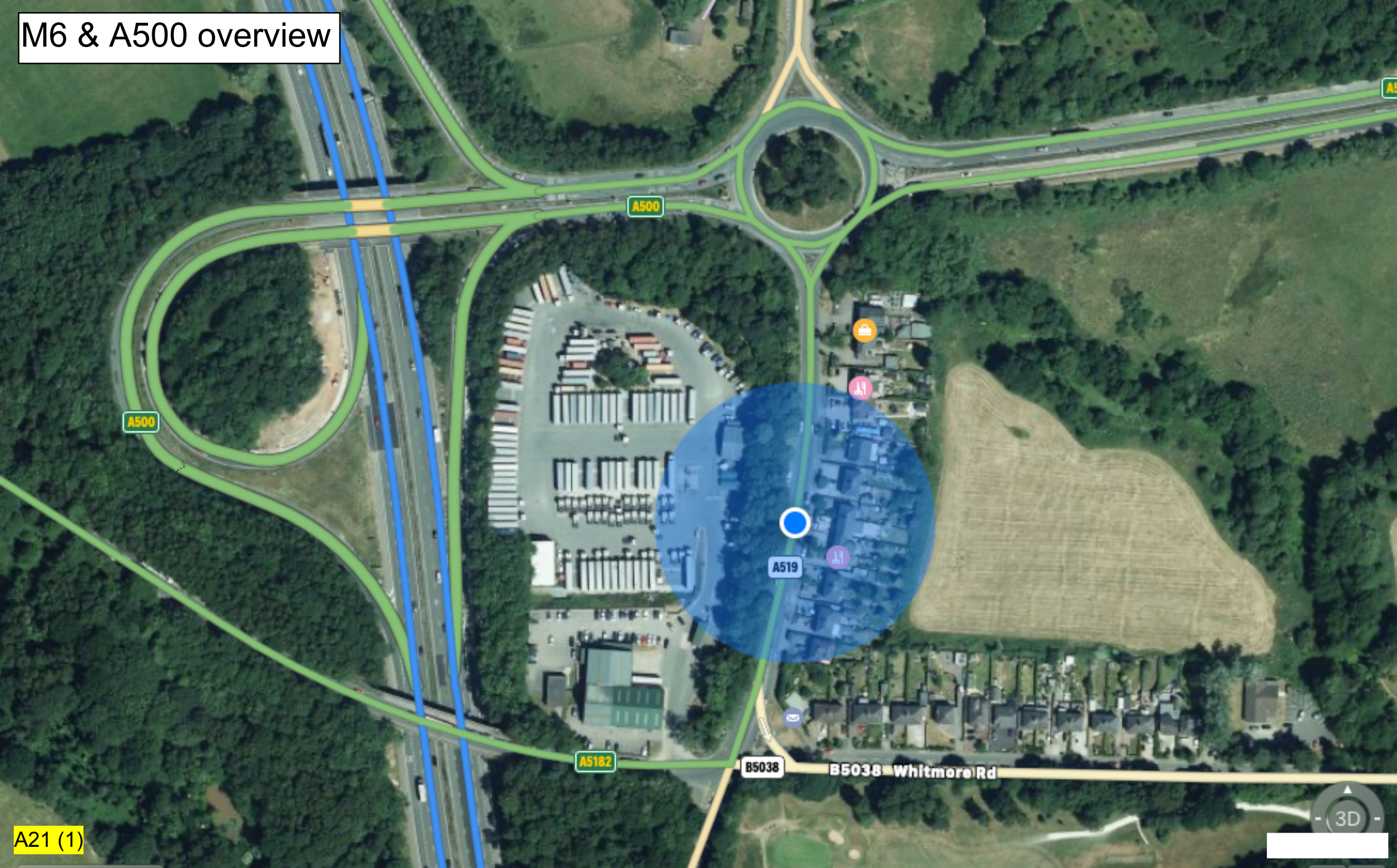


M6 & A500 overview



# Hanchurch Interchange



A21 (2)

