

MEMORANDUM

From: Chief Officer, Environment & Technical **To:** Chief Officer Planning & Regulatory
Our Ref: P/2019/0525 **Your Ref:** P/2019/0525
Date: 16th April 2020

TOWN AND COUNTRY PLANNING ACT 1990
TOWN AND COUNTRY (GENERAL DEVELOPMENT PROCEDURE) ORDER 1995

Location: O. S Grid Ref: 3346 5622 Land at Home Farm, Gresford Road, Llay
Development: Erection of foodstore (use class A1), car parking, access and landscaping

Further to memo dated 24/09/2019 in respect of the above, I comment as follows:-

Please find attached TA Review (ref: 400757 WA01) and Road Safety Review (ref: 400757 WA01 02) from Mott Macdonald (acting on behalf of the Highway Authority) in respect of the above.

Could you please ask the applicant to address the issues raised.

Note to Applicant:

Any further significant progression of this application from a highways perspective is unlikely to be possible until the current COVID 19 situation has subsided and staff are able to return to work to their normal working conditions ie/ in the office, with appropriate resources and access to development sites.



Chief Officer, Environment & Technical

Project:	Aldi, Crown Crossroads, Llay	Your reference:	
Our reference:	400757 WA01	Date:	4 th March 2020
Prepared by:	Bev Price	Checked by:	Craig Hunter
Approved by:	Paul Walton		
Subject:	REVIEW OF TA SUBMITTED TO WREXHAM COUNCIL BY CAMERON ROSE ASSOCIATES ON BEHALF OF ALDI STORES LTD		

1 Introduction

This technical note has been prepared to summarise a review of a Transport Assessment, prepared by Cameron Rose Associates (CRA) on behalf of Aldi Stores Limited for a proposed new store adjacent to the Crown Crossroads junction at Llay, north of Wrexham.

An adjacent development of 362 houses and a small (300sqm) store was approved at Welsh Government appeal in 2018, known as the Home Farm site. Part of the appeal permission required improvements to the Crown Crossroads signal controlled junction. The layout of the improvements was tested by the developer's consultants Curtins and agreed at the end of 2019. The improvements will provide a new lane on the Straight Mile entry from the north-east and will introduce MOVA control.

The junction has historically experienced congestion issues therefore the improvements proposed are predicted to mitigate the impact of the traffic generated by the residential development.

The addition of further traffic associated with the new Aldi store has been considered in the CRA Transport Assessment however Wrexham Council have requested that Mott MacDonald carry out an independent review.

This first stage of the review has focussed on:

- The accuracy of the background traffic flows;
- Traffic growth factors;
- Generated traffic;
- LINSIG assessment.

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2 Observed Traffic flows

The original application for the Home Farm development, which was prepared by Curtins, included traffic flows which had been surveyed on Thursday 11th September 2014.

The latest assessment of the Aldi application includes newly surveyed flows which were collected by PCC Traffic Information Consultancy on Friday 8th March 2019. Although there was some initial concern that the counts had been undertaken during the school holidays, the traffic survey company confirmed that this was not the case and the incorrect date had originally been recorded.

There has been some discussion about the traffic data and the variation between the two counts as the 2019 peak hour flows are lower than those observed in 2014, with a more pronounced difference in the PM peak.

Curtins prepared a memo to Wrexham Council dated 18/10/19, with the following comment:

Curtins has undertaken a review of the surveyed flows and a summary is provided below, with the full results in *Appendix A* to the rear of this note.

	Home Farm TA	Aldi TA	Difference	% Difference
AM Surveyed Flows	1783	1704	-79	4.4%
PM Surveyed Flows	1771	1538	-302	17.1%

