



**North Yorkshire County Council
Harrogate and Knaresborough Area Constituency Committee - 7 November 2019
Bond End Junction Improvement - Update following Implementation**

1.0 Purpose of Report

- 1.1 To update members on the Bond End Junction Improvement scheme, following completion in November 2018.

2.0 Background

- 2.1 In 2010, Harrogate Borough Council identified two places where the annual target for nitrogen dioxide, which mostly comes from traffic pollution, had been exceeded, these were in Knaresborough (Bond End) and Ripon (High Skellgate).
- 2.2 In 2013 Harrogate Borough Council submitted an Air Quality Action Plan to the Department of Environment, Food and Rural Affairs (DEFRA). Details of the Action Plan can be found on Harrogate Borough Council's website at; https://www.harrogate.gov.uk/downloads/file/1132/2013_air_quality_action_plan
- 2.3 North Yorkshire County Council implemented a revised junction arrangement in October 2018, which saw the removal of the existing signalised arrangement and the installation of two mini roundabouts and four zebra crossings.
- 2.4 The scheme set out with a clear objective of reducing nitrogen dioxide levels at the junction. The air quality modelling indicated that the scheme would deliver a reduction in nitrogen dioxide levels of up to 20% in the future modelled year, 2028, when compared to the do-nothing scenario.
- 2.5 Thorough traffic and air quality modelling informed the technical elements needed to meet the objectives. The junction layout with surrounding buildings created some unusual canyoning effects on pollution. By modelling the junction and surroundings, we could account for these and demonstrate that the greatest air quality benefits were not necessarily delivered by the greatest economic delay savings.

3.0 Scheme Implementation

- 3.1 Sustainable practices were adopted where the scheme allowed. Traditional stone footway and kerbing materials were re-used and, where extra quantities were required, recycled supplies were utilised. The raised planter was re-created, re-using the natural stone. Street lighting and zebra crossings were installed with low energy LED lanterns.

- 3.2 Recognising the constraints of the area, the high volume of traffic and its key location and proximity to residential properties meant that the contractor had a crucial role in the effective delivery of the project. The delivery team amended the tender process to include a quality presentation and submission, requiring tenderers to think about how they would deliver the work.
- 3.3 Before construction started, we held a 'meet the contractor' event for neighbouring residents and businesses. This set the scene for the quality of engagement that would follow. During the works the contractors prioritised liaison, keeping them well informed, answering their questions and accommodating special access needs. North Yorkshire County Council set up a dedicated webpage with where weekly posts included details of traffic management of the scheme, the progress and photographs.
- 3.4 During the works the traffic management created inevitable delays. In mitigation, long-distance diversionary signs were installed to discourage through traffic. The traffic management plans prepared during the tender were implemented, but adapted when this became necessary to accommodate pedestrian demands. This was further enhanced by peak-hour manual control of the temporary traffic signals during particularly disruptive work phases.
- 3.5 Works were delivered within the agreed programme and within the agreed budget of £480,000.

4.0 Air Quality Results

- 4.1 Air Quality monitoring continues to be managed by Harrogate Borough Council.
- 4.2 The scheme was complete in November 2018 and to date Harrogate Borough Council (HBC) officers do not have qualitative data available to understand the impact on Nitrogen Dioxide levels. From a quantitative consideration the impact on queues and delays has been significant and feedback from the community has confirmed this. Peak-hour delays are reduced, with the added air-quality advantage of less stop-start traffic.
- 4.3 Traffic modelling results had suggested there would be queuing impact on the high street, worse than existing as part of this scheme. This has not been identified following the scheme delivery. With traffic flowing better than the modelled scenarios it's possible that in the future these levels could be reduced below the modelled predictions.

5.0 Lessons Learned- Scheme delivery

- 5.1 A Communication Plan ensured regular contact and letter drops to the residential area, whilst we posted regular updates and progress photographs on NYCC's website.
- 5.2 Equally important was the need to ensure that the scheme met the needs of the local community, without losing focus on air quality. The provision of zebra crossings on each of the approach arms was an improvement over the existing facilities, as was widened areas of footways. One crossing was placed on a raised table to address concerns about down-hill speeds approaching and through the junction. 'Meet the contractor' and 'meet the designer' engagement events ensured that the community were engaged appropriately.

