

# A38 Derby Junctions

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## 8.52(a) Ashbourne Road Accesses Summary

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**Ashbourne Road Accesses Summary**

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- A. Independent Safety Review Technical Note: *Ashbourne Road Access/Egress Options*

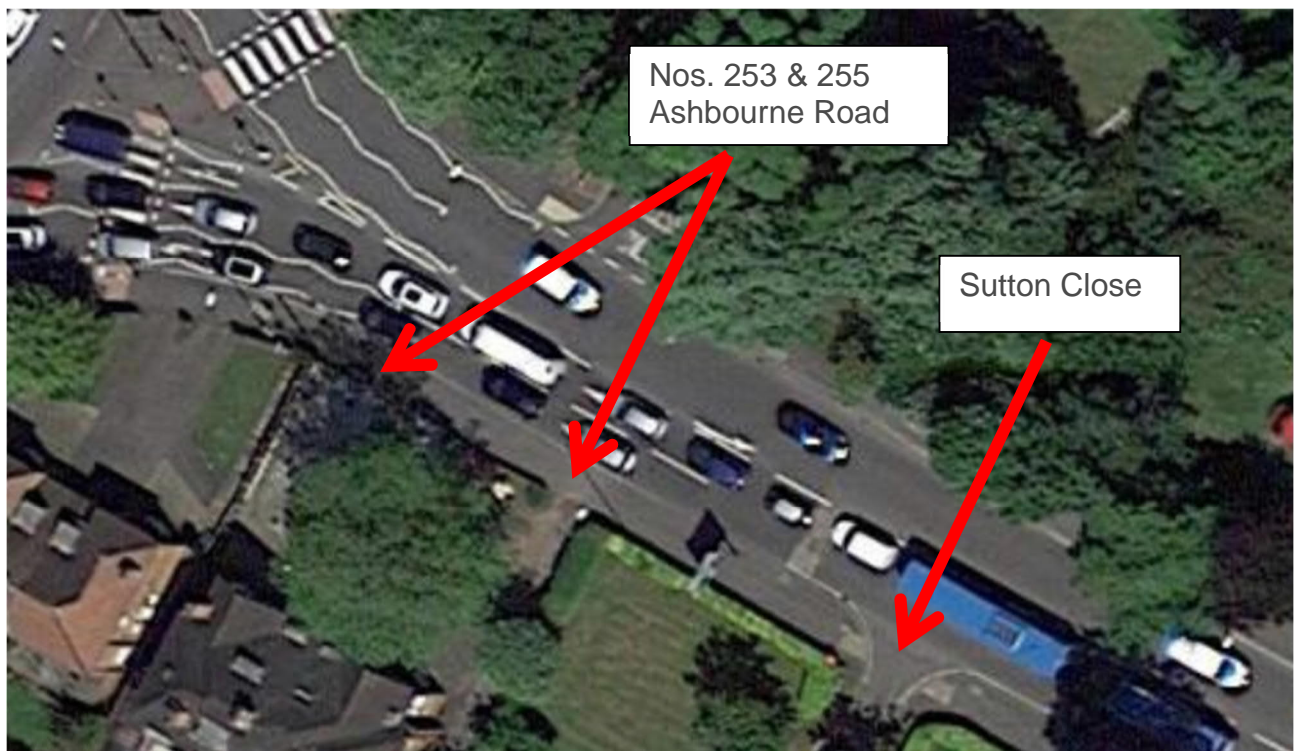
## 1 Introduction

1.1 This note has been prepared in response to the Examining Authority's request to summarise the proposed Ashbourne Road accesses with reference to a left in and left out arrangement.

## 2 Constraints and Influencing Factors

2.1 Design is an iterative process of development, assessment and refinement. Some constraints can be identified before design commences, while others are established through development and assessment. The relative significance of each constraint may also change through design iteration, safety in design principles and standards (IAN 69/15).

2.2 The existing access to the properties is via a direct access on to the A52 Ashbourne Road from each property or a T-junction road from Sutton Close (see Figure 2.1). The A52 is a single carriageway that widens on the approach to Markeaton junction to 3 lanes where there is an existing zebra crossing.

