

Llay Royal British Legion, Residential and Retail Development: Pedestrian and Vehicular Accessibility Note

1.1 Introduction

WSP has been appointed to examine the accessibility of a scheme comprising the development of land around the existing Royal British Legion (RBL) Club on Watts Dyke in Llay.

A hybrid planning application (ref P/2017/0314) has been submitted which seeks outline permission for the construction of 51 residential units, a 370m² retail unit, and premises for the relocation of a local boxing club. Detailed permission is sought for alterations to the existing RBL car park, along with new vehicular accesses from Watts Dyke and Llay New Road to serve the development.

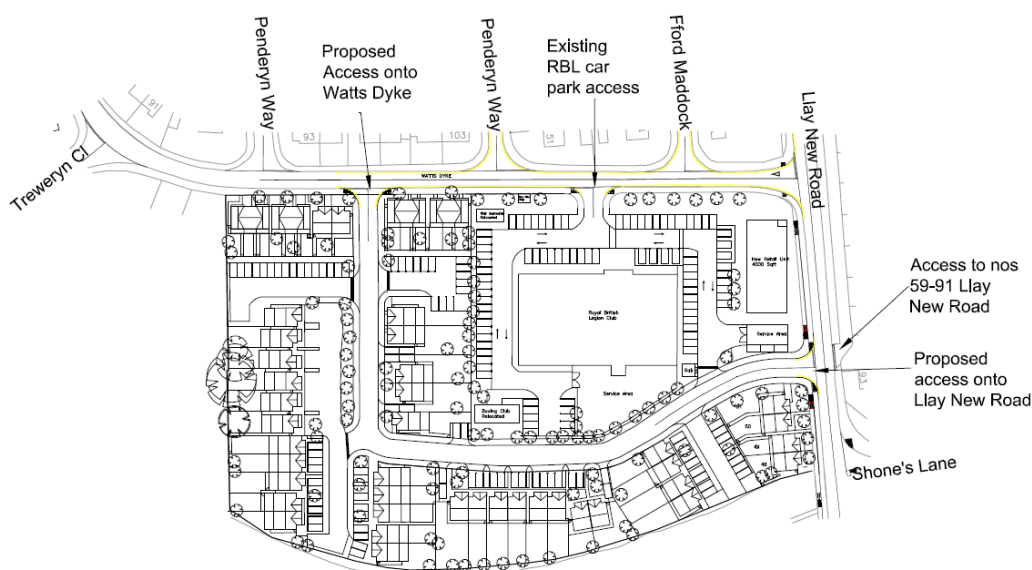
A Transport Statement (TS) was produced and submitted to support the Planning Application, and comments have been received from the local highway officer outlining concerns with the following:

1. Rat-running through the site;
2. Positioning of the proposed access opposite a side road on the east side of Llay New Rd; and
3. Pedestrian provision across Llay New Road.
4. Proposed level of parking provision;
5. Residential trip rates; and
6. Treatment of proposed new access on Watt Dyke.

1.2 Proposed Site Layout

The site layout would be subject to reserved matters following grant of consent to this outline application. However in order to demonstrate how the site could be delivered, a high level masterplan was included as part of the application, and this is shown in Figure 1 below

Figure 1 – indicative site layout as submitted



As can be seen from the indicative layout, a continuous route through the site could be provided, linking Watts Dyke to Llay New Road. Access to the retail unit for both customers and service vehicles is intended via the new access onto Llay New Road, and vehicular access to the RBL building would be via the car park access on Watts Dyke, as per the current arrangement.

Under this arrangement it would be possible for visitors to the RBL building to enter the car park through the Llay New Road access, and for customers of the retail unit to enter through the Watts Dyke access. The current lease to the RBL club does not extend to the whole land holding, but part only, with 42 spaces provided for their use. The club is currently using land beyond their lease, but this is by temporary agreement only. Following construction of the development, 50 spaces would be allocated to the RBL building and the remainder to the Retail Unit in the relevant lease agreements and, if necessary, a car park management plan may be introduced to ensure that the car park areas are used as intended. The provision of two separate access points to the parking area provides flexibility to any future car park management plan as it would enable the retail and RBL parking areas to be physically separated should that be required.

