

Mid Devon

Local Plan Examination

Hearing 1: Policy J27

26 September 2017

Devon County Council Position Statement

Statement prepared August 2017

Devon County Council
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1. Introduction

- 1.1. This statement has been prepared to answer Question 10 as posed by the Planning Inspector in relation to the Policy J27 matter for the Mid Devon District Council Local Plan Examination. The question is:

Q10: Does the evidence base lead to a conclusion that the impact on M5 Junction 27 can be properly managed?

- 1.2. A full response to the question and associated issues is included in the following section of the statement.

2. Response to question 10

Q10: Does the evidence base lead to a conclusion that the impact on M5 Junction 27 can be properly managed?

- 2.1. Junction 27 of the M5 is a strategic location not just for the District, but for the wider sub-region as it offers a direct link between northern Devon and the rest of the country.
- 2.2. The biggest issue at Junction 27 is the increased traffic flows in the summer and during weekends. Previously, this resulted in traffic on the southbound off-slip queuing back onto the M5 mainline which was a severe safety concern. To solve this problem, the southbound off-slip road was widened to three lanes at the stop line and both off-slips were signalised in 2014. This has improved the situation, but there are still issues during busy periods.
- 2.3. Eden Westwood, a mixed use development of approximately 450,000 sqft is proposed to be situated to the east of M5 Junction 27.
- 2.4. Devon County Council's report "Mid Devon Local Plan Review: Assessment of Highway Options to Accommodate Potential Developments, August 2014"¹ considers evidence in relation to M5 Junction 27. The report assesses the impact on the junction Eden Westwood at M5 Junction 27 and in particular in summer periods.
- 2.5. The report details the traffic modelling exercise undertaken and considers several junction improvements. The evidence concluded that M5 Junction 27 can accommodate the commercial development in 2033 with widening the northern bridge to four lanes as well as widening of the slip roads, full signalisation and possibly a segregated left turn lane from the A361 to M5 northbound.
- 2.6. Since the publication of this report in 2014, details of the Eden Westwood development have been revised and analysis of impacts has been updated, some of which supersedes the information in the 2014 report. The subsequent text refers to how work on the development and associated evidence has progressed.
- 2.7. It is understood that Eden Westwood will comprise of an indoor surf park and activity centre, designer retail outlet, hotels and roadside service area, as well as smaller establishments such as a farm shop and visitor information centre.
- 2.8. The Eden Westwood development will generate new trips to the area. The developer, as part of their Transport Assessment and supplementary technical notes, has calculated the trip generation of the development. Devon County Council, in association with Highways England, undertook their own calculations to verify the developer's trip generation.

¹ <https://www.middevon.gov.uk/media/103561/strategic-highways-options-report-2014.pdf>

- 2.9. Calculating the trips generated by the site is not straightforward as the development is so diverse. Each zone has been considered independently and an account has been taken for linked trips between development zones. Meetings have taken place between Devon County Council, Mid Devon District Council, Highways England and promoters of the development site to agree on the technical assumptions and trip generation of the development.
- 2.10. The most recent of the developer's technical notes, "TN07 Follow-up response to meeting on 14 Feb 2017" (see Appendix 1), provides sensitivity tests for private vehicle trips. The 'High' scenario suggests there will be 3.9 million annual two way private vehicle trips and this broadly aligns with the DCC calculations. DCC and HE approve of using the figure of 3.9 million for subsequent traffic modelling and impact analysis.
- 2.11. The DCC/HE assessment shows that the number of trips during peak times is likely to be 1,500 – 1,750 per hour. This is a 40% increase in traffic on a junction that is already close to capacity.
- 2.12. In order to validate the trip generation, the hourly trip generation was checked against the parking availability. This showed the number of trips estimated fits within the development's allowance of 2,000 parking spaces.
- 2.13. The assessment of traffic flows shows that the development will increase the traffic flows significantly at M5 Junction 27. It is critical that the development does not have a severe impact on the M5 slip roads or junction circulatory.
- 2.14. The M5 Junction 27 impacts can be properly managed if improvements to the junction, such as widening of the overbridges, are made to reduce queuing and delays on the arms entering the junction. In doing this the junction entries, particularly the slip roads, may also need to be widened.
- 2.15. The developer has proposed a junction arrangement for M5 Junction 27 which indicates that an extra lane will be added to each of the circulatory overbridges.
- 2.16. DCC are of the view that widening the overbridges and potentially the entries of the junction will manage the traffic impact from an increase in trips from the Eden Westwood development, from a traffic flow perspective. Figure 1 below shows a plan of the potential improvements.

