



**East Sussex County Council
Transport & Environment**

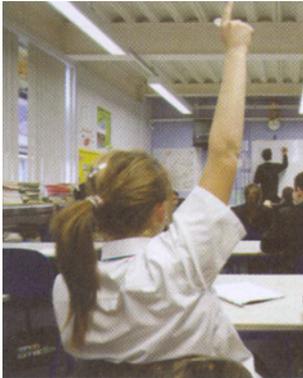


**Designers Response to Road Safety
Audit Stage 1 Report for Revised
Scheme at December 2006**



Bexhill to Hastings Link Road

Report No. 262701\061
Issue 01



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Bexhill to Hastings Link Road

Designers Response to Road Safety Audit Stage 1 Report for Revised Scheme at December 2006

East Sussex County Council
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East Sussex

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1 Introduction

1.1.1 In December 2006 at the request of East Sussex County Council, Owen Williams carried out the Stage 1 Road Safety Audit for the Revised Bexhill to Hastings Link Road and produced a report reference 262701\033 (Issue 01).

1.1.2 The Road Safety Audit Stage 1 Report has been reviewed and Owen Williams response as the designer is given below. This report should be read in conjunction with the Auditors report. The item numbers used in this report correspond with those items covered in that report.

2 Items Resulting from this Stage 1 Road Safety Audit

Departures from Standards

2.1 Location: Departure D1 at ch625 to ch1000 and D4 (part)

Summary: horizontal alignment could result in overtaking accidents

2.1.1 Designers Response

The speed limit has been adopted at the instruction of the ESCC. The Bexhill Connection is 7.3m carriageway with kerbs with minimum verges and it is proposed to plant as closely to the verge as possible to minimise forward visibility. Provision of additional lighting, at present only the junctions are to be lit, would cause significant environmental impact and as such is not acceptable to ESCC. Enhanced signs and lines will be considered at a later stage. If the development access junction is delayed beyond the opening of the link road the speed limit will be reconsidered.

2.2 Location: Departure D2 at ch1270 to ch1380 and D4 (part)

Summary: horizontal alignment could result in overtaking accidents

2.2.1 Designers Response

See 2.1.1 above

2.3 Location: Departure D5 to D10 inclusive on Greenway

Summary: excessive gradients may prevent use/safe use by wheelchair users

2.3.1 Designers Response

It is assumed that the Auditor refers to Departures D5 and D6. There are no other Departures from Standards on the Greenway. The sections are clearly defined in the report and are between chainages 4630 and 4675 and chainages 4655 and 4925.

The Greenway has to climb from a level of 9m AOD in the Decoy Stream Valley to 44m AOD adjacent to Upper Wilting Farm, at an average gradient of 10%. A loop some 400m long has been provided to reduce average gradients but without large earthworks, which would not be acceptable to ESCC. Two sections of the route need to be at gradients greater than 5%, one section 45m long @10% and another 270m @8%. It is understood that ESCC intended that resting places will be provided; these will be considered at a later stage.

Lay-bys

2.4 Location: Link Road throughout scheme

Summary: absence of lay-bys could increase risk of carriageway obstruction & conflict

2.4.1 Designers Response

ESCC has advised that lay-bys are not to be provided.

Drainage

2.5 Location: Link Road ch150 to ch300 approximately

Summary: risk of skidding accidents on poorly drained carriageway surface

2.5.1 Designers Response

The carriageway is designed with sufficient crossfall to convey water from its surface; however this will be reviewed as part of the future design process.

Road Restraint Systems

2.6 Location: Throughout the scheme

Summary: potential need for road restraint systems at open roadside channels etc

2.6.1 Designers Response

The grass channels proposed are a maximum of 200mm deep, 3.1m wide with a 1:5 slopes on the carriageway side and 1:4.5 at the rear. These dimensions are in accordance with HA 119/06 and it is not considered that these present any hazard.

A preliminary assessment of the requirement for road restraint systems has been completed and suitable provision for them included in the design verge widths and junction visibility splays.