In addition, delivery vehicles to the retail unit would access the site via the Llay New Road access. This is a requirement of the proposed retail operator and maximises the safety of the proposed delivery solution by minimising the area of car park through which delivery vehicles are required to manoeuvre. The proposed access on Llay New Road is therefore necessary in order to provide for the retail element of the development.

1.3 Responses to Highways Officer's Comments

The background, and proposed solutions, to the six issues set out above are:

1. Rat-running through site

Concerns have been raised with the potential for rat-running through the site to occur. It is considered that this could be addressed by providing a more tortuous route through the site to dissuade this type of driver behaviour, however in order to fully remove this potential issue the applicant would be willing to make it a condition of planning that no through-route between the new access points would be provided for vehicular traffic. The access from Llay New Road would instead serve only the retail unit car park, and potentially a small number of proposed dwellings close to the Llay New Road frontage.

As set out above, the proposed access on Llay New Road is necessary in order to provide appropriate access to the retail unit for customers and delivery vehicles. However the severing of any vehicular link between the proposed new access points on Llay New Road and Watts Dyke will remove fully the potential for any rat-running.

2. Positioning of the Proposed Access in Relation to Side Roads on Llay New Rd

The proposed access on Llay New Road is opposite a service road that serves approximately 18 dwellings. The service road is separated from the main carriageway of Llay New Road by an approximately 2m wide footway, as shown in figure 2:



Figure 2: view northbound on Llay New Road (service road on right)

It is considered good practice to avoid installing a new side road opposite an existing one and creating a give-way crossroads. This is because of the risk with any give-way crossroads that a driver approaching the junction from one of the side roads may fail to appreciate they are coming to a main road, and instead drive straight ahead to the opposite side road without slowing to give-way to any main road traffic.

In order to avoid this scenario, new side roads are usually laid out in a staggered crossroads arrangement so that it is clear to drivers approaching from a side road that they are coming to a T junction.

The location of the proposed site access on Llay New Road however is considered very unlikely to lead to drivers failing to appreciate the arrangement. Rather than running perpendicular to Llay New Road, the existing service road runs parallel to it, with an almost continuous frontage of houses less than 10m back from the main road.

Any driver exiting the site onto Llay New Road would not mistake the service road opposite for a continuance of the road they are already on. They would see the frontage of a house immediately ahead of them, appreciate that they are approaching a main road, and prepare to give-way to traffic.

Furthermore, the restriction of the Llay New Road access to serve only the retail unit and potentially a small number of dwellings would mean that any cars exiting the site will already have entered the site via the same access and be aware of the arrangement.

In addition to the location of the access opposite the service road, the highway officer has also asked for further consideration of junction spacing. Figure 3 below shows the location of the site in the context of the wider area demonstrates the frequency of side roads on Llay New Road.