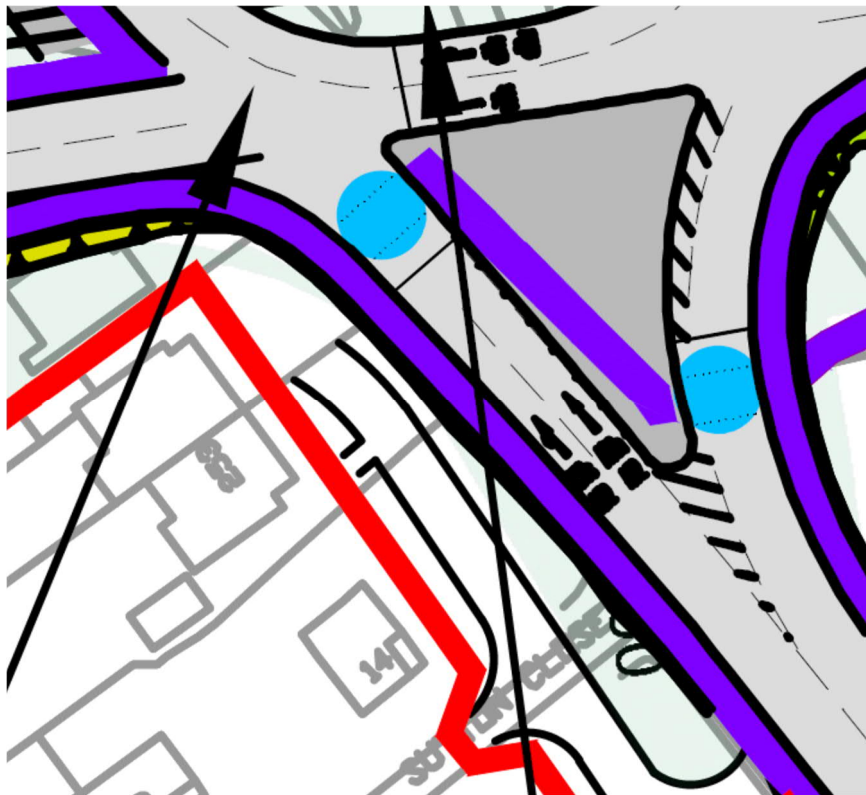


**Figure 2.1 Current Access Arrangements**

2.3 The proposed scheme layout alters the alignment of the A52 where it joins the new Markeaton junction. The junction design and demolition of 257 & 259 Ashbourne Road facilitate the new slip road merge lane from the A52 on to the A38 which resulted in the following identified constraints at this location (see Figure 2.2):

- Close proximity to the new junction and merge slip road.
- Close proximity to the new traffic island.

- Close proximity to the new signalised junction and pedestrian/cyclist crossing point.



**Figure 2.2 Proposed Layout Arrangements**

- 2.4 Taking into account these constraints and having regard to IAN 69/15 (designing for maintenance) led to the need to alter access to the properties.

### **3 The Scheme Proposals**

- 3.1 The constraints noted above preclude right turns into and out of nos. 253 and 255 Ashbourne Road if they were to continue to have direct access onto the A52 (which is the existing means of access for the properties to the public highway). A new access road has been located a safe distance from the signalised junction to the south of Sutton Close to serve the Sutton Close properties and nos. 253 and 255 Ashbourne Road. This will allow for all vehicle manoeuvres (left and right in and out) to be made in a safe manner including those for large vehicles and it keeps the amount of land take required to a minimum.
- 3.2 The compulsory acquisition of the gardens of 253 & 255 Ashbourne Road and 1 and 14 Sutton Close is to ensure the adoptable access road allows for all vehicle manoeuvres. It also allows for the provision of a turning head at the front of no. 255 Ashbourne Road (it is believed that this will be required and therefore provision has been made for it, however, should the Local Highways Authority not require a turning head then the compulsory acquisition at this property could be reduced). Without compulsory acquisition of this land, Highways England would not be in a position to ensure that the road becomes adopted highway forming part of the Local Highway Authority's network and maintainable by it. Without this, maintenance would fall to the land owners. This would place an undue burden on the owners of these properties who would have to contribute to its upkeep.