FILE REFERENCE: 19L008

STAFFORDSHIRE COUNTY COUNCIL - DEVELOPMENT SERVICES DEPARTMENT

TRAFFIC DATA TEAM

REPORT OF RADAR SPEED MEASUREMENT

ROAD NO.: A519      GRID REF: 385071 341952      SPEED LIMIT: 60 mph  
 LOCATION: Newcastle Road      Hanchurch  
 SITE DETAILS: Adjacent to North End of former bus Layby  
 WEATHER: fine Surface Damp  
 DAY: Wednesday      DATE: 13 Nov 2019      TIME: 10:10 TO 12:10

| Northbound                                                                                                                                                                                                                                                                                                | from | Eccleshall | Southbound                                                                                                                                                                                                                                                                                                 | from | Newcastle |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----------|
| <p>Calculated Dry Weather 85th Percentile<br/>Spot Speed<br/><b>37</b> mph</p> <p>Calculated Wet Weather 85th Percentile<br/>Journey Speed<br/><b>34</b> mph</p> <p>The calculations are based on <b>91</b> cars/light goods vehicles<br/>and <b>14</b> Heavy Goods Vehicles in free flow conditions.</p> |      |            | <p>Calculated Dry Weather 85th Percentile<br/>Spot Speed<br/><b>35</b> mph</p> <p>Calculated Wet Weather 85th Percentile<br/>Journey Speed<br/><b>32</b> mph</p> <p>The calculations are based on <b>100</b> cars/light goods vehicles<br/>and <b>26</b> Heavy Goods Vehicles in free flow conditions.</p> |      |           |
| <p>COMMENTS:</p> <p>Site not suited to Radar survey, have accepted some vehicles which may not properly qualify as free flow.</p>                                                                                                                                                                         |      |            |                                                                                                                                                                                                                                                                                                            |      |           |

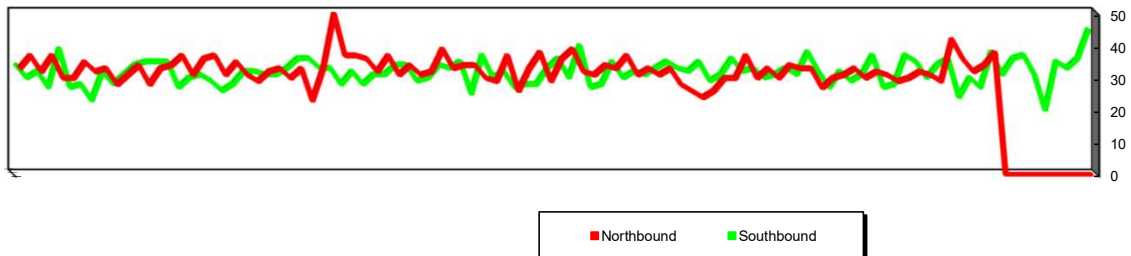
SORTED DATA

|                  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| FROM: Eccleshall |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 50               | 42 | 39 | 39 | 38 | 38 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 36 | 36 | 36 | 36 |
| 35               | 35 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 34 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 | 33 |
| 33               | 33 | 33 | 33 | 33 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 31 | 31 | 31 | 31 | 31 | 31 |
| 31               | 31 | 31 | 31 | 31 | 31 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 29 | 29 | 29 | 29 |
| 29               | 29 | 28 | 28 | 28 | 27 | 26 | 26 | 26 | 24 | 23 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |

|                 |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| FROM: Newcastle |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 44              | 39 | 38 | 37 | 37 | 36 | 36 | 36 | 36 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 34 | 34 | 34 | 34 |
| 34              | 34 | 34 | 34 | 34 | 33 | 33 | 33 | 33 | 33 | 33 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 |
| 32              | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| 30              | 30 | 30 | 30 | 30 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 29 | 28 | 28 | 28 | 28 | 28 | 27 |
| 27              | 27 | 27 | 27 | 27 | 27 | 27 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 25 | 24 | 23 | 22 | 19 |