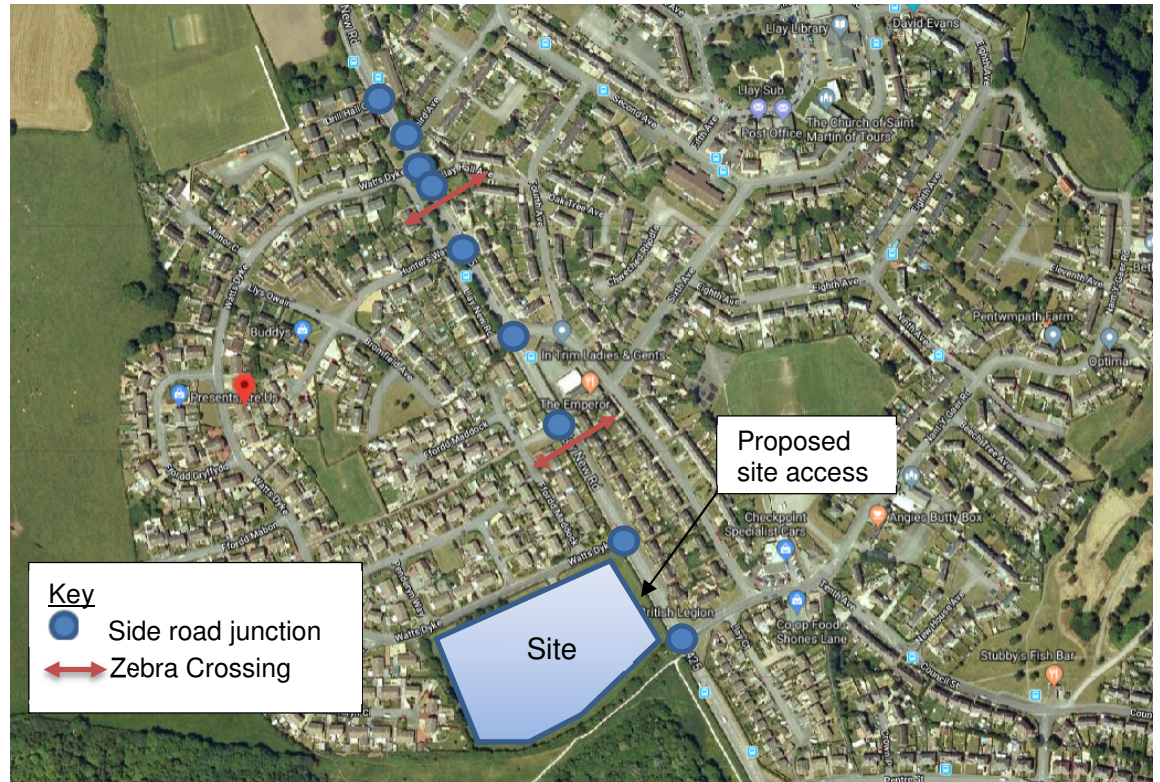


Figure 3: Site location in wider context

As can be seen, there is already an abundance of side roads along Llay New Road as it passes through the village. In particular, junctions with three side roads, Third Ave, Watts Dyke, and Llay Hall Ave (towards the north of the above figure) fall within a 40m length of Llay New Road.

The frequent presence of side roads in this location and indeed throughout the village is therefore not unusual, and drivers passing through the area would modify their behaviour accordingly to take account of the potential for other vehicles turning into or out of them.

By comparison with the above example, the proposed access onto Llay New Road would be some 40m from the nearest side road (Shone's Lane), and 50m from the next closest, Watts Dyke. This is not out of keeping with junction spacing elsewhere in Llay – indeed elsewhere on Llay New Road – and is therefore considered acceptable. It is also important to note that this proposed new junction would be providing access to only the retail unit and potentially a small number of dwellings and would not connect through to the wider network, so the amount of traffic using it would be limited.

3. Pedestrian provision across Llay New Road

The highway officer has requested that further consideration be given to provision for pedestrians seeking to cross Llay New Road from the residential area along Shone's Lane in order to access the proposed retail unit.

WSP have interrogate the TRICs database to establish the expected level of pedestrian trips generated by the proposed retail unit, and a multi-modal trip rate report is included in Appendix 1 of this note. The expected peak hour pedestrian trip rates and trip numbers are set out in Table 1 below:

Table 1: Retail unit pedestrian trip rates

	Trip rates		Trip Numbers	
Period	In	Out	In	Out
08:00-09:00	8.711	8.279	32	31
17:00-18:00	10.787	10.599	40	39

This is a pedestrian demand that would have existed in the opposite direction until recently due to the previous co-op store on Shone's Lane, with pedestrians seeking to cross from the residential area along Watts Dyke to access that store. This arrangement clearly existed for a number of years without any issues that WSP are aware of.

There is already a zebra crossing on Llay New Road some 90m north of the junction with Watts Dyke that the vast majority of residents living to the east of Llay New Road would be able to use to access the retail unit.

Nevertheless, the potential for improvements for pedestrians have been reviewed, and the provision of an informal crossing point on Llay New Road featuring dropped kerbs and tactile paving is proposed, subject to agreement with Wrexham CBC, as shown in Figure 4 overleaf.

