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Project Name:	Bleachcroft Way, Proposed Residential Development, Barnsley
BGH Reference	16-160-011.01
Subject:	Proposed Mitigation Measures at Stairfoot Roundabout
Date:	20th November 2019
Prepared By:	Adam Bradley
Checked By:	Martin Crabtree
Overview By:	Andrew Cooper

Introduction

1. This Technical Note (TN) has been prepared by Bryan G Hall (BGH) on behalf of U and I Group Plc following a meeting with Barnsley Metropolitan Borough Council (BMBC) on 13th November 2019. This TN responds directly to comments made by BMBC highways development control and demonstrates that;

    a. The removal of the Bus Lane on Bleachcroft Way will have a negligible impact on the ability of cyclists to use the network; and,

    b. The junction throughput as a result of the proposed development will not be materially affected with the proposed mitigation measures in place.

Bus Lane Removal

2. The proposed mitigation scheme attached at **Appendix BGH1** will result in the removal of the existing shared Bus and Cycle Lane on the Bleachcroft Way approach to Stairfoot Roundabout. The existing shared facility occupies 1/3 of the 11m carriageway and therefore results in a reduced capacity at the stop line.

3. If the shared Bus and Cycle Lane is removed a bus stop will need to be provided. The proposed mitigation scheme provides a kerbside bus cage and would require a mast arm to be installed at the stop line, to provide suitable visibility of the traffic signals at the Bleachcroft Way approach to Stairfoot roundabout.

4. It is agreed with BMBC that there are engineering solutions to allow the removal of the Bus Lane, however, BMBC have raised concerns relating to cycle safety and require further information to demonstrate that the removal of the Bus Lane will not have a negative impact on cycle safety.

5. The survey data used to create the VISSIM model shows that during the three-hour morning peak period there was a single cycle movement recorded on the Bleachcroft Way approach to Stairfoot Roundabout, in the evening peak two cycle movements were recorded. This demonstrates that during a six-hour period there were only three cycle movements on Bleachcroft Way approach, compared with 5250 other vehicle movements on this approach. This demonstrates that 0.057% of vehicles on this approach are cycles.

6. Based on this data and a first principles approach it is not considered necessary to provide a formal cycle facility on the Bleachcroft Way approach to Stairfoot roundabout in place of the existing Bus and Cycle Lane. Clearly an independent Road Safety Audit would be undertaken at the detailed design stage in order to ensure that this approach is acceptable in terms of road safety.

7. Furthermore, National Cycle Network route 67 offers an alternative, traffic free cycle route from the proposed residential development to the centre of Barnsley to the west and the Wombwell area of Barnsley to the east. The distance to Barnsley using the cycle route is the same as the on-carriageway route without the potential conflicts with other road users.

8. It is therefore considered that an appropriate mitigation measure, following the removal of the shared Bus and Cycle Lane would be to provide funding for suitable signage to be installed in the vicinity of the route to encourage its use.

Junction Throughput

9. BMBC highways development control have also requested additional information relating to the number of vehicles passing through Stairfoot Roundabout; as a result of background traffic growth and the relative quantum of the proposed development. This information can then be used to determine at which point any highway scheme would need to be implemented.

10. Tables 1 and 2 shows the total number of 2022 future year traffic movements at Stairfoot Roundabout with 0%, 25%, 50%, 75% and 100% of the development completed in the morning and evening peak period.

Table 1 – Morning Peak Total Traffic Flows

Morning Peak	% Occupation				
	0%	25%	50%	75%	100%
Total Peak Hour Traffic Flows	4299	4332	4366	4399	4433
Difference	0	33	67	100	134
% Increase	0.00%	0.77%	1.53%	2.28%	3.02%

Table 2 – Evening Peak Total Traffic Flows

Evening Peak	% Occupation				
	0%	25%	50%	75%	100%
Total Peak Hour Traffic Flows	4621	4660	4699	4738	4777
Difference	0	39	78	117	156
% Increase	0.00%	0.84%	1.66%	2.47%	3.27%