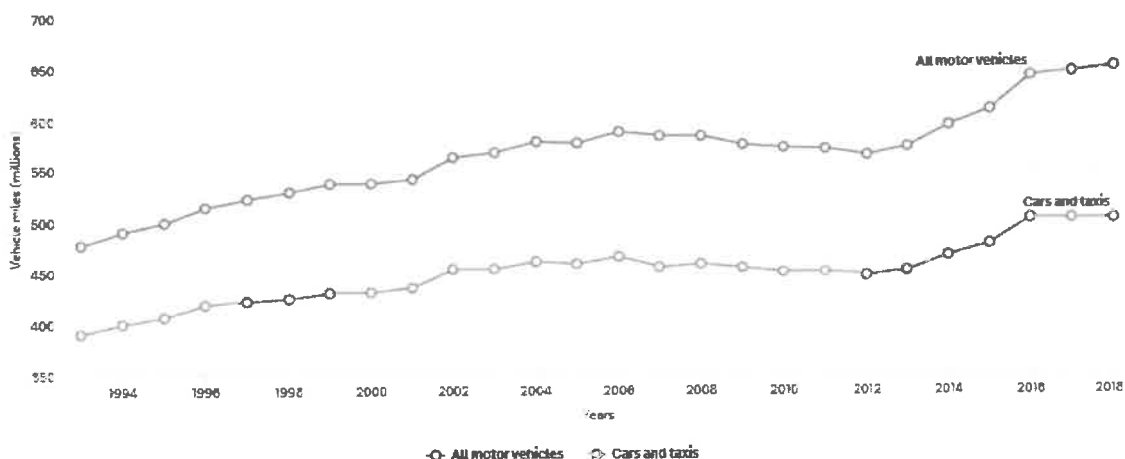
Table 1 - Total Flow at Crown Cross Roads Junction

Table 1 demonstrates that the Aldi flows are 4.4% lower than the flows used in the Home Farm TA in the AM peak, and 17.1% lower in the PM peak.

In order to consider the validity of the flows, Mott MacDonald have interrogated statistics held on the Department for Transport website; Figure 2.1 below shows the change in traffic flow in Wrexham and indicates that there has been a reduction in traffic growth and a levelling off of cars and taxi trips since 2016.

Figure 2.1: Annual Traffic for Wrexham by vehicle type.

Traffic in Great Britain from 1993 to 2018 by vehicle type in vehicle miles (millions)



Source: Extract from Road Traffic Statistics website, Department for Transport.

The Department for Transport have a number of counter locations across the country where traffic flows are counted annually. The nearest location to the site is a counter located on the B5102 to the north-west of Trevalyn, approximately 3 miles east of the junction. Hourly two-way flows from 2014 to 2018 are presented in Table 2.1. (There is no information available after 2018).

Table 2.1: Observed Data on the B5102 from 2014 to 2018

Time	Year					Change in flow from 2014 to 2018
	2014	2015	2016	2017	2018	
7	96	92	109	97	103	7
8	167	195	173	167	151	-16
9	118	106	93	103	99	-19
10	90	90	84	86	100	10
11	123	97	95	99	116	-7
12	121	93	98	87	97	-24
13	116	88	102	94	89	-27
14	136	104	121	128	105	-31
15	118	125	153	105	127	9
16	128	153	135	142	110	-18
17	139	149	152	189	157	18
18	108	106	103	104	76	-32
12 hr	1460	1398	1418	1401	1330	-130

Source: DfT, Counter Point 951396

When comparing the total change in flow between 2014 and 2018 it can be seen that there was a decrease in the 12-hour observed flows of 130 vehicles (around 9%). This would appear to validate the observations of the survey that was carried out for Aldi.

For consistency, other locations, more remote from the site have also been considered:

- Counter 10560 is located on the A483 near Marford and shows that the 12-hour flows increased by 9% between 2014 and 2017;
- Counter 951410 is located on an unclassified road to the south of Marford and shows an increase in flow of 33% between 2014 and 2018.

The 12-hour flows on the unclassified road are between 670 (2014) and 993 (2018) two-way and therefore the percentage increase is more exaggerated, compared with the flows on the A483 which are between 36,397 and 39,673 (12-hour 2-way).

Given that the traffic flows observed at the three locations do not all show the same change in flow between 2014 and 2019 it is perhaps more pertinent to refer to the graph provided for Wrexham as a whole which does suggest that traffic growth has slowed down in recent years. Without contradictory evidence to suggest that the survey data is incorrect or that the day of the survey was not a neutral day there can be no reason to question its validity. A manual check of the survey could be carried out to provide further reassurance, if the video survey data is made available by the survey company.

