

POTENTIAL RESIDENTIAL DEVELOPMENT: LAND SOUTH OF SALFORD ROAD (WEST), BIDFORD ON AVON

Transport Technical Note – December 2020

Introduction

Our client, Rosconn Strategic Land, has instructed Savoy Consulting, a specialist transport planning consultancy, to undertake the preparation of a technical note dealing solely with access considerations in relation to a potential residential development on land south of Salford Road in Bidford on Avon. At this time, it is anticipated that up to 80 dwellings could be accommodated on the site.

The site in question will be accessed from a junction known as Avon Way, which was constructed as part of a recently completed Persimmon Homes development.

The site is identified as a reserve site in the emerging Site Allocations Plan currently being prepared by Stratford on Avon District Council but Warwickshire County Council, as the local highway authority has commented on this allocation as follows:

“The Highway Authority will resist a further access onto the B439 Salford Road at this location, due to concern of additional development will have upon the operation of the B439 corridor through Bidford-on-Avon.

In addition, it should be noted that Persimmon Homes, who developed the land to the north of this site, have not offered the highway network for adoption at present and it therefore remains private.

This raises concerns whether an access into the proposed allocation site can be achieved as it would be subject to a legal agreement to ensure a right of access can be maintained, should the site be allocated.

Further to the above, the Highway Authority is concerned whether the access from the Persimmon development on the B439 would have sufficient capacity to accommodate an allocation and continue to function in a safe and efficient manner.

Based on the above the Highway Authority would have reservations should the site be taken forward and accepted as an allocation, without further information and evidence being provided”.

Right of Access

Our client has an option agreement with Persimmon Homes which allows for access to be brought through Persimmon's Bidford Meadows development via Avon Way, through the existing highway infrastructure to the edge of our client's site. Once exercised by our client this agreement will oblige Persimmon Homes to offer the road for adoption to the highway authority. The road appears to have been constructed to adoptable standards.

Capacity Considerations

Concerns were raised by the highway authority, Warwickshire County Council, regarding the effects which any further development would have upon the operation of the B439 Salford Road corridor and if the existing access from the Persimmon Homes development would have sufficient capacity to accommodate a further allocation.

To address these concerns full classified turning counts were carried out in early December 2020 at the junction of Salford Road/Avon Way (the new road serving the Persimmon Homes development) in the morning and evening peak hour periods.

The purpose of undertaking these counts is to allow up to date capacity calculations for this junction to be carried out in order to demonstrate that Avon Way has sufficient capacity to accommodate further development. The counts will also confirm that the B439 Salford Road will continue to function in a safe and efficient manner.

It has been established that the Persimmon Homes development is now fully occupied so that the traffic flows recorded entering and leaving Avon Way, which is a cul-de-sac, are a true representation of the traffic generation from 75 dwellings.

Nevertheless, the trip rates agreed with Warwickshire County Council at the time the original transport assessment was prepared, have been used. This represents a worst case scenario as these trip rates are higher than those observed when fresh traffic counts were carried out in December 2020 at the Avon Way junction.

Capacity Calculations

The analysis of the traffic counts showed that the morning peak hour was between the 0800 and 0900 and the evening peak hour was between 1700 and 1800. A summary of the traffic surveys is set out in the table below:

ARM A: Salford Road East

ARM B: Avon Way

ARM C: Salford Road West

AM PEAK	A	B	C	PM PEAK	A	B	C
A		10	503	A		15	583
B	17		12	B	9		4
C	565	4		C	512	12	

Using the travel to work census data for Bidford on Avon from the 2011 Census, and the trip rates used in the Persimmon Homes transport assessment, the traffic generation from 80 dwellings has been assigned to the local highway network as set out in the table below:

Development Traffic

AM PEAK	A	B	C	PM PEAK	A	B	C
A		6	0	A		17	0
B	28		23	B	7		9
C	0	5		C	0	19	

Adopting the same design horizon as the original Persimmon Homes development, and to allow time for the site to be allocated and a planning application to be made, a design year of 2027 has been adopted.

