

Llywodraeth Cymru / Welsh  
Government

**M4 Junction 28 Improvements**  
Stage 2 Road Safety Audit  
Exceptions Report

M4J28-EMP-HAC-SWG-RP-CH-000001

P01 | 10 October 2016

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 240226-00

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**ARUP**

# Document Verification

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## Appendices

# 1 Introduction

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This Road Safety Audit Response Report relates to the Stage 2 Road Safety Audit Report for the M4 Junction 28 Improvements Scheme. The Stage 2 Road Safety Audit Brief comprised a set of detailed design drawings assembled by the Design Team for the scheme, and sent by Simon Westwood to the Road Safety Audit Team for examination. The Road Safety Audit Report was prepared and issued by the Road Safety Audit Team Leader, [redacted] of TMS Consultancy.

The proposed scheme comprises the improvement of three existing junctions to the West of Newport, specifically Junction 28 of the M4, Bassaleg Roundabout and the Pont Ebbw Roundabout.

At Junction 28, the proposed scheme would replace the existing roundabout and A48 approach from Castleton, with an enlarged gyratory, and incorporate a link to allow eastbound traffic from the M4 and A48 to link directly to the A48 Cardiff Road eastbound. The finished junction would benefit from full-time signalisation.

At Bassaleg, the existing roundabout would be enlarged to the south and west, and full time signals introduced. The Court Crescent and Park View arms would operate as priority, without signals. A signalised crossing of the A467 Forge Road arms to the south of the roundabout would provide a crossing facility for NMUs.

At Pont Ebbw, the existing roundabout gyratory would be modified, and two through links added, one for the eastbound A48 and one for the westbound A48. The roundabout would benefit from full-time signalisation.

As Project Sponsor I have carefully considered the problems and recommendations in the Stage 2 Road Safety Audit Report and the Design Team's Road Safety Audit Response Report for each problem. As a result, I propose that the Recommendation to Problems 2.1, 2.7 and 2.9 should not be implemented.

Therefore, I have produced this Exception Report for consideration by the Project Director with the request that they sign the Exception Reports and indicate their acceptance or rejection. If accepted and signed by the Director, the Exception Report will be copied and attached to every copy of the Stage 2 Road Safety Audit Report.

## 2 Key Personnel

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### 2.1 Welsh Government (Project Sponsor)

Project Engineer, Welsh Government  
Project Director, Welsh Government

### 2.2 WSP: Parsons Brinckerhoff (Employer's Agent) and TACP (Environmental Advisor)

Project Engineer, WSP|Parsons Brinckerhoff  
Project Manager, WSP|Parsons Brinckerhoff  
Environmental Advisor, TACP

### 2.3 TMS Consultancy (Road Safety Audit Team)

Road Safety Audit Team Leader, TMS Consultancy  
Road Safety Audit Team Member, TMS Consultancy

### 2.4 Costain (ECI Contractor) and Arup (Design Organisation)

Project Director, Costain  
Project Manager, Costain  
Project Director, Arup  
Project Manager, Arup  
Design Team Leader, Arup

## 3 Exceptions

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### 3.1 Problem 2.1

**Locations** Location - M4 Junction 28

**Summary** Potential hazard to errant vehicles.

There are a number of locations around the M4 Junction 28 where P1 terminal ends are shown to be provided facing oncoming traffic. The ramped ends of the P1 terminals may present a launch hazard to errant vehicles.

**Recommendation** P4 terminal ends should be provided.

**Design Team Response** The designer disagrees with the recommendation to provide P4 terminals at the sites indicated. The proposed speed limit in this area is 40mph. TD 19/06 indicates that P1 terminals are the minimum standard of provision for this speed. We consider that the provision of P4 terminals may give the appearance of a higher speed limit, and encourage inappropriate vehicle speeds as a result. The designer proposes that the proposed P1 terminals are retained.

An Exception would be required if this Designer's Response is agreed.

**Project Sponsor's Statement** I agree with the Design Team and consider the Road Safety Audit Recommendation to be inappropriate in terms of providing P4 Terminals.