- 5.3 A number of other elements were accommodated or incorporated into the works to maximise the use of the disruptive traffic management. This included utilities connections, extending into adjoining areas of resurfacing and re-construction of a failing area of carriageway.
- 5.4 Whilst air quality was the primary objective, the scheme needed to be cognisant of the location's function as a place. Whilst being a busy primary traffic route, it's also a town centre location and residential street with neighbouring church, hotel and a charity's arts and crafts centre. These further objectives were met through enhanced pedestrian crossing provision and widened footways, making the junction safer and easier to negotiate on foot. The sense of place was topped off by the re-constructed raised flower bed, which was planted by the Town Council.
- 5.5 Safety Audits have demonstrated that the scheme is safe and has highlighted a number of amendments in connection with signing and lining for the highways team to address.

6.0 Next steps

- 6.1 It was always recognised that the improvement scheme could never remove the air quality problem, but it could contribute in its improvement, it is anticipated that this improvement will result from improved traffic flow and less propensity for vehicles to come to a standstill, particularly during off-peak periods.
- 6.2 Further complimentary measures in the area would see further improvements in the future. North Yorkshire County Council (NYCC) have installed two cameras to monitor the junction and its use, this data can be used to inform future air quality reduction actions as part of Harrogate Borough Council's Air Quality Action Plan. NYCC officers remain part of this working group.
- 6.3 Harrogate Borough Council continue to monitor this site with respect to Air Quality. It is expected that data nitrogen dioxide level data will be available in March 2020.

7.0 Financial Implications

- 7.1 No significant financial implications have been identified as a result of the recommendations of this report.

8.0 Equalities Implications

- 8.1 No significant equalities implications have been identified as a result of the recommendations of this report.

9.0 Legal Implications

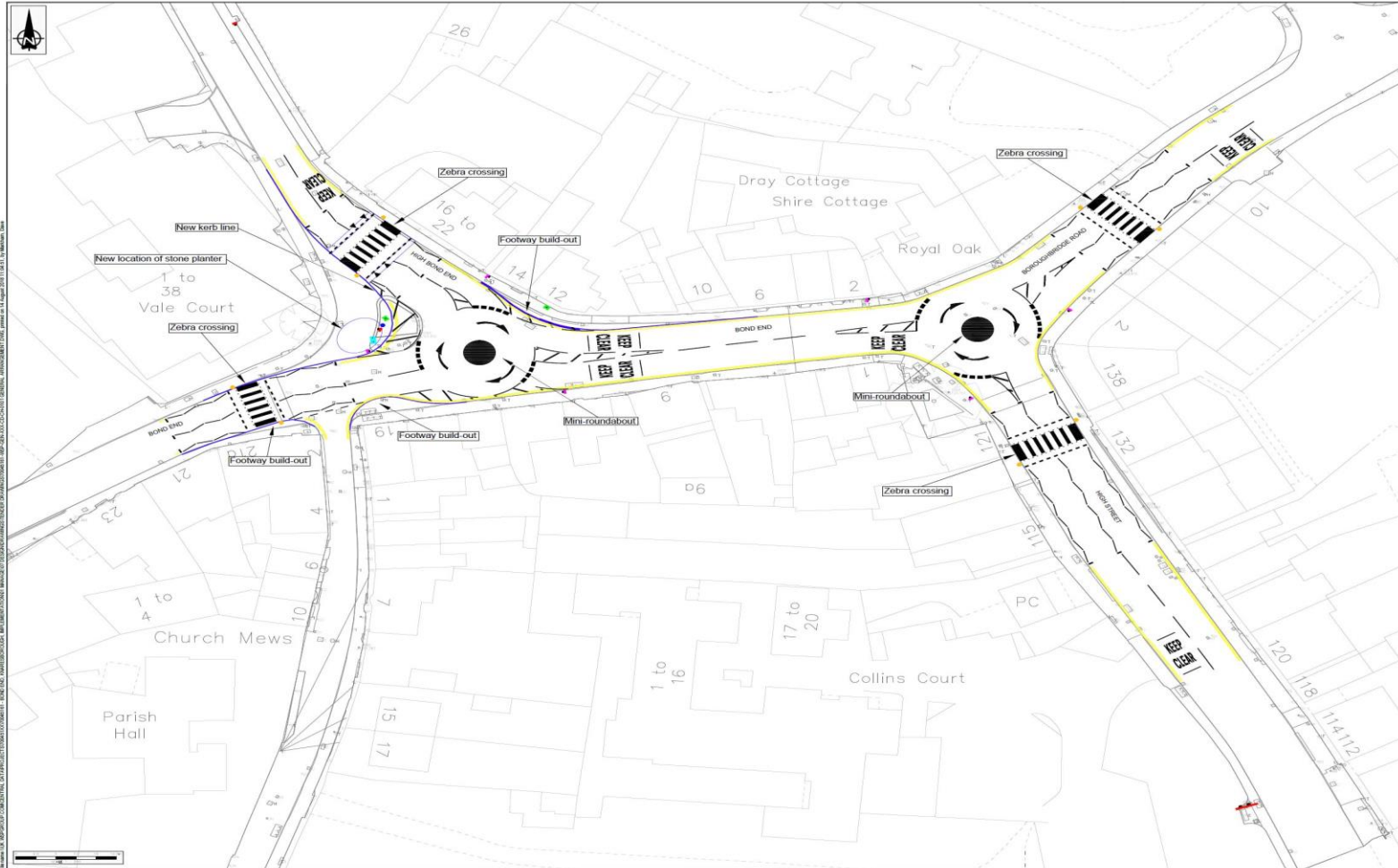
- 9.1 No significant legal implications have been identified as a result of the recommendations of this report

