan is a package of measures designed to reduce car use originating from new housing by supporting alternative forms of transport and reducing the need to travel in the first place.
- 9.2.7 They are an important tool to help deliver accessible, sustainable communities and offer clear benefits to all the parties involved – public, private and the community. They involve meeting the access needs of residents in a new way and require partnerships between developers, local authorities, local communities and new residents.
- 9.2.8 The value of Travel Plans in reducing car use to workplaces and schools is widely recognised and many local authorities and developers have experience in their design and implementation.
- 9.2.9 However, until recently, little attention has been given to tackling the origins of journeys from people's homes. Now, forward-thinking developers and local authorities are developing packages of smarter choices to both reduce the traffic generated by new housing developments and increasing the travel choices available to residents. These smarter choices are being set out in Residential Travel Plans.

9.3 Residential Travel Plan

- 9.3.1 The objective of a Residential Travel Plan is to encourage residents to travel to work by bus, on foot and by bicycle.
- 9.3.2 A Framework Residential Travel Plan has been prepared and is presented in **Appendix 10**.
- 9.3.3 The Framework Residential Travel Plan outlines physical and management measures that are designed to achieve this objective.

- 9.3.4 However, the principle measure will consist of a Residents Travel Pack containing relevant material to promote non-car modes of travel and the provision of certain physical measures.
- 9.3.5 The Travel Pack will contain information to inform residents of the existing long-term strategy for reducing the dependence of residents and visitors on travel by private car.
- 9.3.6 The site has been demonstrated to benefit from excellent non-car accessibility and it should, therefore, be expected that the adoption of a Travel Plan would be particularly effective.

10 CONCLUSIONS

- 10.1.1 This Report has considered proposals relating to the development of land situated to the north and south of Rossett Road in Rossett.
- 10.1.2 The site lies on the eastern edge of the village, within a predominantly residential area and is within a short walk and cycle distance from bus stops, local shops, schools, leisure facilities and key employment areas. A regular and frequent bus service runs along Chester Road, providing up to 7 services per hour which connect to local and national rail networks at Wrexham and Chester.
- 10.1.3 While footway provision along Holt Road is limited, other routes with comparable walking times and distances are available through Trevalyn Way and so this is not considered to be an issue, as agreed at the meeting with the planning case and highways officer.
- 10.1.4 The development will be accessed via two new priority-controlled junctions directly off Rossett Road, one serving the northern site and the other serving the site to the south. The proposals include a number of off-site highway works such as new/upgraded footpaths and a zebra crossing on Holt Road which will improve pedestrian connectivity and overall road safety.
- 10.1.5 The swept path analysis undertaken has shown servicing can take place safely and efficiently within both sites and will not have a detrimental impact on road safety.
- 10.1.6 The traffic impact of the development has been predicted using agreed trip rates that are considered to provide a robust assessment and the traffic impact assessments indicate that the proposed development would be able to be accommodated on the local highway network.
- 10.1.7 The sensitivity test undertaken assuming the potential modifications to existing TRO's are in place also demonstrates the local highway network will continue to operate within capacity. The proposals will not prejudice the delivery of the scheme should they come forward in the future.

- 10.1.8 There has only been **three** recorded accident within the study area, over the last 3 years and there is no evidence to suggest that the proposals would have an adverse effect on road safety or the number of accidents in the vicinity.
- 10.1.9 A Framework Travel Plan will be implemented to encourage the use of non-car modes to take advantage of the sustainable travel accessibility credentials of the site.
- 10.1.10 In conclusion, the proposals for a residential development will provide a sustainable development in transport terms and planning permission should be granted planning permission.



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