Display of Collected Data



A500 showing current crossing point



## Footpath to crossing point



## Newcastle Road outside the row of houses



Newcastle Road houses to the left of traffic



## Clayton Road to Hanchurch Roundabout



## Clayton Road to Hanchurch Roundabout



## Footpath outside houses



## A519 approaching the Hanchurch Roundabout



From central reservation to Newcastle Road



## Current pedestrian crossing facilities



## Current pedestrian crossing to central reservation



Current pedestrian crossing picture 2



Showing the current 3 lanes from the A519 to the A500



**Highways England Response to HS2 Phase 2A – Hybrid Bill (West Midlands to Crewe) Amended Provisions 2 Environmental Statement and Supplementary Environmental Statements**

**M6 Junction 15 and Surrounding Area**

1. M6 Junction 15 and the surrounding network of A500 Queensway / A519 Newcastle Road / A519 Clayton Road (described below as the Hanchurch Interchange) and the crossroads junction of the A519 Newcastle Road / A5182 Trentham Road / B5038 Whitmore Road are in very close proximity to each other.
2. M6 Junction 15 is operating at capacity and is sensitive to any changes in traffic characteristics or disruptions. Highways England considers it essential that the impacts and mitigations in this area are considered as a whole, and not in isolation. This should be applied to both the specified issues below and those outside of AP2/SES consultation.
3. Highways England is concerned about some of the proposals set out in AP2 and SES2 and recommends that HS2 Ltd works closely with Highways England and the local highway authority to design a traffic management solution which will mitigate the impacts of construction traffic on M6 Junction 15 and surrounding areas.
4. Specific issues are below.
  - a. Highways England is assessing options for future improvement of M6 Junction 15 as a Roads Investment Strategy (RIS) Candidate Scheme. HS2 Ltd should work with Highways England to identify the optimum design and construction sequencing as the proposals within AP2 and SES 2 may not align with the Candidate Scheme.
  - b. The traffic management measures set out in AP2 will reduce capacity and cause delays at the junction of the M6 Junction 15 and the Hanchurch Interchange during construction. This may result in a new temporary adverse effect on traffic flows and delays at these junctions.
  - c. Highways England is concerned about the feasibility of construction of the proposed permanent widening to the northern side of Hanchurch Interchange. Issues due to land take and level differences may make the proposed scheme difficult to deliver. The interface between these works during construction and the signalised crossroads junction of the A519 Newcastle Road/A5182 Trentham Road/B5038 Whitmore Road needs to be properly assessed. There may be a case for introducing linked signals to the A500/A519 roundabout subject to further assessment by HS2 Ltd.

d. The proposed widening of the link between M6 Junction 15 and Hanchurch roundabout means the existing embankment is likely to be affected. The impact will need to be assessed against Design Manual for Roads and Bridges (DMRB) standards.

e. The noise fence barrier proposed to the south of Hanford interchange is potentially situated within the Strategic Road Network (SRN) boundary. Therefore, it will need to be assessed and designed in accordance with DMRB requirements.

f. The AP2 / SES2 documentation (Volume 5, Table 277) shows a notable increase in HGV traffic on the M6 both between Yarnfield Lane and M6 Junction 15 slip and the mainline flow at M6 Junction 15. HS2 Ltd should consider these increases in HGV traffic when developing mitigation solutions for the area.

g. Highways England is currently developing a traffic model for M6 J15 and surrounding roads. At the time of writing the traffic model is still being built, and modelling outputs are not available. However, once available, HS2 Ltd should use this model to further assess the impact of construction traffic, and to test proposed mitigations.

J15 Traffic  
based on  
2012  
model  
flow  
= out of date

h. There is potential for community severance and impact on non-motorised users as a result of these proposals. HS2 Ltd should ensure that all relevant DMRB standards are identified and applied, including those applicable to non-motorised users.

### Impacts on Yarnfield Junction.

5. Highways England notes that the results of HS2 Ltd's modelling of the impact of construction traffic shows the M6 will operate within capacity at Yarnfield Junction, considering the construction traffic. Highways England will need to see the outputs from this modelling work undertaken for this access. Furthermore, this access is promoted as a temporary access; Highways England will need confirmation of how the access will be controlled during operations and subsequently closed following construction of the Proposed Scheme, whilst remaining available for emergency services.