10.0 Recommendation

- 10.1 That Members note the updates provided, regarding the implementation of the Bond End Junction improvement scheme. Quantitative results are not yet available, these can be provided by Harrogate Borough Council's Environmental team once available in the new year.

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DATE: 22 October 2019





DO NOT SCALE

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION
 IN ADDITION TO THE INFORMATION DETAILING THE ASSOCIATED RISKS OF THE WORKS, THE FOLLOWING INFORMATION IS PROVIDED TO ASSIST IN THE ASSESSMENT OF THE RISKS OF THE WORKS. NOTE THE FOLLOWING:

HEALTH AND SAFETY
 THE DESIGNER HAS CONSIDERED THE SAFETY OF THE WORKERS AND THE PUBLIC AND HAS TAKEN ALL REASONABLE PRECAUTIONS TO PREVENT ACCIDENTS AND INJURIES. THE DESIGNER HAS TAKEN ALL REASONABLE PRECAUTIONS TO PREVENT POLLUTION BY FOG WATER.

ENVIRONMENTAL
 THE DESIGNER HAS CONSIDERED THE ENVIRONMENTAL IMPACTS OF THE WORKS AND HAS TAKEN ALL REASONABLE PRECAUTIONS TO PREVENT POLLUTION BY FOG WATER.

NONE
 THE DESIGNER HAS CONSIDERED THE ENVIRONMENTAL IMPACTS OF THE WORKS AND HAS TAKEN ALL REASONABLE PRECAUTIONS TO PREVENT POLLUTION BY FOG WATER.

DESIGN	01/09/18	AW	"TRIPLES" REVISED FROM ANNOTATION	CS	JK
DESIGN	04/07/18	JK	FIRST ISSUE	CS	DM
REV	DATE	BY	DESCRIPTION	DATE	BY

WORKING TITLE
 A - FIT FOR CONSTRUCTION

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 wsp.com

North Yorkshire County Council

PROJECT
 BOND END AIR QUALITY SCHEME

TITLE
 GENERAL ARRANGEMENT

SCALE	1:200	DATE	CD	REVISED	DW
PROJECT NO.	70045161	DESIGNER	JK	CHECKED	DM
DATE	25/09/18	DATE	JK	DATE	DM

70045161-WSP-GEN-XXX-CD-CH-0101 P02

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