MM have considered the raw data that was provided in the CRA TA and agree that the peak hours for the latest surveys are 0745-0845 in the morning and 1630-1730 in the evening peak hour. The survey flows included at Figure 4.1 of the CRA TA are representative of the flow data collected by PCC Traffic Information Consultancy, however an adjustment appears to have been made to the flows, presumably to convert the

observed figures from vehicles to PCUs, although no reference has been made to the factors used, they appear to have assumed that an HGV is 2 and a Bus is 2.3 which is reasonable.

3 Traffic Growth Factors.

The growth factors used in the CRA TA are shown in Table 3.1 and have been derived from the TEMPRO 7 NTM AF15 Dataset with adjusted local growth for the Wrexham 020 super output area (A02000420).

Table 3.1: CRA growth factor 2019-2026

	AM	PM
Wrexham 20	1.0644	1.0641

This dataset is for a very specific small area of Wrexham; MM would not usually apply the growth derived for such a small zone since the traffic passing through the Crown Crossroads would originate from a wider area. It is considered more representative to use the average factors provided for Wrexham as a whole.

Table 3.2 below shows the PM peak hour factors calculated by TEMPRO for all regions of Wrexham, as an average, and for the three areas closest to the site individually. Factors are also shown for Rural and Urban road classifications; given that the site lies on the edge of the built-up area it could be argued that either of these is relevant.

Table 3.2: TEMPRO growth factors for 2019 – 2026 for Wrexham (PM Peak hour)

Location	Urban Principal	Rural Principal
Wrexham (average)	1.0780	1.0864
Wrexham 03	1.0810	1.0894
Wrexham 04	1.0854	1.0939
Wrexham 20	1.0608	1.0691

The tables show that the factor used in the CRA assessment is lower than all but one of the possible figures provided. However, given that the values are so similar and should be applied to both the “without Aldi” and the “with Aldi” scenarios, it is expected that there would be no significant impact on the assessment of the junction.

4 Generated Development Flows

The volume of trips that will be generated by the new food store has been derived from observed data at several existing stores in Wales.

A full check of the trip rate derivation has not been carried out; however, they have been compared with trip rates derived from the TRICS database for discount food stores; the CRA trip rates for AM and PM weekday peak hours are higher than the TRICS rates.

Given that the CRA trip rates are based on Aldi stores in Wales, whereas the data stored in TRICS is for mixed discount stores mainly located in Scotland, the CRA rates will be more appropriate and will present a more robust assessment.

The TA provides details of the percentage of trips to the Aldi site that are considered to be pass by, diverted, transferred and new. These are acceptable and in line with usual values.

The distribution of the trips onto the highway network has been based on a gravity model and also appears reasonable.

5 Crown Crossroads – LINSIG model.

In order for Wrexham Council to consider whether the additional traffic to/from the Aldi store will impact on the operation of the Crown Crossroads junction, a comparison needs to be presented of the “without Aldi” and the “with Aldi” scenarios.

The do nothing scenario, from an Aldi perspective, must assume that all committed development flows are present on the network and that the recently agreed improvements to the Crown Crossroads junction (as shown on the Curtins’ plan 065665-CUR-ZZ-XX-DR-D-9561-C01) have been implemented.

CRA acknowledge in their Highways Update note to Wrexham Council, dated 17/12/19, that “the LINSIG models produced by Curtins do not represent the latest S278 plans...”. This LINSIG will be the base position against which the Aldi impact will be considered and therefore the correction should be made to this model in the first instance. Although the Curtins’ plan indicates a new left turn lane from the Straight Mile approach which measures 44m in length (ie 7pcu) the LINSIG only assumes a 5pcu length (29m) and will therefore present worse results.

CRA have presented the future model for the Do Something scenario with the Aldi flows added to the network and the junction improvements in place however it is misleading to consider this against the results from the incorrect LINSIG from Curtins, as quoted in their note.

It would be helpful to present Practical Reserve Capacity (PRC) results in the comparison tables.