## 4 Options to Reduce Compulsory Acquisition

- 4.1 The signalised NMU crossing will be located directly outside No. 255 Ashbourne Road. This leaves no room for a direct access (left in left out) onto or from Ashbourne Road due to the location of the signalised crossing and associated street furniture.
- 4.2 The option of moving the crossing to the south end of the splitter island was considered and ruled out as it would mean the 'stop line' for the traffic signals for the main junction would also need to be moved. This would have an adverse impact on the performance of the junction (requiring a longer inter-green time for that arm with consequential effects on the other arms with increased queue lengths that could block preceding entries).
- 4.3 As stated in 4.1, no. 255 cannot access directly onto the A52, therefore, it would need to share any access provided for no. 253. A direct (left in left out) access for No. 253 onto the A52 would, therefore, have a similar impact, in terms of compulsory acquisition as the proposed scheme design. Also, no. 255 would also be affected by CA in a similar way as for the proposed scheme as turning provisions for both properties would need to be provided so that vehicles could return to the A52 safely.
- 4.4 An option of creating a new access within the frontage of no. 14 Sutton Close to serve 253 and 255 Ashbourne Road would offer no advantages over the option described in 3.2 above.
- 4.5 Refer to Appendix A for the independent safety review carried out on the access options.

## 5 Diversion Routes for Left In Left Out arrangement

- 5.1 Further effects of left in/left out arrangement.
- 5.2 The A52 is a main arterial route into Derby and is often congested which leads to delays and drivers taking inappropriate decisions. Creating a left in/left out access to these properties could tempt drivers into making inappropriate or dangerous manoeuvres to avoid the lengthy detours that would be needed to access the properties.
- 5.3 Vehicles wishing to access these properties travelling from the A38 or the A52 from the west would need to drive past the properties and continue eastbound on the A52 towards the city centre. They would then need to turn around (safely, as opposed to undertaking a u-turn at a junction) to drive back on the A52 (westbound) back to the properties. There are 3 potential routes vehicles could take to achieve this and can be seen below.