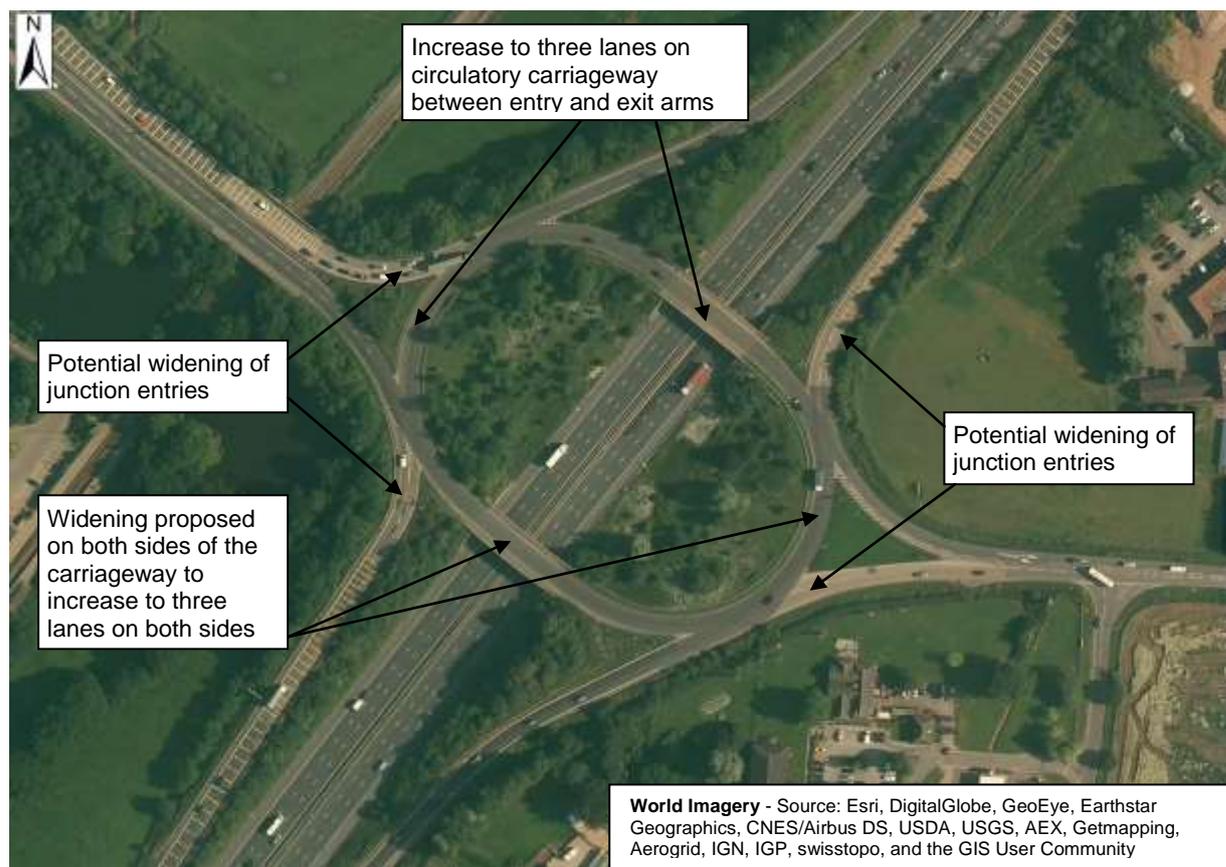


Figure 1 Plan showing potential junction improvements

- 2.17. There are further questions in relation to the structural integrity and deliverability of the scheme. There are structural considerations about the existing overbridges which require further investigation and although there will be a cost associated with the scheme the scale of the cost needs to be determined. It is considered that the cost of any necessary improvements will be funded by the developer.
- 2.18. Devon County Council, Highways England and Mid Devon District Council are currently working with the developers and promoters on further feasibility and assessment work of the Junction 27 development to consider how M5 Junction 27 will be improved, to effectively manage the traffic impacts from the strategic development.