### Structures

6. We note and welcome that the structural form at the proposed Meaford Viaduct has been amended. The proposal to opt for a three-span structure, without central reserve pier, is supported by Highways England as this will reduce the disruption to the M6 during construction, operation and maintenance. However, the stated 130m central span requires review to ensure it can accommodate the following requirements:

a. The proposed structures at Meaford and Yarnfield should accommodate Highways England's agreed future provision requirements for the M6 at these locations to DMRB standards, current at the time of construction.

## **2. SEGREGATED LEFT TURN LANES AT ROUNDABOUTS**

### **2.1 General**

2.1.1. This chapter provides requirements and advice for the provision of Segregated Left Turn Lanes at roundabouts. A flowchart identifying the decision process for the inclusion of a Segregated Left Turn Lane

is provided in Figure 2.10 of this document.

2.1.2. The two basic types of Segregated Left Turn Lane, namely segregation by road markings (non-physical)

and physical segregation are shown in Figure 2.1. In both types of layout, vehicles are channelled into

the left hand lane by road markings, supplemented by Advance Direction Signs. They proceed to the first

exit without having to give way to other vehicles at the entry onto the roundabout.

Segregation by road

markings can be less effective because it can be subject to abuse by vehicles over-running the non-physical island.

2.1.3. The designer shall determine whether facilities for pedestrians, cycle traffic and equestrians are required

at Segregated Left Turn Lanes and, if so, determine whether they can be catered for safely within the

junction design. In some cases this may not be possible and designers shall consider alternative layouts.

Requirements and advice relating to the provision for pedestrians, cycle traffic and equestrians are provided

in Chapter 4 of this document.

2.1.4. The use of Segregated Left Turn Lanes requires the designer to consider a number of factors including road

safety, capacity and facilities for pedestrians, cycle traffic and equestrians, and shall only be considered

where their introduction:

a) results in an increase in the overall capacity of the entry or roundabout in question when compared

to alternative design or improvement measures; or

b) results in an improvement to the junction's road safety i.e. a reduction in collision numbers or

severity; and

c) safely makes provision for pedestrians, cycle traffic and equestrians, where these user groups are permitted.

2.1.5. Only physical Segregated Left Turn Lanes shall be used in conjunction with traffic signals at roundabouts.

2.1.6. Non-physical Segregated Left Turn Lanes shall only be used on sections of highway where appropriate

crossing facilities for pedestrians, cycle traffic and equestrians are provided away from the Segregated Left

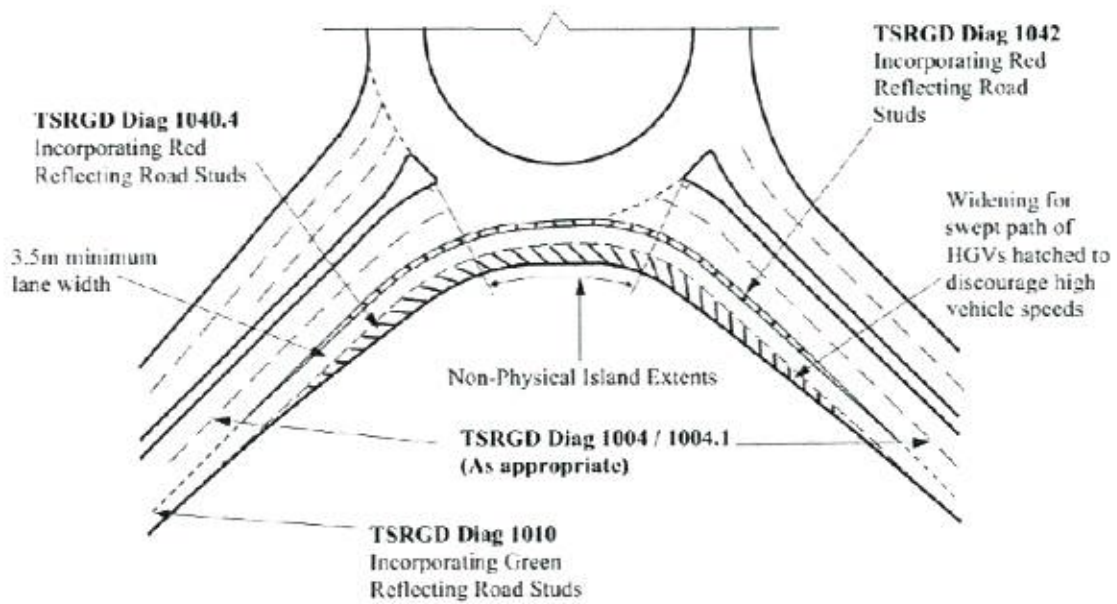
Turn Lane.