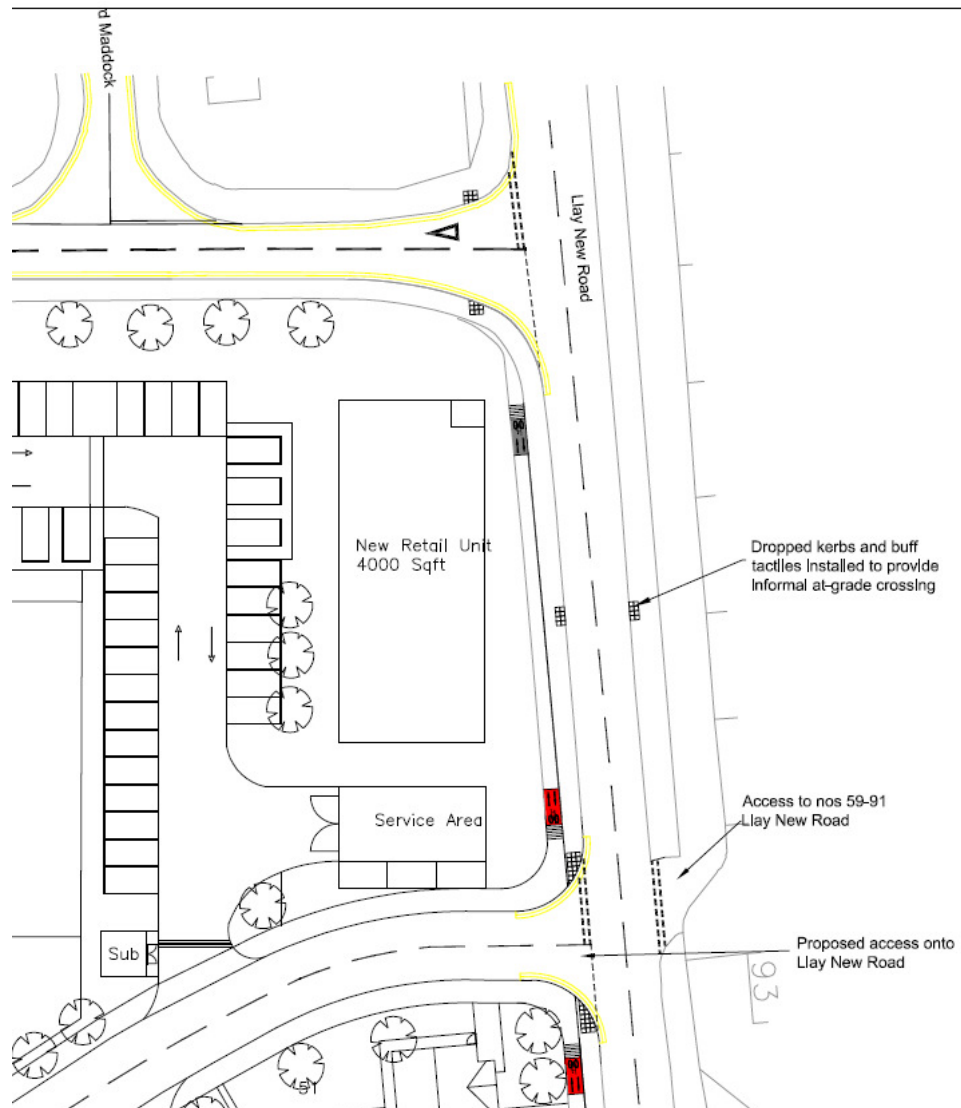


Figure 4: Proposed Informal at-grade pedestrian crossing on Llay New Road

This proposed facility is very similar to the existing informal crossing point on Llay New Road for those living in the Shone's Lane area to access the bus stop on the opposite side of Llay New Road shown in Figure 5 overleaf. It would therefore be very much in keeping with existing facilities in the area and considered a positive addition.



Figure 5: Existing Informal at-grade pedestrian crossing on Llay New Road (south of Shone's Lane)

In order to confirm the appropriateness of this arrangement, an assessment has been undertaken of the vehicular and likely pedestrian demand at this location following the opening of the development. TA 68/96 contained in the Design Manual for Roads and Bridges set out details of the PV2 calculation which can be used to assess the requirement for a pedestrian crossing. It is important to note that this guidance is applicable only in Northern Ireland, but it is still considered a useful indicator of the appropriateness of the proposed facilities.

The degree of conflict between pedestrians and vehicles is determined by PV2 where V is the 2-way total hourly flow of vehicles and P is the 2-way total hourly flow of pedestrians crossing the road. An average value exceeding 108 indicates that a formal crossing facility is required.