I propose that the Recommendation to provide P4 Terminals suggested in Problem 2.1 in the Stage 2 Road Safety Audit is not implemented and that the Design Team's alternative proposals are implemented instead.

## 3.2 Problem 2.7

<b>Locations</b>	Street Lighting
<b>Summary</b>	<p>Potential hazard to occupants of errant vehicles.</p> <p>The drawing does not identify if the lighting columns around the M4 Junction 28 are passively safe. Although covered by a 40mph speed limit, vehicle speeds are likely to be in excess of the posted limit. In the event that an errant vehicle travelling at speed leaves the carriageway, and strikes a lighting column, serious injury may result to the vehicles occupants.</p> <p>In addition, there is a lighting column on the west side of the junction (see diagram below) that appears to be located right on the edge of the carriageway. This column may be particularly vulnerable to vehicle strikes.</p>
<b>Recommendation</b>	<p>Lighting columns if not protected by vehicle restraint systems should be passively safe.</p> <p>The lighting column identified above should be relocated away from the carriageway edge.</p>
<b>Design Team Response</b>	<p>The designer agrees with the recommendation to move a column back from the edge of carriageway.</p> <p>The designer disagrees with the general recommendation for passively safe lighting columns on Junction 28. Newport City Council have stated an express desire for street lighting columns to not be passively safe. This would require significant lengths of additional safety barrier. The cost of provision of safety barriers would therefore be significant, with a significant associated maintenance overhead. The lighting columns have been setback at a distance where a risk assessment undertaken in accordance with TD 19/06 indicates that a barrier is not required to protect the lighting columns at 50mph.</p> <p>An Exception would be required if this Designer's Response is agreed.</p>
<b>Project Sponsor's Statement</b>	<p>I agree with the Design Team and consider the Road Safety Audit Recommendation to be inappropriate in terms of providing passively safe lighting columns. This is evidenced by the Designers use of a risk assessment under TD19/06 shows that there is no need to provide a safety barrier.</p> <p>I propose that the Recommendation to provide passively safe lighting columns suggested in Problem 2.7 in the Stage 2 Road Safety Audit is not implemented and that the Design Team's alternative proposals are implemented instead.</p>





### 3.3 Problem 2.9

<b>Locations</b>	A467 Forge Road (S)
<b>Summary</b>	<p>Potential hazard to errant vehicles.</p> <p>A P1 terminal ends is shown to be provided facing oncoming traffic on the A467 (S) on exit from the Bassaleg Roundabout. The ramped end of the P1 terminals may present a launch hazard to errant vehicles.</p>
<b>Recommendation</b>	A P4 terminal should be provided.
<b>Design Team Response</b>	<p>The designer disagrees with the recommendation to provide P4 terminals at the sites indicated. The proposed speed limit in this area is 30mph. TD 19/06 indicates that P1 terminals are the minimum standard of provision for this speed. We consider that the provision of P4 terminals may give the appearance of a higher speed limit, and encourage inappropriate vehicle speeds as a result. The designer proposes that the proposed P1 terminals are retained.</p> <p>An Exception would be required if this Designer's Response is agreed.</p>
<b>Project Sponsor's Statement</b>	<p>I agree with the Design Team and consider the Road Safety Audit Recommendation to be inappropriate in terms of providing P4 Terminals.</p> <p>I propose that the Recommendation to provide P4 Terminals suggested in Problem 2.9 in the Stage 2 Road Safety Audit is not implemented and that the Design Team's alternative proposals are implemented instead.</p>

## 4 Project Sponsor and Project Director Statements

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### 4.1 Project Sponsor's Statement

This Exception Report for Exceptions to Problems 2.1, 2.7 and 2.9 is presented to the Project Director for the final decision by:

Signature:

Date:

### 4.2 Project Director's Comments and Final Decision

The Exception for Problem 2.1 is/~~is not~~ accepted by (delete as required)

The Exception for Problem 2.7 is/~~is not~~ accepted by (delete as required)

The Exception for Problem 2.9 is/~~is not~~ accepted by (delete as required)

Signature:

Date: