
Urban Traffic Control Unit

Client: Stockport Metropolitan Borough Council
Project: Berrycroft Ln / Barrack Hill
Subject: Addendum to initial report – *Berrycroft_Traffic_Impact_Report_JW_021122* – discussing the addition of an alternative RTA
Doc: *Berrycroft_Report_Addendum_JW_300523*
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Date: 30th May 2023

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1. Introduction

- 1.1. This report relates to the proposed implementation of an indicative arrow for right-turners from School Brow to George Lane, Stockport.
- 1.2. This report is an addendum to an earlier report which discussed the addition of a right-turn arrow from Berrycroft Lane to Barrack Hill, Stockport. This addendum references the original report.
- 1.3. Informed by traffic flow data, this report considers the likely operational efficiency of the junction in the morning and evening peak periods of the assessment year.

2. Traffic Flows

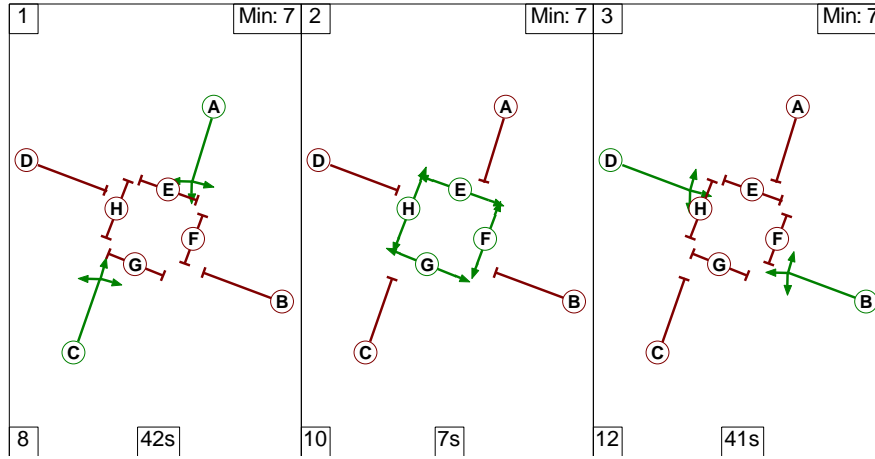
- 2.1. See section 2 of original report.

3. Pedestrian Demand

- 3.1. See section 3 of original report.

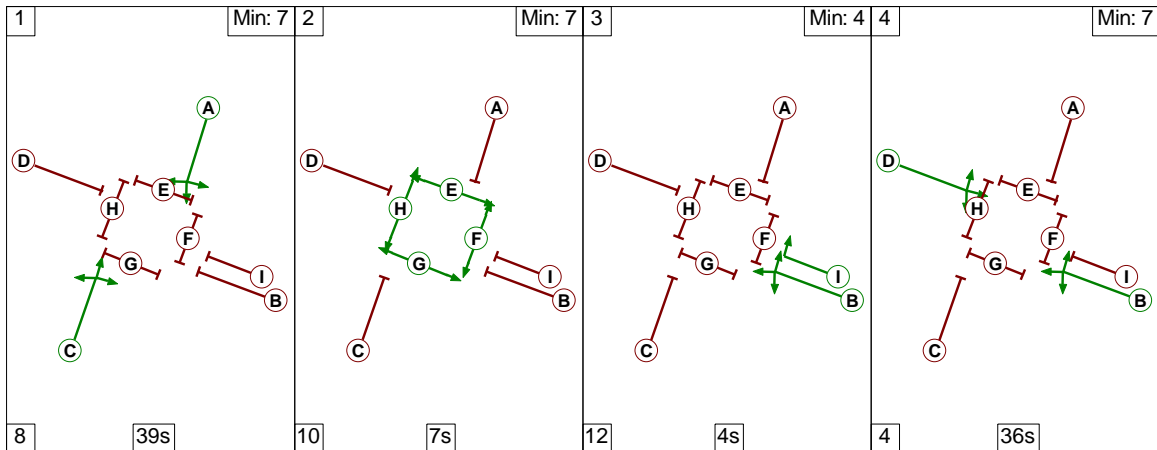
4. Signal Stage Sequences

4.1. Existing Junction Staging:



Phases A, B, C, and D represent the vehicle phases. Phases E, F, G, and H represent cycle phases.

4.2. Proposed junction staging:



Phases A, B, C, and D represent the vehicle phases. Phases E, F, G, and H represent controlled pedestrian crossings phases. Phase I represents the proposed early right-turn indicative arrow phase.

5. Modelling Details

5.1. See section 5 of original report.

6. Results of Modelling

6.1. The tables below indicate the predicted degree of saturation, queue length and delay, for the modelled scenarios. Links with a degree of saturation equal to or greater than 90% have been highlighted in red.

6.2. The degree of saturation is a measure of how close to capacity a link is predicted to operate, with 90% taken to be the maximum practical level.

6.3. Queues are average maximums and will be exceeded for half the signal cycles. Where a junction is at practical capacity, queues could extend to twice the quoted value.

6.4. AM Traffic Peak (08:30 – 09:30)

Link Description	EXISTING JUNCTION Ped 1/1, 120 second cycle			PROPOSED JUNCTION Ped 1/1, 120 second cycle		
	Degree of saturation (%)	Delay (s/pcu)	Queue length (metres)	Degree of saturation (%)	Delay (s/pcu)	Queue length (metres)
George Lane (all movements)	54	38	59	54	38	59
School Brow (all movements)	54	36	49	54	36	49
Barrack Hill (all movements)	67	41	79	67	41	79
Berrycroft Lane (right, ahead, and left turn movements)	65	43	48	66	46	53
Practical Reserve Capacity (%)	34.9			34.9		
Total Delay (pcu-hrs)	18.8			19.1		

6.5. PM Traffic Peak (17:15 – 18:15)

Link Description	EXISTING JUNCTION Ped 1/1, 120 second cycle			PROPOSED JUNCTION Ped 1/1, 120 second cycle		
	Degree of saturation (%)	Delay (s/pcu)	Queue length (metres)	Degree of saturation (%)	Delay (s/pcu)	Queue length (metres)
George Lane (all movements)	67	45	56	69	49	59
School Brow (all movements)	50	39	48	46	33	45
Barrack Hill (all movements)	87	55	127	96	85	158
Berrycroft Lane (right, ahead and left turn movements)	89	59	119	97	82	154
Practical Reserve Capacity (%)	1.1			-7.3		
Total Delay (pcu-hrs)	28.7			38.5		

7. Conclusion

7.1. The results of the modelling indicate that the implementation of an indicative arrow for right-turners from School Brow to George Lane would likely have an adverse impact on the operation of the junction during the evening peak period (the morning peak performs more favourably).

7.2. There are likely to be significant increases to queuing and delay on Barrack Hill and Berrycroft Lane during the evening peak, albeit with significant reductions to right turn delay on School Brow (6.9 and 19.2 seconds per vehicle during the morning and evening peaks).

7.3. Surveys conducted in September 2022 indicate that the right turn is lightly trafficked (99 and 49 vehicles during the morning and evening peaks respectively). The benefits of the arrow for a relatively small right turn demand should be weighed against the impact to other users.

7.4. The implementation of the arrow would, however, reduce the potential for conflict between right-turning vehicles and opposing traffic from Berrycroft Lane, improving the safety of the manoeuvre.

7.5. It is notable that there are benefits afforded by SCOOT signal control that have not been considered by this fixed-time modelling.