MM have been provided with the CRA LINSIG model (*Table 3TN_65665 – Physical and MOVA Scenario (Crown Crossroads 2026)-Sta..lsg3x*) (with the 7pcu lane length) and for information, have tested the “2026 AM ALDI Traffic with Dev” flows (which are assumed to be the without Aldi traffic flows).

The PRC values for each of the tests are shown in Table 5.1 and indicate that the PRC for the junction would be negative in the AM peak hour but around 10% in the PM peak hour, without the Aldi traffic.

Table 5.1: Preliminary LINSIG test results 2026

PRC (%)	AM	PM
Without ALDI	-9.4	10.4
With ALDI	-9.8	-0.6

Once the development flows are added the PRC in both peak hours would be negative.

Aldi should be asked to mitigate the impact of their development to ensure the PRC of the junction remains around 10% in the evening.

6 Summary

MM considers that the Transport Assessment, prepared by Cameron Rose Associates, on behalf of Aldi, for a proposed new store adjacent to the Crown Crossroad junction, provides a robust assessment of the impact of the store.

MM believe that the observed 2019 survey flows should be considered a true reflection of traffic flows at this location and that the flows associated with the development are also reasonable.

Although the growth factors used are considered to apply to too small an area to be relevant to the traffic flowing through the junction, the factor for the wider Wrexham area is similar and therefore does not warrant a full repeat of the modelling.

CRA should however be required to provide further assessment to clearly demonstrate the "with" and "without" Aldi scenarios and provide mitigation for the impact of the additional traffic.

CRA have acknowledged the shortened lane length used in the LINSIG by Curtins but should not assess the impact of the Aldi store against these incorrect results.

Project:	Aldi, Crown Crossroads, Llay		
Our reference:	400757 WA01 02	Your reference:	
Prepared by:	Paul Walton	Date:	27 th March 2020
Approved by:	Sion Williams	Checked by:	Bev Price
Subject:	ROAD SAFETY REVIEW OF TA SUBMITTED TO WREXHAM COUNCIL BY CAMERON ROSE ASSOCIATES ON BEHALF OF ALDI STORES LTD		

1 Introduction

This technical note has been prepared to summarise the road safety implications following a review of a Transport Assessment, prepared by Cameron Rose Associates (CRA) on behalf of Aldi Stores Limited for a proposed new store adjacent to the Crown Crossroads junction at Llay, north of Wrexham.

A previous technical note (Ref: 400757 WA01) was submitted in early March 2020 setting out the findings of a review of the predicted traffic implications of the proposal.

This technical note will look into the road safety implications of the proposed Aldi store, particularly centred around the following:

- The bus stop location on Gresford Road;
- The proposed left-turn entry into the site from Straight Mile;
- The location of pedestrian crossings on Gresford Road (Zebra and a dropped crossing); and
- Proposed HGV movements in/ out of the site.

2 Road Safety Assessment

The assessment was based on application drawing number 2636NESW-102 Rev D, as shown in Figure 2.1. In addition, a site assessment was undertaken on Wednesday 26th February 2020 with an officer from Wrexham County Borough Council also in attendance. Points considered have been highlighted on the plan with respective paragraph numbers.

2.1 Bus Stop Location Review

The scheme drawing indicates a proposed bus stop on Gresford Road opposite the existing junction with Fair Oaks Crescent. It is not normally good practice to site bus stops in such locations where turning conflicts may arise between vehicles turning right from the minor road and a stationary bus. However, it is clear from the scheme proposals that an alternative site for the bus stop is limited within the vicinity of the store.

Turning movements from the minor road are expected to be relatively low and although no bus frequency figures are known they too are expected to be low. The likelihood of turning conflicts from this junction are therefore considered to be low. Should a motorist waiting to turn right from Fair Oaks Crescent be impacted

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by a stationary bus, then it would be expected that the driver would use their own judgement as to when there was a safe opportunity to move and this may involve waiting for the bus to move first.

It is also worth noting that an existing bus stop flag is positioned on a lighting column to the west of Fair Oaks Crescent (see Figure 2.1) serving westbound movements. It appears that this location is acceptable with regard to the proximity of the proposed zebra crossing and start point of associated zig-zag markings. No existing bus stop is located serving eastbound movements in the vicinity of the store.