Local alignment – new/existing road interface

2.7 Location: Woodsgate Park Overbridge

Summary: potential conflict if inter-visibility is inadequate

2.7.1 Designers Response

The existing alignment provides approximately 70m forward visibility; the proposals reduce this to just over 50m. It would be difficult to provide greater forward visibility as this would result in a reduction in the level of Woodsgate Park and a consequent reduction in level on the link road. Lowering the link road further would introduce drainage and alignment problems in that route. Speed constraint measures will be investigated at a later stage.

2.8 Location: Crowhurst Road Underbridge

Summary: potential conflict if inter-visibility is inadequate

2.8.1 Designers Response

The combination of horizontal and vertical alignment does allow inter-visibility of the approach radii through the underbridge.

Junctions

2.9 Location: Belle Hill Junction

Summary: risk of right turn /ahead collisions at traffic signals

2.9.1 Designers Response

The only way to counteract the risk of collision is to run the two right-turns at this junction separately; due to space limitations at the junction this would severely reduce capacity. A major redesign involving increased land take has been discounted by ESCC.

The proposed road significantly changes the turning proportions at this junction with the main movement becoming west to north rather than west to east, traffic flows on King Offa Way fall by 43% in the opening year. The junction will be reviewed in light of the Auditors comments, but there will be such a significant change in the way in which the junction operates that current accident patterns cannot be a reliable guide to future accident potential.

2.10 Location: Belle Hill Junction

Summary: north-eastbound left turners may be blocked by eastbound ahead traffic

2.10.1 Designers Response

Agreed, an exclusive left turn lane will be included at a later stage.

2.11 Location: Belle Hill Junction

Summary: northbound bus diverge movement may cause conflict with following traffic

2.11.1 Designers Response

Appropriate traffic signs and lanes will be provided to clarify the operation of the junction. The layout of the turning lane will be reviewed at a later stage.

2.12 Location: London Road Junction

Summary: east to southbound right turners may cause conflict on Link Road and A269

2.12.1 Designers Response

Agreed, the layout of the arm of the junction will be revised at a later stage.

2.13 Location: Link road approaching Queensway Junction

Summary: risk of lane violations on eastbound approach

2.13.1 Designers Response

Appropriate traffic signs and road marking between the end of the climbing lane and junction will be provided to manage the transition.

2.14 Location: Queensway / Link Road and Crowhurst Road Junctions

Summary: inappropriate speeds could cause vehicle and non motorised user conflicts

2.14.1 Designers Response

A 40mph speed limit is proposed on all approaches to the junction.

2.15 Location: Queensway / Link Road Junction

Summary: risk of traffic signal violations and resultant conflicts due to excessive cycle time

2.15.1 Designers Response

A very long cycle time was used in the modelling of the junction in an attempt to show the effect of the different priority (bus) stages coming in once every three cycles. The model contained three cycles in one with the first two cycles consisting of just the three normal traffic stages and the third cycle containing the three bus stages and the normal stages. Given that the controller specification can be configured to provide priority hurry calls to the three bus stages, in the very unlikely event that all three stages are called within the same cycle these stages are all likely to run at a minimum, also the main traffic stages will be cut meaning that the actual cycle time is unlikely to be increased drastically.

The likely scenario is that the junction will run at around a 90 – 100 second cycle time with increases when the bus stages are called, but these are only likely to be in the region of 20 seconds.

As the junction is run on MOVA the recovery from these situations is likely to be increased.

2.16 Location: Queensway / Link Road Junction bus lanes

Summary: road user confusion/misuse could cause traffic conflict

2.16.1 Designers Response

Bus facilities have been included on the instruction of the ESCC. It is their intension to review the inclusion of bus facilities when the likely bus usage is better understood.

Non-Motorised User Provision

2.17 Location: Throughout the scheme

Summary: excessive gradients may prevent safe passage by non motorised users

2.17.1 Designers Response

The NMU Context Report was based of the Preferred Route drawings for link road which did not include a consideration of the Greenway design. Its purpose was to highlight any areas of concern.

The NMU Context Report makes mention of three locations where NMUs would be required to navigate gradients of 1:3, they are addressed as follows.