Appendix 2 of this note contains results of a traffic survey at the junction of Watts Dyke and Llay New Road undertaken in February this year, and the calculation of the two-way flow of Llay New Road south of Watts Dyke during the am and pm peak hours.

Also contained in Appendix 2 are PV2 calculations based on average am and pm weekday peak hour flows. These are based on an assumption that no more than half of the pedestrian visitors to the retail unit would seek to cross Llay New Road at this location, this is considered a robust assumption given the distribution of residential properties around the site, with a substantial proportion being located on the same side of Llay New Road as the proposed retail unit.

As can be seen from Appendix 2, the average PV2 value calculate for the am peak is 0.26x108, and for the pm peak the value is 0.28x108, both are which are well below the threshold of 1x108. This confirms that an uncontrolled dropped-kerb crossing is appropriate at this location.

4. Proposed Level of Parking Provision

Concerns have been raised with the proposal to reduce the level of parking allocated to the RBL building. It is important to note that the current lease to the RBL club does not extend to the whole land holding, but part only, with 42 spaces provided for their use. The club is currently using land beyond their lease, but this is by temporary agreement only. Following construction of the development, 50 spaces would be allocated to the RBL building.

It is also important to note the finding of the Accessibility chapter of the Transport Statement supporting this application. This found that the site is highly accessible, sitting within walking distance of most of Llay, and for those living further afield or less able to walk, there are bus stops within 250m of the site served by buses to Wrexham, Trevalyn and Flint.

Nevertheless, in order to assess the parking demand at the RBL building a parking accumulation survey was undertaken from Saturday 3rd February 2018 to Friday 9 February 2018. Events captured by this full week survey include the Rugby Nations match between Wales and Scotland on the Saturday, and the Monday night quiz, both of which can be expected to represent the busiest periods for the existing site.

Results of the parking accumulation survey are included in Appendix 3 of this note and, as can be seen, the highest level of parking demand was 43 vehicles on the Monday evening, followed by 42 on the Saturday, both occurring at 9pm. This indicates that the highest level of parking demand at the club is well within the level of provision of 50 spaces proposed by the planning application.

The proposed level of parking at the club is unlikely to lead to any overspill parking issues and is therefore considered acceptable.

5. Residential Trip Rates

Forecast trip numbers for the proposed development were presented in the Transport Statement as follows:

Table 2: Trip numbers presented in Transport Statement

Land Use / GFA	Period	Arr	Dep't	Total	Period	Arr	Dep't	Total
TRIP GENERATION RATES								
C3 Residential, Privately owned Houses (51 units)	AM Peak (08:00 to 09:00)	0.132	0.374	0.506	PM Peak (16:00 to 17:00)	0.315	0.175	0.490
A1 Local Retail (370m2)		9.168	8.491	17.659		10.893	10.555	21.448
FORECAST TRIP GENERATIONS								
C3 Residential	AM Peak (08:00 to 09:00)	7	26	33	PM Peak (16:00 to 17:00)	16	9	25
A1 Local Retail		34	31	65		40	39	79
D2 Assembly and		5	5	10		5	5	10
Total Trips		46	62	108		61	53	114

The highway officer has requested that a sensitivity test be undertaken using average and 85th percentile residential trip rates presented in a Transport Statement for a site at Pont Adam Crescent in Ruabon (application ref P/2014/0241). The results of these sensitivity tests are set out in Tables 3 & 4 below.

Table 3 Sensitivity test using Ruabon average trip rates

Land Use / GFA	Period	Arr	Dep't	Total	Period	Arr	Dep't	Total
TRIP GENERATION RATES								
C3 Residential, Privately owned Houses (51 units)	AM Peak (08:00 to 09:00)	0.171	0.385	0.556	PM Peak (16:00 to 17:00)	0.363	0.213	0.576
A1 Local Retail (370m2)		9.168	8.491	17.659		10.893	10.555	21.448
FORECAST TRIP GENERATIONS								
C3 Residential	AM Peak (08:00 to 09:00)	9	20	28	PM Peak (16:00 to 17:00)	19	11	29
A1 Local Retail		34	31	65		40	39	79
D2 Assembly and		5	5	10		5	5	10
Total Trips		48	56	103		64	55	118