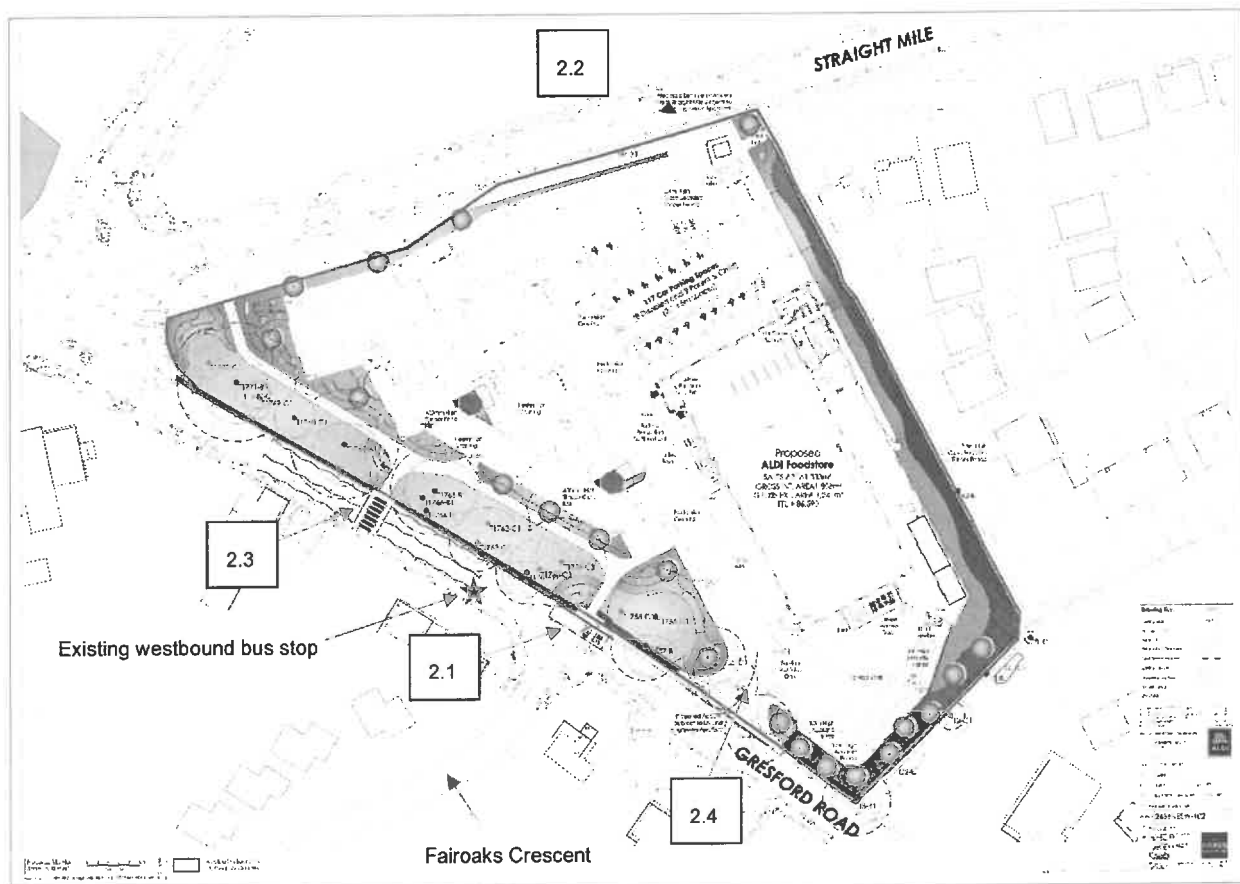


Figure 2.1: Proposed Aldi Store, Llay, Wrexham. Site Plan

2.2 Site Access from Straight Mile

This road is currently subject to a 50mph speed limit, with the speed limit dropping to 40mph prior to the signal-controlled junction with Gresford Road. It is noted that the proposed site access into the store from Straight Mile is left-in only with no egress movements permitted. It is also noted that the drawing highlights this access is 'Subject to LA and Highways Approval'.

