

# Appendix H – RTS Section B - Option 4 - Southern Route - B355363A-RTS-HGN-SB-RP-004



# RTS Section B - Option 4

Southern Route

July 2019

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# 1 Introduction

Jacobs have been commissioned by Essex County Council (ECC) to investigate the feasibility of providing a new Rapid Transit System (RTS) between the proposed Tendering Colchester Border Garden Community TCBGC (part of North Essex Garden Community), Colchester Town Centre, and the existing Colchester Park and Ride site north of the A12 Junction 27.

The RTS is part of a Housing Infrastructure Funding (HIF) bid that also included A120/ A133 Link Road. The bid was submitted by ECC in March 2019.

The RTS route comprises 4 Sections (Section A, B, C & D).

Section A runs between Colchester Park and Ride terminal north A12 Junction 27 and North Hill, whilst Section B runs between North Hill and University of Essex through Colchester Town Centre. Section C covers the area between Greenstead Roundabout and the proposed North Essex Garden Community.

This note considers the feasibility of Section B Option 4. It looks at the infrastructure along the route and the existing constraints. Based on the RTS requirements and objectives it assesses the practicality of this option.

An overview of all 5 options for Section B have been provided in Appendix A – Stage 1 Section B Options Drawing – B355363A-RTS-HGN-SB-SK-001.

## 2 Overview

### 2.1 Route Description

The route option is predominantly urban single carriageway, with street-lighting and a 30mph speed limit throughout.

The proposed route for Option 4 is 5.2km long and requires the purchase of land and the construction of new carriageway to provide an uninterrupted route.

A typical cross section has been provided in Appendix B – Section B Option 4 Old Heath Road Cross Section Drawing – B355363A-RTS-HGN-SB-SK-005

The route runs from Colchester Town Centre to Essex University via the Hythe. The route crosses the River Colne via the existing Hythe Station Road bridge, and requires specific additional infrastructure:

- A new road linking the existing stub end of Recreation Road and Depot Road
- A revised crossing point at Elmstead Road/Colne Causeway/Tesco pedestrian crossing to allow RTS vehicles to access Elmstead Road directly from Greenstead Road.
- A means of connecting to Section C, by means of a new junction or access to suit the proposed movements.

A portion of this option runs through University-owned land that does not have highway rights.

The North Hill, High Street and Queen Street elements of this route are already subject to dedicated bus facilities, these will be optimised for RTS if required.

The route follows Military Road its entire length and then crosses the signalised Wimpole Road junction, continuing along Old Heath Road and turning left on to Recreation Road.

The route creates a new carriageway link between Recreation Road and Depot Road, through land currently owned and maintained by National Grid Gas.

The route then travels north along the A134 and crosses the River Colne via Hythe Station Road, an existing Bus Lane, turning right on to Greenstead Road heading towards the University.

A proposed crossing point at the existing controlled crossing from Elmstead Road to the Tesco entrance will need constructing.

## 2.2 Constraints

The following are constraints that need to be considered and overcome when assessing the feasibility of the option.

There are few constraints to North Hill, the High Street and Queen Street. North Hill is an existing Bus Lane enforced with cameras. All buses currently entering the High Street have at least one stop before Queen Street, therefore are deemed necessary movements. The eastbound junction from the High Street to Queen Street is an existing Bus Lane, also enforced by cameras. Consideration shall be given to a part-time peak hour Rapid Transit System gate at the western end of the High St to restrict eastbound High St traffic to RTS vehicles (and authorised vehicles) only. All town centre routes can be assumed to have heavy pedestrian use.

Access to the George Hotel (accessed solely from the High Street) would need to be maintained, possibly by means of a short (25-30m) 2-way section of High Street being created between St Nicholas Street and Maidenburgh Street. It is envisaged that the removal of redundant parking spaces from the High Street will create sufficient space for 2-way running in this location. There is the potential for this route to be used by vehicles not accessing the George Hotel that wish to access the High Street. Parking and loading bans are envisaged to be required.