2.1.7. Uncontrolled crossing points shall not be provided across Segregated Left Turn Lanes.

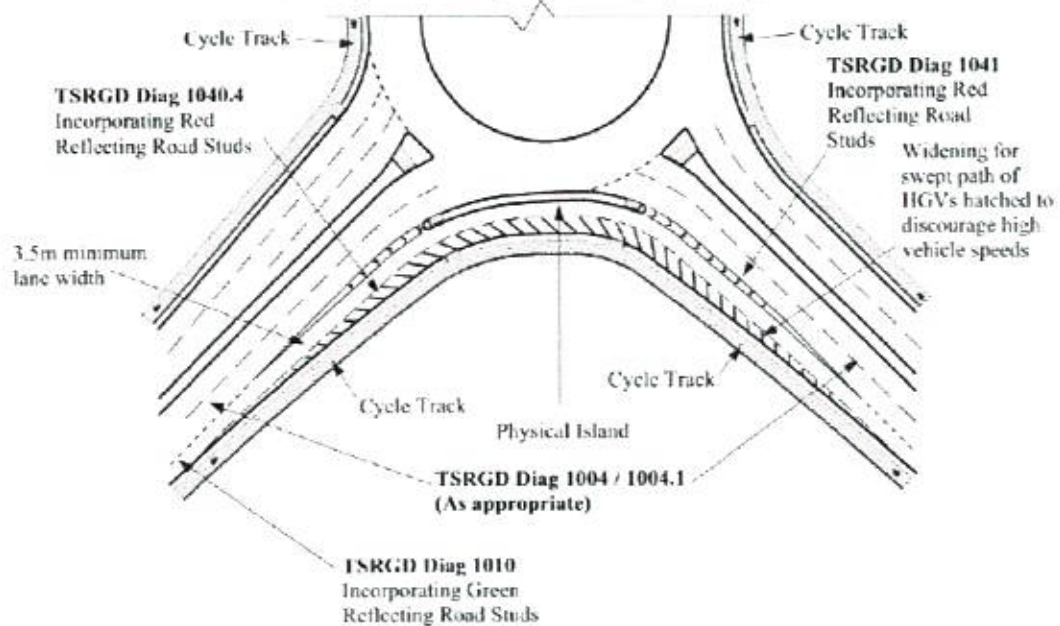
- 2.1.8. Physical Segregated Left Turn Lanes shall only be provided at street lit junctions.
- 2.1.9. Physical Segregated Left Turn Lanes shall be used where vehicles using the Segregated Left Turn Lane have to give way at the exit.
- 2.1.10. Accesses and junctions shall not be located within Segregated Left Turn Lanes.