Based on the design standard CD123 from the Design Manual for Roads and Bridges covering 'Geometric design of at-grade priority and signal-controlled junctions' for roads with a speed limit greater than 85kph a nearside diverging taper or auxiliary lane should generally be provided. This is dependent on predicted major road flows and left turning flows into the minor road. Since the existing 50mph speed limit on Straight Mile is below this (80kph) then it could be argued that a nearside diverging taper is not required. However, the good forward visibility on Straight Mile and potential for greater speeds could result in shunt type

collisions as vehicles unexpectedly slow down to enter the store access. The access currently proposed in the drawing has tight turning radii which may exacerbate this issue.

From the site visit, it was noted that a housing scheme is currently under development further north on Straight Mile with a new site access to be provided from Straight Mile. The presence of two new access points may provide a case to reduce the current speed limit from 50mph. With the addition of sufficient signing and a junction designed in accordance with CD123 this should improve access movements into the store from Straight Mile.

Should the speed limit remain as 50mph then it is recommended that a nearside diverging lane is provided to the store access in accordance with CD123.

2.3 Pedestrian Crossings

A zebra crossing is proposed on Gresford Road to the North-West of Fair Oaks Crescent connecting to a pedestrian access to the store. A route is then provided through the car parking area to the store entrance which is positioned on the north side of the store footprint.

From the site inspection and a review of alternative locations for the zebra crossing it was considered that the current position is the most suitable. It is located away from driveways and access points and will draw people towards the main pedestrian route into the store. Alternative locations for the crossing are limited by existing driveways and the presence of Fair Oaks Crescent.

One point of note is the need to ensure adequate visibility is provided for pedestrians when waiting to use the zebra crossing on the northern side. A gap is to be created within existing trees to create a pedestrian route into the store, however, vegetation should also be cut back as required and maintained on a regular basis on the northern side of Gresford Road in the vicinity of the crossing. Tactile paving should also be provided at the zebra crossing.

2.4 HGV Movements

The proposed service yard to the store is located in the south-eastern corner close to the main vehicular entrance. Although some swept path movements for the service vehicle are indicated on the scheme drawing there is nothing shown for left turn movements out of the site. The close proximity of the service yard to the main entrance will result in restrictive space for a service vehicle to undertake this manoeuvre. Further evidence should be provided to indicate the suitability of space to enable all turning movements to be provided safely without conflict with other vehicles and pedestrians using the footways.

Ideally, the service yard would be better placed away from its proposed location close to the main store entrance to avoid conflicts between service vehicles and customer vehicles. However, it is expected that service vehicle trips will be at non-peak times thus avoiding conflicts with busy shopping trips. It is recommended that a condition is included that the developer ensures all service trips are at times when the store is closed to avoid any vehicular conflicts.

3 Summary

Mott MacDonald were commissioned to assess the road safety implications following a review of a Transport Assessment, prepared by Cameron Rose Associates (CRA) on behalf of Aldi Stores Limited for a proposed new store adjacent to the Crown Crossroads junction at Llay, north of Wrexham.

The findings and recommendations of this review are summarised as follows:

- The proposed bus stop on Gresford Road is not ideally positioned opposite the junction with Fair Oaks Crescent. However, there are limited alternative locations for this stop within close proximity of the store and the likelihood of turning related conflicts is expected to be minimal;
- For the proposed store access from Straight Mile it is recommended that the speed limit is reduced to enable slower approach speeds to this entrance in accordance with the DMRB standard CD123 and avoid the potential for shunt type collisions to occur.
- Should the existing speed limit of 50mph remain on Straight Mile then a nearside diverge taper should be provided to the store access in accordance with CD123.
- The zebra crossing proposed on Gresford Road is considered to be in an acceptable location. However, it is recommended that existing vegetation on the northern side of the crossing point is cut back to provide adequate visibility for pedestrians;
- Vehicular tracking should be provided to indicate sufficient turning space is provided for service vehicles when exiting the store, especially when turning left; and
- A condition should be provided to the store operation to ensure service vehicles access and egress the site outside of store opening times to avoid vehicular conflicts.

To back up these findings and ensure a thorough road safety assessment is undertaken to required standards, it is recommended that a Road Safety Audit is commissioned in accordance with GG119 'Road Safety Audit'.