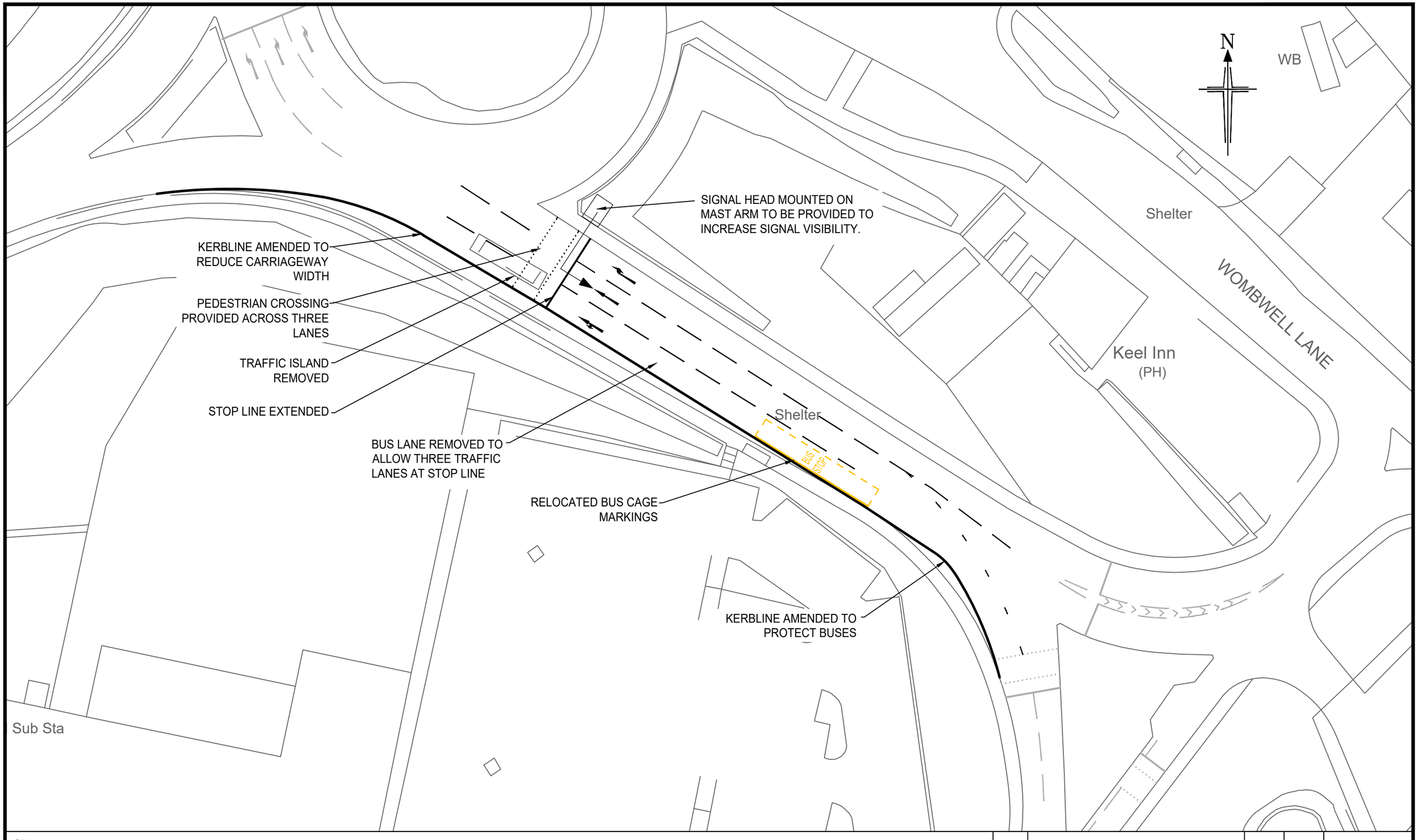
11. Based on the above and the relatively low increase in junction throughput as a result of the development it is considered that 50% occupation would be a suitable threshold after which highway improvements would be required. The total predicted peak hour flows at 50% occupation are 4366 (+1.53%) and 4699 (+1.66%) in the morning and evening peak respectively. This threshold is considered appropriate as it represents less than a 2% increase in flow and only slightly more than 1 extra vehicle per minute on the network during peak hours.

Appendices

Appendix BGH1- 16/160/TR/004 Scenario 1 Mitigation

End.

APPENDIX BGH 1



Client:

U + i GROUP PLC

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Project:

PROPOSED RESIDENTIAL DEVELOPMENT
BLEACHCROFT WAY
BARNSLEY

Title

PROPOSED MITIGATION 2B
BUS LANE REMOVAL ON BLEACHCROFT WAY

Rev:	Amendment:	Drn:	Chk:	Date:

Drawn: AB Chkd: MC Appvd: RB Date: JUNE 2019

Scale: 1:500 Job No: Drawing No: Revision:

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