1. In the vicinity of Hillcroft Farm overbridge, at the severance of bridleway 13b. It is apparent from the plans submitted to the auditors that the route at this location has been superseded by the diverted equestrian route (part of the Greenway) which takes users over the Hillcroft Farm Accommodation Overbridge. This as a maximum gradient of 5%.
2. In the vicinity of Adams Farm, at the severed 1066 Way. It is apparent from the plans submitted to the auditors that the route at this location has been superseded by a footpath that approaches the greenway at a diagonal alignment. This would reduce the gradient to a maximum of 5%.
3. At the proposed footpath on the west side parallel to the B2092 Queensway, running north, from its junction with Crowhurst Road. It is apparent on the plans submitted to the auditors that the route at this location has been superseded by a switch-back NMU route. This reduces the gradient to a maximum of 8%.

Also refer to comments in Para 2.3.1

2.18 Location: A259 West arm of London Road traffic signal junction

Summary: incorrect stagger and pedestrian delays could result in pedestrian/vehicle conflict

2.18.1 Designers Response

The pedestrian stagger is an existing facility; there are no plans to include it in the scope of the scheme.

2.19 Location: Chapel Path Underpass

Summary: vertical severance may cause non motorised user exclusion and vehicle conflict

2.19.1 Designers Response

The area to the west of the link road is likely to be significantly redeveloped when the school moves to its new site. ESCC do not proposed to included cycle facilities through the underpass at present but plan to in the future. The subway will be designed with headroom appropriate for cyclists, ie. 2.4m

2.20 Location: Greenway at approximate ch1600 to ch3700 and ch4560 to ch4760

Summary: confusion re: rights of way could result in non motorised user conflicts.

2.20.1 Designers Response

The equestrian routes will be created and signed as bridleways and will be available for all users; they will not be for exclusive use by riders. The differentiation between routes is intended to provide safe routes for the less active pedestrian and cyclist away from equestrian activity. It is expected that sufficient numbers of more active pedestrians and cyclists will use the shorter route at Decoy Stream that equestrians will never considerate it dedicated to them.

2.21 Location: Greenway at approximate ch4600 & ch5150

Summary: poor inter-visibility may result in non motorised user conflicts

2.21.1 Designers Response

The layouts will be amended to provide 30m forward visibility as recommended by TA 90/05.

2.22 Location: Crowhurst Road between greenway intersection and Queensway Junction

Summary: vehicle/non motorised user conflicts due to inadequate NMU continuity

2.22.1 Designers Response

A 2m (nominal) footway is to be provided over the bridge to cater for pedestrians and cyclists. A pedestrian phase in the signals will be investigated but it is likely that the inter-green time will be very long. The long inter-green may not be too severe a problem as traffic flows drops by 32% on opening of the link road, and that traffic is likely to be mainly local.

It is not expected that many equestrians will cross the bridge. The route for equestrians from the end of the Greenway continues south along the existing footpath, which will be converted into a bridleway, rather than across the bridge.

2.23 Location: Crowhurst Road junction with Queensway

Summary: excessive junction size and pedestrian diversion may cause vehicle/pedestrian conflicts

2.23.1 Designers Response

Agreed, the junction radii and width of bell mouth will be reduced to provide a shorter pedestrian diversion.

2.24 Location: Link Road junction with Queensway

Summary: pedestrian crossing arrangements may result in vehicle / pedestrian conflict

2.24.1 Designers Response

The need to include bus facilities at the junction result in the rather complex pedestrian crossing. Bus facilities have been included on the instruction of the ESCC. It is their intention to review the inclusion of bus facilities when the likely bus usage is better understood. This review would include the pedestrian facilities.

Traffic Signs, road markings and street lighting

2.25 Location: Throughout the scheme

2.25.1 Designers Response

Agreed

Document Control Sheet

Project Title:	Bexhill to Hastings Link Road
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Issue Status/Amendment	Prepared	Reviewed	Approved
Issue 01	Name: B D Burgess Signature: <i>D Burgess</i> Date: 19/01/07	Name: L Bishop Signature: <i>L Bishop</i> Date: 19/01/07	Name: L Bishop Signature: <i>L Bishop</i> Date: 19/01/07

(Enter Details of Amendment)	Name: (print) Signature: Date:	Name: (print) Signature: Date:	Name: (print) Signature: Date:
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