3. Summary

- 3.1. In summary, Devon County Council is of the view that the proposed development site at M5 Junction 27 will add considerable additional traffic to the existing junction based on the existing evidence base. Substantial upgrades will be required to accommodate traffic associated with the Local Plan strategic allocation at Junction 27. The junction is capable of being improved to manage the traffic impacts and Devon County Council is working closely with the developers and Highways England to agree the best solution.

Appendix 1

TN07 – Follow-up response to meeting on
14 Feb 2017

Project Title	Eden Westwood	
Project Number	286897A-HHC	
Title of Technical Note	Follow-up response to meeting on 14 Feb 2017	
Client	Friends Life Ltd	
Document Reference	TN07	
Status/ Version	Draft First Issue	
Date of Issue	06 March 2017	
Quality Management	Author:	Mark Murawski
	Checker:	Stephen Hayward
	Approver:	Jason Collins

1 INTRODUCTION

On 14 February 2017, WSP | Parsons Brinckerhoff met with Mid Devon District Council (MDDC), Devon County Council (DCC), and Highways England (HE) to discuss outstanding matters on the Transport Assessment (TA) for the proposed Eden Westwood development and the recent exchange of Technical Notes with respect to these matters.

This note considers the points which were raised at the meeting on 14 February 2017, including:

- Impacts of the proposed new Roadside Service Area (RSA);
- Predicted demand for the Surf Park;
- Trip Distribution Methodology, specifically regarding the proportion of traffic on the A38;
- Sensitivity of the assumptions included within the TA.

This note seeks to provide further clarification to the points raised in the meeting with respect to the potential impacts on the reliability of the TA.

2 ROADSIDE SERVICE AREA PROPOSALS

Concerns have been raised that the proposed modernisation of the existing Roadside Service Area could result in additional primary visits to the RSA. The TA assumes that the modernisation of the RSA includes the replacement of the existing services. The proposals are proportionate to the current reserved matters application, 1,750sqm of floor area, and underlying Transport Assessment dated August 2013. Consideration has been given for what the net change in traffic would be by removing the existing RSA and replacing it with a 1,750sqm amenity building and 160 space car park as per the reserve matters application. This assessment utilises the trip generation detailed in the "Roadside Service Area, J27 M5" Transport Assessment (in relation to the application 10/00546/MOUT). The TA utilises a trip rate per parking space for a Motorway Service Area from TRICS.

Table 2-1: Trips Rates defined in the reserve matters Roadside Service Area, J27 M5 TA

	AM PEAK		PM PEAK	
	Arrivals	Departures	Arrivals	Departures
Trip Rate / Parking Space	0.69	0.65	0.70	0.74
Vehicular Trips	110	104	112	118

The demand for existing roadside services was determined from the traffic counts which were commissioned for the Eden Westwood Transport Assessment. The table below considers the difference between the existing demand and that which is estimated from the TA for the reserve matters application.

Table 2-2: Comparison of existing movements at M5 J27 RSA against those detailed in the extant reserve matters application

MOVEMENT	APPROVED TA		2016 BASE FLOWS		DIFFERENCE	
	AM	PM	AM	PM	AM	PM
Arrive	110	112	110	155	0	+43
Depart	104	118	123	147	+19	+29

The data shows that the base flows for the existing RSA are in excess of the anticipated demand for a 1,750sqm amenity building and 160 space car park RSA in both peak periods. As such, it is considered that the modernisation of the existing RSA would not result in any increase in demand.

3 VISITORS TO OUTDOOR ADVENTURE (SURF PARK)

The Transport Assessment for Eden Westwood states that the estimated annual footfall of primary visitors to the Outdoor Adventures element of the site is circa 70,000 visitors per annum. Concern was raised by DCC that the Surf Snowdonia development estimated a similar number of visitors (circa 75,000 visitors), though a recent press release has indicated that the year one opening visitor numbers are circa 150,000. It was suggested that the Eden Westwood TA could increase the Outdoor Adventures visitor demand to 200,000 or 250,000.