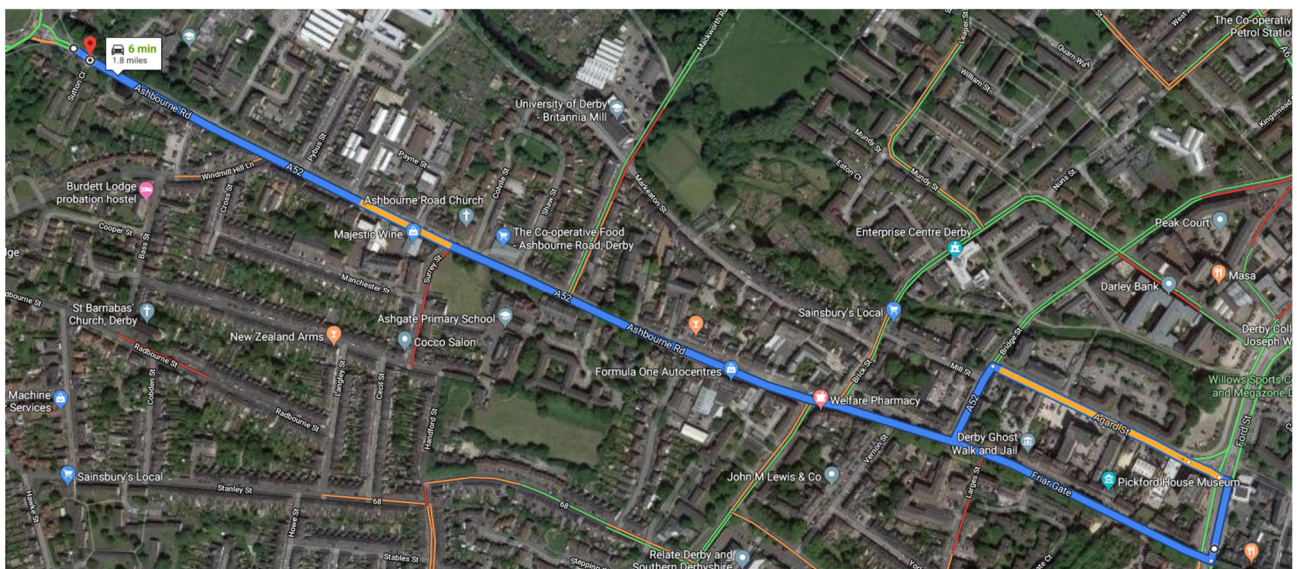
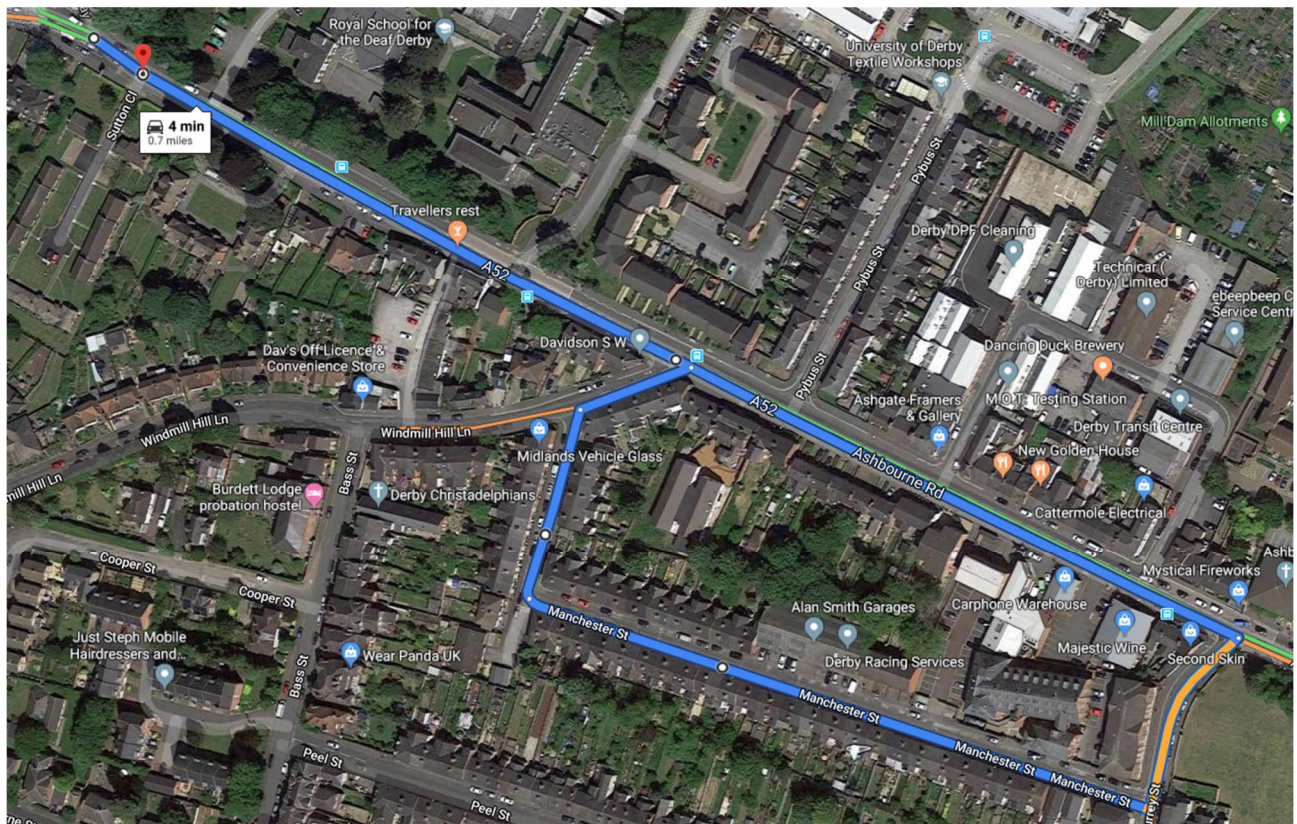