2027 Design Year + Development Traffic

AM PEAK	A	B	C	PM PEAK	A	B	C
A		16	524	A		32	608
B	45		35	B	16		13
C	589	9		C	534	31	

The junction analysis has been carried out using the industry standard computer program PICADY9. A summary of the results is set out in the table below:

- Arm A: Salford Road (E)
- Arm B: Avon Way
- Arm C: Salford Road (W)

ARM/ MOVEMENT	AM PEAK			PM PEAK		
	QUEUE	DELAY(S)	RFC	QUEUE	DELAY(S)	RFC
Stream B to A C	0.3	11.90	0.23	0.1	10.79	0.09
Stream C to A B	0.0	4.54	0.03	0.3	4.98	0.11

For a junction to operate satisfactorily, the ratio of flow to capacity (RFC) has to be **below 0.85**. From this junction analysis it can be readily seen that the highest RFC is **0.23**. This means that the junction of Salford Road/Avon Way is well within its capacity threshold.

Accident Records

During the period 2015 to 2019, the period for which the latest statistics are available, a total of 60 months, there were three PICs recorded on Salford Road between the A46 roundabout and Victoria Road, a distance of 1.2 kilometres. Of these recorded collisions all were classified as slight. A summary of the PIC data is set out in the table over.

	DATE/ TIME	SEVERITY	ROAD CONDIT -ION	LIGHT CONDITION	LOCATION	CAUSATION
1	10.03.17 2042	Slight	Dry	Dark	Salford Road 50 m east of Junction of Howard Close	Car waiting to turn right hit by following car failing to stop.
2	22.03.17 2120	Slight	Dry	Dark	Salford Road 100 m west of junction of Howard Close	First vehicle lost control and hit kerb, 2 vehicles following including HGV collided with first vehicle.
3	28.05.17 2340	Slight	Wet	Dark	Salford Road 250 m east of junction of A46	Car travelling west collides with vehicle parked on the carriageway.

The analysis of this collision data confirms that there is no evidence of any existing road safety problem in the vicinity of the proposed allocation.

It is not anticipated that there will be an increase in frequency or severity of PICs resulting from the allocation and therefore no safety mitigation measures are likely to be necessary in the future.

Link Capacity

The County Council also raised concerns whether the B439 would have sufficient capacity to accommodate an allocation and continue to function in a safe and efficient manner.

The way this point can be addressed is to consider what is known as the link capacity. Advice on link capacity is set out in Volume 5, Section 1, Part 3 of the Design Manual for Roads and Bridges (DMRB). In this document the advice note gives the vehicle capacity for various types of urban roads, including roads with up to 15% heavy goods vehicles.

Examining the definitions in TA79/99 (which is Part 3 of Volume 5 of DMRB), it has been established that this section of Salford Road can be classified as an Urban All-Purpose Road (UAP).

TA79/99 recognises that urban roads normally have higher flows in the morning and evening peak periods and improving any features that effect capacity helps prevent congestion during these peak periods.

It has been established that Salford Road can be described as a UAP3, meeting the criteria in terms of its speed limit, the number of side roads, access to roadside development, parking, pedestrian crossings and bus stops. Based on this criteria Savoy Consulting believes that this section of Salford Road has a capacity of 1550 vehicles per hour.

It can be established from examining the peak hour flows in the table above that the peak hour two-way flow in 2027 will be 1234 vehicles per hour. With a defined capacity of 1550 this means there will be spare capacity in the future of in the region of 15%. It also needs to be remembered that the traffic generation from the proposed allocation would only represent 4% of the total flow in 2027.

Summary and Conclusions

This technical note has been prepared to address concerns of the local highway authority regarding the allocation of this site for residential development. Access to the site will be by means of an extension of Avon Close.

This note has therefore considered the following matters:

- ❖ legal right of access;
- ❖ capacity of the existing junction to accommodate further development; and
- ❖ capacity of Salford Road to accommodate further development.

These points have been addressed comprehensively and it has been clearly demonstrated that there are no highway or transportation reasons why the site in question cannot be allocated for a development of up to 80 dwellings.

December 2020