

A5 Drayton Lane Alternative Mitigation Review Report

11 November 2025

Notice

Document history

Revision	Purpose description	Originated	Checked	Reviewed	Authorised	Date
A	Review of DTA TN			MR		11/11/25

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Introduction

This report reviews the Technical Note provided by DTA Transport Planning Consultants dated 15 January 2025 exploring an alternative opportunity for signalisation at both the Drayton Lane and Woodford Lane junctions on the A5.

1. Suitability of DTA Assessment

1.1. There are minor points around the modelling and assessment that could be discussed but these will have little material impact on the overall conclusions, however there are a few key factors that do warrant consideration:

- a) Traffic flow data
- b) Modelling of right turns from A5
- c) Geometry and land boundaries

1.2. Traffic Flow Data

1.3. It is not clear where the traffic data used in the DTA assessment has been sourced from. Comparing the turning flows to data from a November 2022 survey (procured by Vectos / Warwickshire and funded by NH) shows some key differences. For example, flows to and from Drayton Lane are higher in the DTA assessments yet flows to and from Woodford Lane are much lower. It is important that a common and robust set of traffic flows for use in analysis is agreed between all parties to underpin further discussions.

1.4. Comparing model results with the two flowsets shows little difference in the overall conclusions with the key factor being whether two lanes are needed on the Drayton Lane approach or not. See more on this point below.

1.5. Modelling of Right Turns from A5

1.6. The concept alternative mitigation for Woodford Lane includes a fully signalled right turn as an opposed right turn (where drivers would turn in gaps in oncoming traffic) is not suitable given the mainline speeds (as confirmed by speed surveys). This is a requirement of CD 123:

- *7.18 On roads with a design speed of 85 kph or higher, right turning lane(s) shall be separately signalled and segregated from the adjacent ahead-only lane(s) by a traffic island.*
- *CD 123 Geometric design of at-grade priority and signal-controlled junctions Version 2.1.0*

- 1.7. Traffic signs manual Chapter 6 para 8.4.1 also advises that *“Separately signalled right turns should be considered in circumstances where opposed right turns may be unsafe, for example on roads where the 85th percentile speed is above 45 mph on the relevant approaches.”*
- 1.8. All traffic modelling NH have used (NH Linsig and WCC Paramics model) in assessing the MIRA proposals has been based on a separately signalled right turn for Woodford Lane.
- 1.9. The DTA modelling however treats both right turns off the A5 as opposed right turns not separately signalled. Such a layout is not supported on safety grounds (unacceptable safety risk), is highly unlikely to be granted the necessary departures from standard and such a proposal would likely be raised in a Road Safety Audit. The addition of a separate stage for the right turn movements to make them fully signalled reduces the overall capacity of the junctions, increases delays and significantly increases queue lengths which undermines the conclusions reached in the DTA assessments.
- 1.10. It is noted that CD123 para 7.18 also requires a separation island between the ahead and right turn lane which was not included in the concepts and will need to be added at detailed stage unless a departure from standards to not include one is granted. Such an island can be included in the Woodford Lane concept within the available highway boundary land.
- 1.11. While this key point undermines the DTA conclusions further modelling in Linsig has been undertaken by NH which is discussed later in this report.
- 1.12. Geometry and Land Boundaries
- 1.13. The DTA TN includes confirmation that Extra Room Self Storage (their client) “is willing to contribute land in the northwest quadrant of the Drayton Lane junction to support an appropriate layout”. This is key to achieving a suitable lane arrangement and geometry on Drayton Lane as the current cross section is too narrow to signalise as it would need to allow for approaching and departing traffic to flow past each other freely, not accounting for any requirement for additional lanes.
- 1.14. However two questions remain; firstly, if there is a limit to how much land Extra Room Self Storage are prepared to contribute and the costs of realigning / widening Drayton Lane, and the A5, to achieve a suitable geometric layout.

- 1.15. Based on the tracking information provided, the current layout presented by DTA does not appear to achieve suitable and safe geometry if regular use by articulated vehicles is expected. This is not an insurmountable position as it could be overcome by additional widening and potentially alignment changes to Drayton Lane to create a suitable, trackable layout.
- 1.16. There may also be a need for additional land along the A5 to facilitate the necessary cross section on the A5.

2. Traffic reassignment through Fenny Drayton

- 2.1. One of the main reasons for opposing full signalisation of both Woodford Lane and Drayton Lane is the risk of encouraging traffic reassignment (rat-running) through Fenny Drayton. It is notable that 80-90% of peak time traffic on the 2022 survey that turned right out of either side road then turned right into the other road, much of this traffic is assumed to be accessing the A444 the other side of Fenny Drayton. If these movements are made easier through signalisation it is likely to attract more users to this movement leading to adverse impacts on the village. Increased demand for these movements may also lead to overloading of the traffic signal junctions – none of the Linsig modelling has assessed this due to the localised nature; a wider model such as the WCC Paramics model would be needed to assess this in more detail.
- 2.2. While it is hoped that the MIRA proposals to improve the A5 / A444 Redgate junction might encourage some users to go via this junction and not through Fenny Drayton, signalising both junctions would keep Drayton Lane as a highly attractive option. As such a proposal to signalise both junctions with all movements should also include additional highway measures to discourage through traffic from using Drayton Lane. This may for example include changes to junction priorities or inclusion of traffic calming features in or around Fenny Drayton.
- 2.3. While this is not an insurmountable issue it again raises the question of viability.

3. Feasibility of Signalising Drayton Lane

3.1. Taking the information provided by DTA into account National Highways has updated our previous Linsig models of Woodford Lane to also include Drayton Lane and test a joint signalisation scheme. This has used both our survey flows and the flows from the DTA Linsig models as separate flow groups for comparison. These lead to the following conclusions:

- In all cases the A5 needs two lanes eastbound at Drayton Lane to accommodate the traffic volumes
- In all cases the A5 westbound only needs a single ahead lane and a separate right turn lane at Drayton Lane
- The number of lanes required on Drayton Lane itself depends on the flows used – the NH / WCC survey flows would work to an acceptable level with a single approach lane however the higher flows from DTA would require a two-lane approach to keep green times short enough
- Given the short stacking, and 2-to-1 merges on the A5 it is important that the cycle time is kept short

3.2. Therefore, provided the necessary geometry can be achieved it is theoretically possible to signalise both junctions notwithstanding the above points about managing traffic reassignment, land requirements and costs. It is noted that signalising both junctions will result in some additional delay to A5 through traffic, and National Highways has not undertaken comparative modelling to calculate a value for this.

4. Conclusions

- 4.1. NH agrees with the DTA assessment that it is technical possible to signalise Drayton Lane without causing undue congestion or safety risks provided additional land is secured to achieve the required geometry, albeit there is a difference in views on the layout required. However, it should be noted that other factors must also be considered such as the cost of the additional work, its viability, and management / mitigation of wider impacts from vehicle route choices.
- 4.2. It may be reasonable therefore for Extra Room Self Storage to propose upgrading Drayton Lane as part of any proposed site expansion – notwithstanding other potential planning issues that may be objectionable against the proposals.
- 4.3. National Highways does not consider however that it would be reasonable to expect MIRA, as part of their proposals, to have to upgrade Drayton Lane to a fully signalised junction as they have already demonstrated that their impacts can be accommodated with the previously identified scheme without severe adverse traffic impacts or unacceptable safety impacts and because the additional works to upgrade Drayton Lane to a full signalised junction, and provide mitigation for rat-running through Fenny Drayton, would add substantial additional costs to their mitigation.