Figure 4.1 Route Option One



- 5.4 Route Option One (approximately 1.8 miles additional length) – entails the vehicle travelling east on Ashbourne Road (0.7miles) and following the road to the left onto Bridge Street followed by turning right onto Agard Street after 0.1miles, then again turning right onto Ford Street (A601) after 38m, then a final right onto Friar Gate leading towards the A38 after 100m. Continue for 0.7miles to reach the access point.
- 5.5 The additional journey times vary from 5 mins without traffic to over 10mins during rush hour traffic. These times will vary throughout the day due to traffic demands and whether there are any other factors (such as accidents on other routes) and events taking place in the surrounding area.
- 5.6 This route takes vehicles across the busy A601 Ford Street which becomes congested at various points during the day and will increase travel times.



**Figure 4.2 Route Option Two**

- 5.7 Route Option Two (approximately 0.7 miles additional length) – entails the vehicle travelling south-east on Ashbourne Road (0.2 miles) and turning right onto Windmill Hill Lane and travelling for 43m then turning left onto Cross Street. After 72m the vehicle will turn left onto Manchester Street where it will travel for 0.1 miles before turning left onto Surrey Street for 73m before taking a final left turn back onto Ashbourne road and travelling 0.3 miles to the destination.
- 5.8 The additional journey times vary from 3m mins without traffic to 6mins during rush hour traffic. These times will vary throughout the day due to traffic demands and whether there are any other factors (such as accidents on other routes) and events taking place in the surrounding area.
- 5.9 This route may prove problematic for larger vehicles due to parking both sides of the street on Cross Street and Manchester Street.





Figure 4.3 Route Option Three

- 5.10 Route Option Three (approximately 0.6 miles additional length) – entails a similar journey to Route Option One. The vehicle will travel 0.2 miles south-east down Ashbourne Road taking a left turn onto Chandos Pole Street where it will travel a further 68m before the road turns right and becomes Payne Street. 74m later, the street turns right and becomes Noel Street and 71m later, the vehicle makes a right turn back onto Ashbourne Road and travels 0.3 miles back to the access point.
- 5.11 The additional journey times vary from 3m mins without traffic to 6mins during rush hour traffic. These times will vary throughout the day due to traffic demands and whether there are any other factors (such as accidents on other routes) and events taking place in the surrounding area.
- 5.12 This route takes vehicles through a frequently used medium sized industrial estate which could lead to increased journey times.

## 6 Conclusion

- 6.1 Provision of left in /left out direct access onto the A52 for the Ashbourne Road properties would not reduce the need for compulsory acquisition at 253 and 255 Ashbourne Road (due to the need to combine the access to both properties to not conflict with the proposed traffic signals and pedestrian crossing).
- 6.2 Provision of a shared left in left out access onto the A52 for 253 and 255 Ashbourne Road would also result in lengthy detours for certain directions of travel that may result in drivers taking inappropriate decisions to avoid the detours (e.g. u-turning in the next side road entrances) which would raise safety concerns and cause significant amenity issues for the owners of these properties.
- 6.3 It should be noted that the owners of nos. 253 and 255 Ashbourne Road have not expressed a wish to have a left in left out arrangements to their properties.



## **Appendix A –**

Independent Safety Review Technical Note:

*Ashbourne Road Access/Egress Options*

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Project:	<b>A38 Derby Junctions</b>	
Subject:	<b>Ashbourne Road Access/Egress Options</b>	
Prepared by:	<b>Pete Denton</b>	Date: 17 <sup>th</sup> December 2019
Checked & Approved by:	<b>Stuart Dungworth</b>	Date: 18 <sup>th</sup> December 2019

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## Introduction

A road safety review has been undertaken in response to the Examining Authority's request to summarise the Ashbourne Road access/egress layout in the vicinity of house numbers 253 and 255.

The road safety review comprised of a review of the principles of providing residents with a left in left out option compared to an all movements option in the vicinity of 253 and 255 Ashbourne Road. The review has been carried out in order to maximise the safety of resident's movements into and out of 253 and 255 Ashbourne Road and Sutton Close.

Road safety comments have been made on the proposed left in left out options and on alternative design options that allow all movements into and out of these properties on Ashbourne Road.