This option runs south along Queen Street before turning left at St Botolphs Roundabout and heading south-east along Military Road, from its junction with Magdalen Street to the Wimpole Road signalised crossroads. It is anticipated that signal timings would need revising to promote/ensure acceptable journey time reliability.

The route continues south-east along Old Heath Road, before turning left onto Recreation Road, a residential non-through route currently terminating in a cul-de-sac. This location would require a new road to be constructed, from this turning head in an easterly direction for approximately 250m, joining the western arm of Haven Roundabout (Depot Road).

The existing land is currently owned and used by National Grid Gas and it is anticipated that the land would need to be purchased prior to accruing highway rights. The land here is expected to be congested with utilities. This area has historically been used for the dismantling of cars by scrapyards in the past, and ground contamination might be an issue in this vicinity.

Once on Depot Road, the route turns north along the A134, and continues along Hythe Station Road, an existing dedicated Bus Lane crossing the river. The RTS will also service the Hythe (rail) Station at this location.

The route then turns right on to Greenstead Road towards the Greenstead Roundabout. Immediately before the roundabout, the route proposals continue east, directly connecting with the parking/turning head in Elmstead Road. (This follows the historic route of the road, prior to the diversion to accommodate the construction of the Greenstead Roundabout.) This presents a number of associated constraints and health and safety risks:

- The existing Toucan crossing would need to be removed and replaced with a signalised junction to allow RTS vehicles to cross the Colne Causeway.
- A pedestrian phase would need to be included within the signal timings.



- Pedestrian facilities would need sufficient clearance to be feasible, attractive and safe.
- There are significant utilities in the vicinity which would need diverting and/or protecting.
- There are retaining features surrounding Tesco, which is built in a natural bowl. These would need to be protected from vibration and impact during construction, and would need careful design to ensure there are no conflicts.
- Amendments would be required to Greenstead Roundabout to ensure there is suitable visibility to the signals and sufficient stacking space for queuing traffic.
- Careful consideration would need to be given to the arrangement of the proposed roads with regard to the remaining existing roads.
- The existing turning/parking head at the western end of Elmstead Road shall be removed, therefore a replacement parking area and turning head will be required.
- It is anticipated that residents on Elmstead Road will resist the RTS/pedestrian crossing amendments.

Once east of Elmstead Road, the route connects to Section C.

It is not anticipated that there will be any significant statutory undertakers' diversions, except for the proposed link between Recreation Road and Depot Road, and to the proposed link between Greenstead Road and Elmstead Road. Substantial utility protection works are expected in this vicinity. Diversion does not appear to be a suitable solution due to adjacent land use in each location.

Significant local resistance is anticipated for the amendments to the crossing at Elmstead Road. Residents will see an increase in bus traffic, and their parking areas and frontages will be affected. Queuing traffic might have a negative impact on the already-congested roundabout at Tesco. Given the existing topography, any amendments here will not be feasible.

### 3 Conclusion

It is not deemed a practical or achievable solution to use Option 4 for the RTS route.

The route uses residential roads which cannot easily be dedicated to RTS vehicles due to access requirements. Whilst there is limited on-road parking to obstruct traffic, the amount of traffic that uses this route to access adjacent residential properties as well as areas farther afield means the surrounding network would be heavily impacted.

The land purchase requirements and dedication to highway for the link between Recreation Road and Depot Road is likely to receive objections from National Grid Gas, and may require the Compulsory Purchase Order process to be enabled. Planning permission would also be required and this may not be achievable within the required timescales.

It can be assumed that there is considerable gas plant in the area, as the site used to house a gasometer, and there is evidence of significant plant still on site. Removal/relocation of this plant is also likely to have significant time and cost implications.

At the eastern end of the proposed route, there is a high risk contaminated soil in areas currently used by scrapyards. Further Compulsory Purchase Orders might also be required in these areas.

The proposed road will also pass between an existing wooded area and some allotments and it is expected that there some encroachment and land-take/purchase would be required to allow enough space for RTS vehicles to pass each other.