Table 4 Sensitivity test using Ruabon 85th %ile trip rates

Land Use / GFA	Period	Arr	Dep't	Total	Period	Arr	Dep't	Total
TRIP GENERATION RATES								
C3 Residential, Privately owned Houses (51 units)	AM Peak (08:00 to 09:00)	0.235	0.588	0.823	PM Peak (16:00 to 17:00)	0.556	0.222	0.778
A1 Local Retail (370m2)		9.168	8.491	17.659		10.893	10.555	21.448
FORECAST TRIP GENERATIONS								
C3 Residential	AM Peak (08:00 to 09:00)	12	30	42	PM Peak (16:00 to 17:00)	28	11	40
A1 Local Retail		34	31	65		40	39	79
D2 Assembly and		5	5	10		5	5	10
Total Trips		51	66	117		73	55	129

As can be seen, under the test using the Average Ruabon trip rates, the total number of trips expected to be generated by the development is not materially different to those presented in the Transport Statement.

When the Ruabon 85th percentile trip rates are used, the total number of trips forecast to be generated by the development would be 9 more than set out in the TS during a weekday am peak, and 15 more during the pm peak hour, i.e. around 1 further trip every four minutes. It is important to note that this would only be the case if the residential element of the development generated trips at a rate greater than 85% of the comparable sites surveyed in TRICs, and in any case is not considered to present a material difference.

A point that was not covered in the TS, but that is key to bear in mind when considering the above figures, is that convenience stores of the size proposed at this site often act as a top-up shopping destination, with visits undertaken as part of a journey elsewhere, for example between home and work. This is particularly true for the two peak hours assessed above, when a significant amount of demand on the roads is commuter traffic, and it is expected that the majority of trips to the retail unit would have been travelling along Llay Road in any case and would call in at the site as part of their journey.

The forecast level of trips generated by the site, even based on the above sensitivity test trip rates, is therefore considered to be acceptable.

6. Treatment of Proposed New Access on Watts Dyke

There are currently double yellow road markings on both sides of Watts Dyke, extending from Llay New Road to the easternmost junction of Watts Dyke and Penderyn Way.

Appendix C of the TS set out proposed access arrangements for the development, and showed the double yellow lines on Watts Dyke extended to the west to include the proposed site access, and the highway officer has raised a concern that the provision of double yellow lines would be dependent on a Traffic Regulation Order (TRO), which would be subject to public consultation, meaning that its provision cannot be guaranteed at this point.

From the proposed site access point, Watts Dyke continues West before forming a crescent that returns to join Llay New Road some 350m north of its junction with Llay New Road adjacent to the proposal site. For the remainder of its length between the proposed site access and the northern junction with Llay New Road there are no double yellow lines in place, despite there being eight side roads joining the carriageway. The absence of double yellow lines at these locations suggests that there are no issues caused by parked vehicles, and that local residents parking in the area do so appropriately, paying due heed to the surrounding environment and the needs of others passing along the highway.

With the proposed removal of a vehicular through route from the scheme, the proposed access on Watts Dyke would become a cul-de-sac, similar to many of the other side roads off Watts Dyke. There is no reason to expect any different parking behaviour in the area around the proposed access on Watts Dyke, and we do not therefore consider a TRO at that location to be necessary at this time. Should any issues arise in the future, then a TRO could be promoted at that point in order to address them. This is a remedy available to the local authority should any issues arise at other similar locations throughout Llay (including the other 8 side roads on Watt Dyke), and is the appropriate course of action to take in this instance.

It is therefore proposed that double yellow lines on Watts Dyke should not be extended as part of this proposed development. However, the applicant would be

willing to make a contribution to fund and TRO application should one be considered necessary within two years of the development being brought into use.

1.4 Summary and Conclusion

The following issues have been addressed in this note:

- The potential for rat-running through the site;
- The positioning of the proposed access in relation to other side roads on Llay New Rd;
- Pedestrian provision across Llay New Road.
- Proposed level of parking provision;
- Residential trip rates; and
- Treatment of proposed new access on Watt Dyke.

The potential for rat-running though the site would be completely removed by the confirmation that the applicant is willing to make it a condition of planning that no through-route between the new access points would be provided for vehicular traffic. The access from Llay New Road would instead serve only the retail unit car park, and potentially a small number of proposed dwellings close to Llay New Road.