This Technical Note raises comments and recommendations based on potential road safety issues associated with the proposed design layouts and options.

## Existing Layout

The A52 Ashbourne Road is the main arterial route into Derby and often experiences congestion. Ashbourne Road consists of a single carriageway that widens on the westbound approach to the Markeaton Junction to 3 lanes where there is an existing formalised Zebra Crossing.

The existing access to the properties is via a direct access on to the A52 Ashbourne Road from each property or a T-junction road from Sutton Close approximately 70m from the Markeaton Junction.

Currently, all turn movements at the junction of Sutton Close and in the vicinity of properties 253 and 255 Ashbourne Road are permitted. The Road Safety Team are also unaware of any historic collision problems within this section of Ashbourne Road.

A 30mph speed limit runs along the length of Ashbourne Road under review and there are residential properties situated either side of the carriageway.

The Royal School for the Deaf Derby is located opposite 253 and 255 Ashbourne Road and a bus stop is positioned on the A52 eastbound carriageway. There are zebra crossing points on the eastbound and westbound carriageways at the entry and exit from Markeaton junction.

## Road Safety Comments

As part of the A38 Derby Junctions scheme, the alignment of the A52 junction with the new Markeaton junction will include the demolition of properties 257 and 259 Ashbourne Road to facilitate the new on slip merge lane.

The demolition of the existing properties will result in the access to the remaining properties being closer to the proposed junction. The following identified constraints within the vicinity of 253 and 255 Ashbourne Road:

- Proximity to the new merge slip road;
- Proximity to the new traffic splitter island on the Ashbourne Road arm; and,
- Proximity to the new signalised junction and crossing point.

If a left in left out proposal is carried forward within the design phase, the main safety concern is the increase in turning movements along Ashbourne Road. The effect of this arrangement is likely to result in drivers attempting to U Turn at an inappropriate location along Ashbourne Road. If drivers wishing to access Sutton Close and/or properties 253 and 255 are forced to continue along the eastbound A52 Ashbourne Road there is a greater risk that unsafe, unexpected turn manoeuvres may be made.

Whilst there are several side road junctions located along Ashbourne Road which could be used as U-turn facilities the significant level of traffic located along Ashbourne Road, in both directions and during large parts of the day, will increase the likelihood of collisions occurring whilst drivers carry out these turn manoeuvres. Additionally, driver frustrations and hesitations, due to delays in selecting an appropriate gap in oncoming traffic, could also increase the likelihood of collisions occurring.

The Safety Team have also reviewed the possibility of repositioning the stop line for the westbound signalised crossing to increase the distance between a revised access to the properties to allow for left turning vehicles out of the properties to enter the A52 carriageway safely. However, relocation of the stop line further east along the A52 is likely to increase the inter-green timings which could lead to queuing traffic around the roundabout circulatory and obstruction of the A38 southbound diverge slip road, further increasing the likelihood of collisions.

An alternative to restricting access/egress to left in, left out would be to allow all movements. However, permitting vehicles to turn right into the properties may lead to several other issues, principally that the delay in clearing the exit from the Markeaton Junction could result in queuing vehicles which could potentially block the signalised crossing on the A52 eastbound carriageway.



If users of any access do not position themselves in the correct place within the A52 eastbound carriageway it could result in shunt type collisions from following traffic not expecting stationary vehicles ahead.

Careful positioning of a proposed access should be considered to provide residents with a 'safe' waiting area, clear of the eastbound lane of Ashbourne Road, to access the properties from the A52.

If a service road is provided for residents, it is imperative that all turning movements within the access/egress configuration can be safely carried out without conflict.

### Conclusions

It is the opinion of the Road Safety Team that the design should develop a facility to accommodate an all turning movement at an access to Sutton Close and properties 253 and 255. A service road should allow for residents to access the properties located on the southern side of Ashbourne Road from the eastbound and westbound carriageway.

The service road should accommodate all potential vehicular movements with swept path analysis undertaken to confirm this.

The design options should ensure that vehicles waiting to turn right into the access are not positioned within the eastbound carriageway and KEEP CLEAR markings should be provided on the westbound carriageway across the access/egress provision.