**Figure 2.1**

**(a) Generic Non-physical Segregated Left Turn Lane**  
(This Figure is intended for illustrative purposes only)

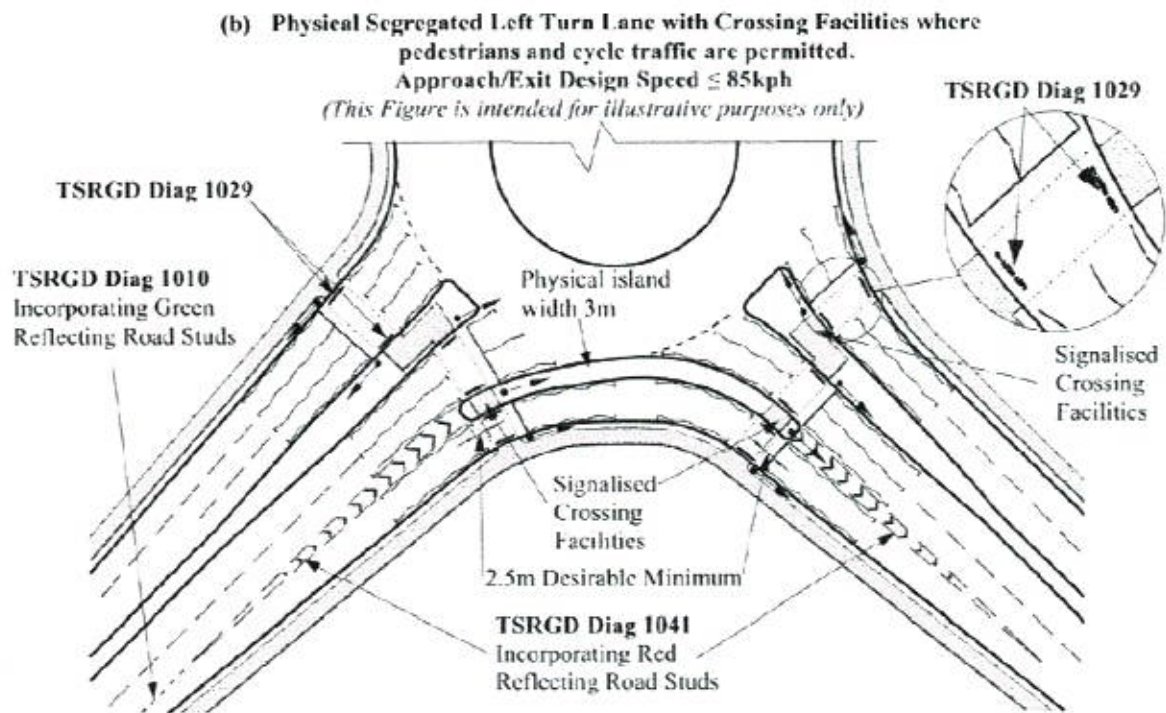


**(b) Generic Physical Segregated Left Turn Lane with Example of Provision for Cyclists**  
(This Figure is intended for illustrative purposes only)



Note: For further information on cycle tracks on the Strategic Road Network in England see Highway's England latest requirements and advice on cycle traffic and the Strategic Road Network.

Crossing facilities to be controlled.



Note: If the signal phasing on the Segregated Left Turn lane runs independently to the other approach lanes, a staggered crossing should be used.

Staggered crossings shall be designed so that the central refuge island can accommodate the design parameters for the Cycle Design Vehicle and two-way cycle track (including pedestrian facilities where appropriate)

For further requirements and advice in respect of cycle provision on the Strategic Road Network in England please refer to the latest Highway's England documentation on cycle traffic and the Strategic Road Network.

Note that 85 km/h is equivalent to 52 mph

## **Difference in HS2 HGV Flows on the A500**

**Reference :-**

**CA3 – Table 277**

| <b>Location</b>                       | <b>Direction</b> | <b>Original ES</b> | <b>AP2 revision</b> |
|---------------------------------------|------------------|--------------------|---------------------|
| A500 Queensway                        | EB               | 1254               | 2                   |
| Between Hanchurch Island and Stone Rd | WB               | 1254               | 2                   |

**Discrepancies between M6 Junction 15 Slip road flows and total M6 link flow into  
Hanchurch Island (2023+HS2)**

AM Peak

|              |      |                                     |
|--------------|------|-------------------------------------|
| S/B Off Slip | 927  | M6 link flow to<br>Hanchurch island |
| N/B off Slip | 1667 | 3060                                |
| Total        | 2594 |                                     |

PM Peak

|              |      |                                     |
|--------------|------|-------------------------------------|
| S/B Off Slip | 860  | M6 link flow to<br>Hanchurch island |
| N/B off Slip | 1393 | 2890                                |
| Total        | 2253 |                                     |

Ref AP2 tables 287/ 300

# Proposed Roundabout changes