The c.70,000 visitors assumed in the TA are primary visitors and are in line with the footfall estimates produced by CBRE, with input from Colliers International who have been involved in the Surf Snowdonia scheme. In reality, the number of visitors to the surf park (surfing/ spectating or otherwise) is likely to be far greater once cross-visitation to other parts of the development is taken in to account. The Eden Westwood Transport Assessment has been based on primary visits and therefore does not include any link trip reductions for visitors. An element of linked trip reductions have been included for staff though because it is likely that staff would use the shops, restaurants and bars on site and therefore would otherwise be double counted in the assessment. The primary visitor numbers for the surf park have been constrained by the capacity limits of the surf lagoon. Whilst the Surf Snowdonia press release indicated visitor numbers may be as high as 150,000 visitors per annum, it is understood that many of these visitors are likely to be spectators or using the on-site café, deli, restaurant, "on-site glamping", soft play or shop. It should be noted that if only 1% of visitors to the other aspects of Eden Westwood also visited the Outdoor Adventures element, this would increase the total visits by upwards of 30,000 visits per annum. However, this would not affect the primary visitor numbers which underpin the methodology of the Eden Westwood TA.

4 TRIP DISTRIBUTION METHODOLOGY

In previous technical notes, DCC have raised concerns that the distribution applied to the Eden Westwood development trips have resulted in an unrealistic number of trips from the A38 approach. At the meeting on 14 February 2017 it was agreed that whilst the fundamental methodology

surrounding the use of the gravity model was correct, it was possible that the model was overestimating demand on the A38.

The gravity model used within the TA utilises a distance deterrent with distance calculated from 5 km crow fly distance bands. This results in the following distribution:

M5 S	A38	M5 N	A361
37%	14%	34%	16%

Consideration has been given for an alternative gravity model which utilises 15 minute isochrones from Eden Westwood. This could be considered more appropriate as it considers the standard of road and actual drive time/ distance, rather than the simplified crow-fly distance approach. This gravity model results in the following distribution:

M5 S	A38	M5 N	A361
38%	10%	39%	13%

This approach produces results which are comparable to that which was used within the TA. This model could be used as an alternative approach and would be preferable to manually changing the results of the distance deterrent gravity model used within the TA as it provides a method which is defensible under potential scrutiny at a later date.

5 TRANSPORT ASSESSMENT ASSUMPTIONS – INCLUDING SENSITIVITY OF ASSUMPTIONS

The trip generation numbers produced within the TA have been based on a number of assumptions. As such, each assumption can have an effect on the final trip generation numbers predicted for the development. The table at the end of this note identifies the assumptions considered, and identifies a trip generation scenario (total two-way annual trips) for three scenarios.

- 'Low' scenario considers a best case view (in terms of trip generation) for each assumption;
- 'Draft TA' scenario identifies the assumptions used within the TA;
- 'High' scenario considers a worst case view for each assumption.

As can be seen in the table, the 'Draft TA' scenario assumes a worst case view (with respect to highway impacts) for the majority of assumptions.

The assumptions considered are as follows:

Outdoor Adventures and Outlet centre visitor numbers: Although the predicted visitor numbers within the TA have been derived from footfall estimates predicted by CBRE, the table identifies a worst case scenario where 50% extra trips are added to the Outdoor Adventures element and 10% more trips are added to the Outlet Village element (in line with comments made by DCC). The table also outlines a best case scenario where a 10% reduction in trips has been applied to the Outlet Village.

Double counting of traveller services hotel: The traveller service hotel is an existing development on the site and the proposed development will retain this hotel at its current capacity (100 beds). Within the TA, this hotel was included within the trip generation calculations and was therefore double counted. The table outlines whether this hotel has been double counted in each scenario.

Vehicle occupancies: The visitor vehicle occupancy rates used within the TA (3.0 for the Outdoor Adventures and 2.4 for all other visitor elements) have been calculated using data from Transport Assessments of similar sites. The table identifies a worst case option where these occupancy rates

have been increased to an upper bound of 2.4 for the Outdoor Adventures and 1.9 for all other visitor elements.

The Staff vehicle occupancy within the TA on the other hand was set as a worst case value of 1 person per vehicle to provide a robust assessment. The table identifies best case option where this value has been set to 1.4 to represent a level of staff vehicle sharing which could be expected.

