Junction Improvement Programme

A30 Crooked Billet Improvements Scheme

Value Management Stage C

Technical Note

Introduction

The Technical Note (TN) provides an overview of the A30 Crooked Billet Improvements scheme benefits prior to the Value for Money (VfM) at the end of Phase C Preliminary Design.

The methodology followed is as per the NDD Solutions Phase document published November 2017. The aim of the TN is to follow the guidance where practical of the NDD Solutions Phase document and give confidence that the scheme benefits, scoring and Benefit to Cost Ratio (BCR) support the overall improvement both technically and in VfM.

Methodology

Each developing scheme is reviewed for quality and technical assurance. The documents are commented on by CPS and corrections are made through the designer and checked before the TN is sent via the Supply Chain Portal to Highways England with a scheme package for review and comment.

It is anticipated the client may wish to review the Interim documentation and provide comments. It is expected that the scheme will progress, and any changes will be completed during the following Phase.

Scheme Benefits Summary

The improvement scheme is aiming to offer the benefit of reduced accidents and improved safety to the road user. It is thought that fear and frustration will be reduced as a result of the scheme.

It is anticipated that proposed cycling and walking improvements is likely to increase between 2 to 3% additional cycling and walking trips via the A30 Crooked Billet roundabout.

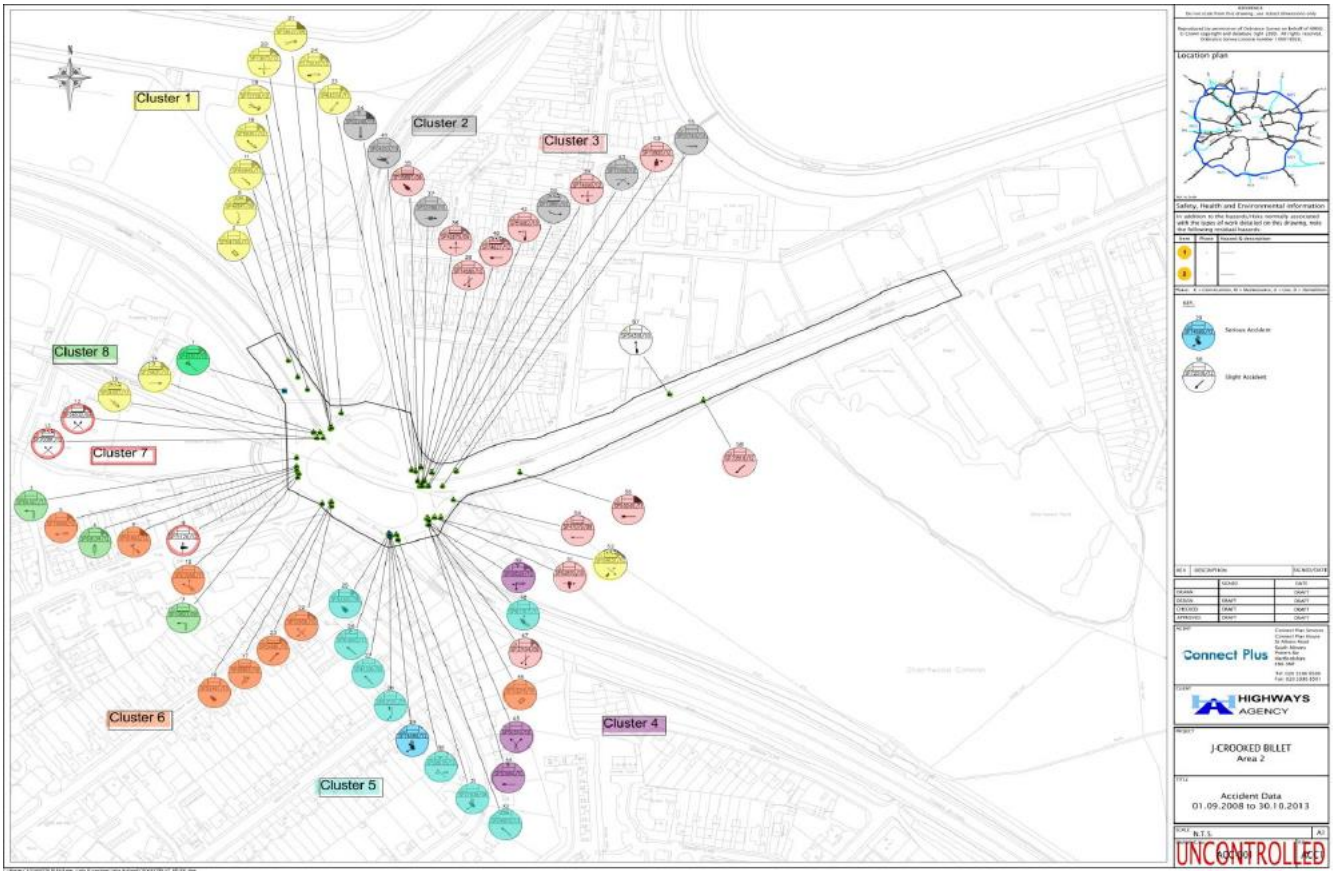
Five years personal injury collisions (PICs) data have been analysed between 31/10/08 and 30/10/2013. The Crooked Billet junction has a high rate of PICs but low severity.

The proposed improvement scheme is aiming to achieve PIC savings in a range between 23-43 over the five years period (4.6 to 8.6 PICs / year).

Business and non-business users will benefit from the proposed improvements to the A30 Crooked Billet Improvements scheme. As part of the Scheme Appraisal Report, the journey time benefits were calculated using journey time differences between the base and proposed LinSig models.

Values of time saved per vehicle (£/hr, 2010 prices) have been applied to the journey time saving. The result is a total present value of benefits (PVB) of £8,224,400 in 2010 prices discounted to 2010. This resulted in the overall scheme benefits to cost ratio (BCR) of close to 2.0.

The accident location is presented in following diagram.



The queue length comparisons is presented in following diagram.