The A134 Haven Road/Hythe Quay can be congested at peak hours, and there is no scope to remove non-RTS vehicles from this link due to the length of diversion and the distance to the next available river crossing location.

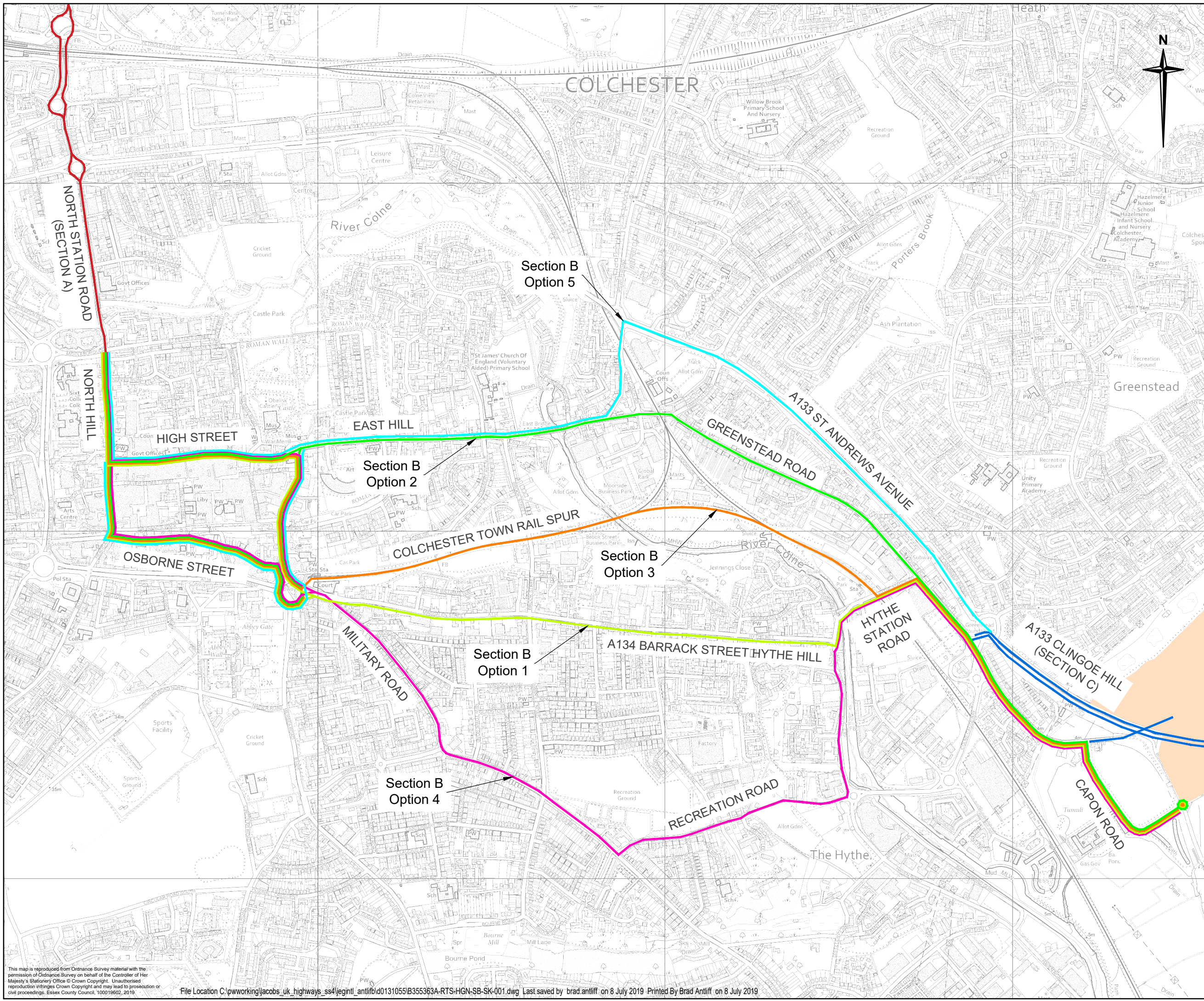
Provision of a new crossing point from Greenstead Road to Elmstead Road will generate considerable congestion and objection. Careful design will be needed to keep any knock-on congestion to Greenstead Roundabout to a minimum. Routeing across Colne Causeway will have to be carefully designed. Tesco is built at a much lower level than Greenstead Road/Roundabout, and there are retaining features that will need to be protected (or potentially refurbished/improved) during construction. This link section may require the removal of the southern-most entry to Greenstead Roundabout from Greenstead Road. This would have a knock-on effect of redirecting all traffic wishing to use Greenstead Roundabout to west along Greenstead Road and then north to the A133 St Andrews Avenue, increasing the current congestion at this junction.

This option is also 5.16km long, 800m longer than Option 1, and the route has similar site constraints. This additional length is likely to result in additional cost and reduced journey time reliability.

Given these issues it is recommended that this option is not progressed any further and therefore discounted.

## Appendix A – Stage 1 Section B Options Drawing – B355363A-RTS-HGN-SB-SK-001





**Notes**

1. Do not scale.
2. Indicative layouts based on Ordnance Survey data only. Topographical surveys to be undertaken at a later design stage.
3. Routes and options shown are an overview only, with no certainty as to feasibility of implementation. Therefore this plan is not for public distribution.

**Key**


- Section A
- Section B Option 1
- Section B Option 2
- Section B Option 3
- Section B Option 4
- Section B Option 5
- Section C



Rev	Date	Description of revision	Drawn	Checked	Reviewed	Approved

DRAWING STATUS

**FOR INFORMATION**



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Tel: 0345 8037631 © Essex County Council

**NORTH ESSEX RAPID TRANSIT SYSTEM**

**STAGE 1 SECTION B OPTIONS**

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
PFW	PFW	PJN	PJN	MM
DATE	DATE	DATE	DATE	DATE
JUL 19	JUL 19	JUL 19	JUL 19	JUL 19

DRAWING UNITS U.N.O. SCALE AT A3 (420x297mm)  
DIMENSIONS IN MILLIMETRES 1:10,000  
LEVELS IN METRES

DRAWING No. **B355363A-RTS-HGN-SB-SK-001** REV. -



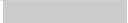





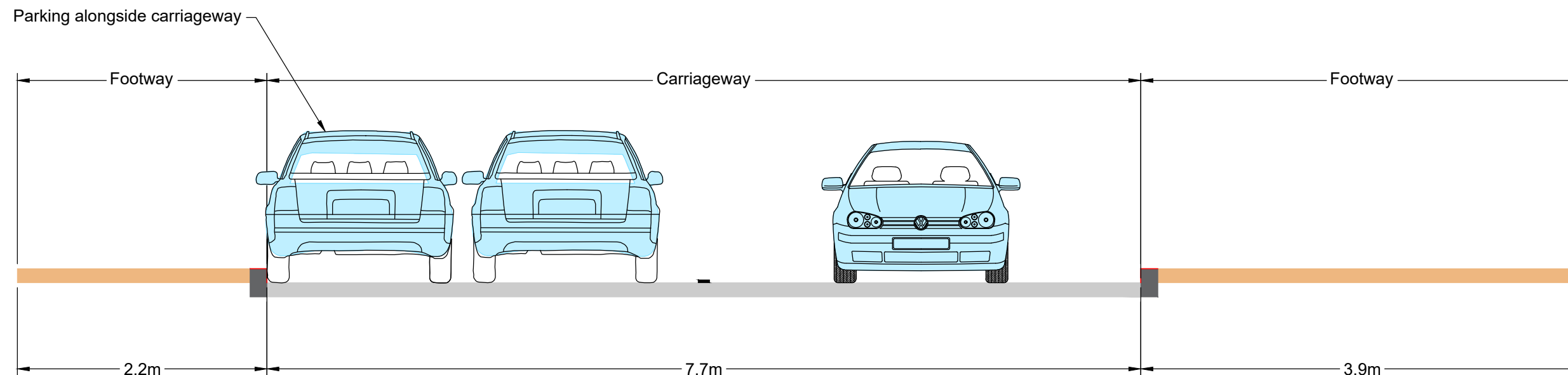
**Appendix B – Section B Option 4 Old Heath Road  
Cross Section Drawing – B355363A-RTS-HGN-SB-SK-  
005**

**Notes**

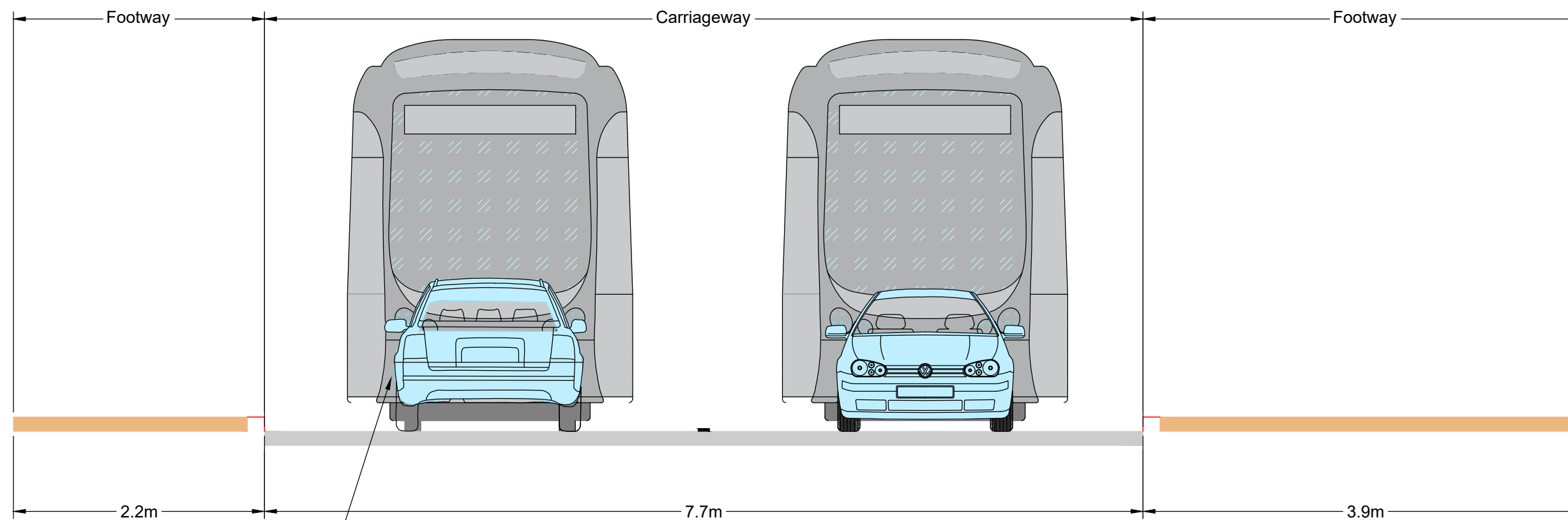
1. Do not scale.

**Key**

-  Carriageway
-  Footway
-  Road Markings
-  Kerb



**Existing**



**Proposed**

Rev.	Date	Description of revision	Drawn	Checked	Reviewed	Approved

DRAWING STATUS  
**FOR INFORMATION**



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SCHEME TITLE  
**NORTH ESSEX RAPID TRANSIT SYSTEM**

DRAWING TITLE  
**SECTION B OPTION 4  
OLD HEATH RD  
CROSS SECTIONS**

DESIGNED	DRAWN	CHECKED	REVIEWED	APPROVED
MC	MC	BA	PN	PK
DATE JUL 19	DATE JUL 19	DATE JUL 19	DATE JUL 19	DATE JUL 19

DRAWING UNITS U.N.O. SCALE AT A3 (420x297mm)  
DIMENSIONS IN MILLIMETRES  
LEVELS IN METRES  
**N.T.S**

DRAWING No. **B355363A-RTS-HGN-SB-SK-005** REV. **-**