Mode splits: The mode splits for all aspects of the TA were set as 90% private vehicle and 10% public transport. This was again considered as a worst case scenario to provide a robust assessment. The table identifies a best case option where the private vehicle mode split is reduced to 85% to represent a greater share of public transport trips (as identified by DCC in previous comments). It should be noted that no walking and cycling trips have been included in the assessments. It is likely that staff who live in nearby towns / villages may consider this a viable mode of travel and thus reduce the number of private car trips generated by the development.

Staff shift patterns: Within the TA, staff shift patterns were considered which focussed staff arrivals and departures around the peak periods. The table includes for two shift period options where 'Stacked for Peaks' represent shift patterns as per the TA, and 'Even Spread' represent staff shift patterns spread more evenly throughout the day.

Pass-by trip reductions: Within the TA, no reductions were included to take account for pass-by trips. The values in the table represent a percentage reduction in trips applied to each scheme element to represent pass-by trips (i.e. those trips already existing and counted on the highway network which would divert from their original route into the development). It should be noted that this reduction does not affect the total trip generation of the development (as a pass-by trip is still a generated trip to the development), but would be removed from the network during the development distribution assignment stage.

6 CONCLUSIONS

The discussion points highlighted in this note have indicated that the current Draft TA provides a robust assessment of trip generation for the proposed development. The trip generation is based on a number of assumptions and the sensitivity assessments outlined herein have demonstrated the upper and lower bounds of annual private vehicle trips with two sets of alternative assumptions.

Whilst it is highly unlikely that all of that 'High' scenario assumptions would be realised, the impacts have been considered. Highway mitigation for the 'High' scenario would likely require 3 lanes on the circulatory of M5 J27. Our initial investigations indicate that there is sufficient width between the existing parapets of the overbridges to accommodate 3 no. 3.3m wide running lanes and appropriate hard strips either side. The inclusion of this third running lane would be subject to the appropriate structural checks, and any necessary strengthening works, but would avoid full scale reconstruction of the bridges.

Eden Westwood Trip Generation - High, Low and Draft TA Option Assumptions

Highway Impact

Worst Case
Mid Case
Best Case

Annual Two-Way Private Vehicle Trips

	LOW	DRAFT TA	HIGH
Zone 2 Eden Ark -	646,448	726,026	866,266
Zone 3 Designer Outlet -	1,765,501	2,155,948	2,872,950
Zone 4 Outdoor Adventures -	42,616	46,797	83,214
Traveller Services -	0	64,840	64,840
TOTAL -	2,454,565	2,993,611	3,887,271

Outdoor Adventures Visitor Numbers -	69,366	69,366	104,049
<i>Difference from Draft TA -</i>	-	-	+50%

Designer Outlet Visitor Numbers -	2,209,142	2,454,602	2,700,062
<i>Difference from Draft TA -</i>	-10%	-	+10%

Double Counting of Traveller Services Hotel -	NO	YES	YES
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STAFF	Vehicle Occupancy -		1.4	1	1
	Mode Split	Car -	85%	90%	90%
		Bus -	7.5%	5%	5%
		Rail -	7.5%	5%	5%
	Shift Options -		Even Spread	Stacked for Peaks	Stacked for Peaks
	Linked Trip Reductions	Outdoor Adventures -	10%	5%	5%
		Eden Ark -	15%	10%	10%
		Regional Visitor Centre -	10%	5%	5%
		Designer Outlet -	15%	10%	10%

VISITORS	Vehicle Occupancy Outdoor Adventures -		3	3	2.4
	Vehicle Occupancy Remainder -		2.4	2.4	1.9
	Mode Split	Car -	85%	90%	90%
		Bus -	7.5%	5%	5%
		Rail -	7.5%	5%	5%
	Pass-By Trip Reductions	Outdoor Adventures -	5%	0%	0%
		Eden Ark -	5%	0%	0%
		Regional Visitor Centre -	5%	0%	0%
		Designer Outlet -	5%	0%	0%

TRICS	Mode Split	Car -	85%	90%	90%
		Bus -	7.5%	5%	5%
		Rail -	7.5%	5%	5%