This note has set out the background to the preference to avoid crossroad give-way junctions; to avoid any driver approaching from one side road mistakenly continuing straight into the opposite side road without giving way to main road traffic. The note also sets out that traffic exiting the site onto Llay New Road would not mistake the service road for a continuance of the road they are already on. They would see the frontage of a house immediately ahead of them, appreciate that they are approaching a main road, and prepare to give-way to traffic.

This note has also considered the junction spacing resulting from the proposals. It is not out of keeping with junction spacing elsewhere in Llay – indeed elsewhere on Llay New Road – and is therefore considered acceptable. The frequent presence of side roads in this location and indeed throughout the village is not considered unusual, and drivers passing through the area would modify their behaviour accordingly to take account of the potential for other vehicles turning into or out of them.

Finally it is considered that retail-driven pedestrian demand across Llay New Road existed when the Shone's Lane co-op was operational, with pedestrians seeking to cross from the residential area along Watts Dyke to access that store. This arrangement clearly existed for a number of years without any issues that WSP are aware of. Nevertheless, the potential for improvements for pedestrians have been reviewed. PV2 values calculated for the am and pm peaks are 0.28x108 and 0.39x108 respectively, both are which are well below the threshold of 1x108 for a controlled crossing point and the provision of an informal crossing point on Llay New Road featuring dropped kerbs and tactile paving is therefore proposed, subject to agreement with Wrexham CBC.

Concerns have been raised with the proposal to reduce the level of parking allocated to the RBL building. It is important to note that the current lease to the RBL club does not extend to the whole land holding, but part only, with 42 spaces provided for their use. The club is currently using land

beyond their lease, but this is by temporary agreement only. Following construction of the development, 50 spaces would be allocated to the RBL building.

A parking accumulation survey undertaken in February this year identified that the highest level of parking demand at the site during the week was 43 vehicles on the Monday evening, which is well within the level of provision of 50 spaces proposed by the planning application.

The highway officer has requested that a sensitivity test be undertaken using average and 85th percentile residential trip rates presented in a Transport Statement for a site at Pont Adam Crescent in Ruabon (application ref P/2014/0241). The results of these sensitivity tests show that using the Average Ruabon trip rates, the total number of trips expected to be generated by the development is not materially different to those presented in the Transport Statement.

When the Ruabon 85th percentile trip rates are used, the total number of trips forecast to be generated by the development would be 9 more than set out in the TS during a weekday am peak, and 15 more during the pm peak hour, i.e. around 1 further trip every four minutes. It is important to note that this would only be the case if the residential element of the development generated trips at a rate greater than 85% of the comparable sites surveyed in TRICs, and in any case is not considered to present a material difference.

It should also be noted that convenience stores of the size proposed at this site often act as a top-up shopping destination, with visits undertaken as part of a journey elsewhere, for example between home and work. This is particularly true for the two peak hours assessed above, when a significant amount of demand on the roads is commuter traffic, and it is expected that the majority of trips to the retail unit would have been travelling along Llay Road in any case and would call in at the site as part of their journey.

There are currently double yellow road markings on both sides of Watts Dyke, extending from Llay New Road to the easternmost junction of Watts Dyke and Penderyn Way. The TS submitted in support of the application showed the double yellow lines on Watts Dyke extended to the west to include the proposed site access. However, for the remainder of the length of Watts Dyke between the proposed site access and the northern junction with Llay New Road there are no double yellow lines in place, despite there being eight side roads joining the carriageway. The absence of double yellow lines at these locations suggests that there are no issues caused by parked vehicles, and that local residents parking in the area do so appropriately, paying due heed to the surrounding environment and the needs of others passing along the highway.

There is no reason to expect any difference in the area around the proposed access on Watts Dyke, and we do not therefore consider a TRO at that location to be necessary at this time. Should any issues arise in the future, then a TRO could be promoted at that point in order to address them. The applicant would be willing to make a contribution to fund a TRO application should one be considered necessary within two years of the development being brought into use.

It is therefore considered that there are no highways issues that should prevent the grant of planning consent for this development.

James Howe

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For and on behalf of WSP
04/05/2018