Appendix C   JCT Report

Joe Wooldridge

From:	Simon Swanston (JCT Consultancy Ltd.) <consultancy@jctconsultancy.co.uk>
Sent:	25 June 2020 10:23
To:	Joe Wooldridge
Subject:	Ledbury
Attachments:	200622 MOT20022 Hereford Rd Issue 3.0.zip

Joe

I attach the LinSig MOT for the latest file, that runs the 110 seconds cycle time, based on the layout on drawing 03468-A-010-P6

The model includes the intergreen measurements in which JCT calculated using the quickGreen software, the file in which we issued on 19th June 2020. Phase delays had also been updated as a consequence of the intergreen changes.

Based on the layout provided, the MOT identified no significant errors, whilst the modelling assumptions used could be considered as reasonable.

Best Regards

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Simon Swanston BEng, MSc, CEng, FIHE
Associate Director
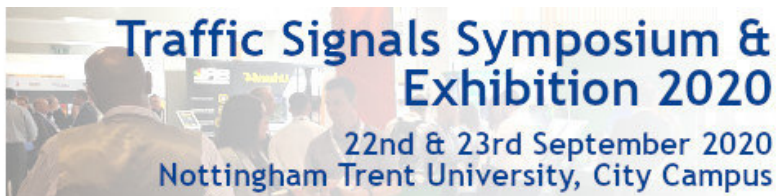
JCT Consultancy Ltd
LinSig House
Deepdale Lane
Nettleham
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Joe Wooldridge

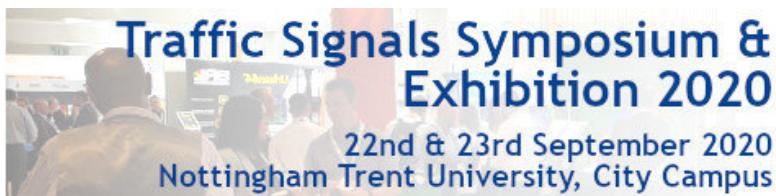|	
From:	Simon Swanston (JCT Consultancy Ltd.) <consultancy@jctconsultancy.co.uk>
Sent:	29 June 2020 14:28
To:	Joe Wooldridge
Subject:	Top Cross Junction

Joe

In terms of junction improvements at the Top Cross Junction, that could be made to the model, this would be difficult at this location. The road layout is very tight, and the traffic signals run about as efficiently as they can (one lane approaches, and the bottleneck on Worcester Rd, offer limited flexibility).

However, in terms of the model itself, you could consider increasing the non-blocking storage on The Southend from 0 pcus to 0.5 pcus. Although there may be zero storage, this can result in overly pessimistic results when coded within the model. The reason being is that, LinSig works with platoons of traffic, not individual vehicles like microsimulation. So, as long as there is any volume of right turn (even only 1 pcu per hour), then there will always be a fraction of a pcu ready to turn at every second of the cycle time. So, when traffic is released on green, there will immediately be a fraction of a right-turn at the start of that green, and therefore blocking will occur from the start as this is greater than the zero non-blocking storage given. However, the majority of traffic, in this case, is going ahead, and therefore not opposed. So, one would expect that, although sometimes blocking may occur at the start of green if the first car is a right-turner, other times, the first few cars may be unopposed and be able to proceed until the first right-turner arrives. Therefore, a non-blocking storage og 0.5 pcus allows this storage area to fill up a little before blocking occurs. The higher the right-turn is, the quicker this storage area will fill up and block, as one would expect.

Best Regards

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Simon Swanston BEng, MSc, CEng, FIHE
Associate Director

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File Description	Hereford Rd Proposed Junction			**LinSig3 MOT**	
Model Filename	Bromyard Road Junction Appeal Final 110 cycle.lsg3x	**Received by**	PJA	**Date Sent to JCT**	26 June 2020
JCT Reference	MOT20022 Iss 3.1	**JCT Auditor**	Simon Swanston	**Audit Date**	26 June 2020
Associated Drawing	03468-A-010-P6	**Associated Signal Data**	None	**Associated Traffic Flows**	None	**Other Provided Info**	None

JCT AUDIT CHECKLIST

Lane Structure	OK	✓	**Flares (Short Lanes)**	OK	✓	**Give-way**	Note 1	✓
Phases	OK	✓	**Intergreens**	OK	✓	**Stages / Sequences**	OK	✓
Phase Delays	OK	✓	**Saturation Flows**	OK	✓	**Cruise Times**	N/A	✓
Traffic Flows	Note 2	✓	**Advanced Settings / Other**	OK	✓	**Timings / Results**	OK	✓

✓	No significant errors identified	✗	Comment that may require clarification or minor error	✗	Potential / Likely Error

Modeller Details	**Modeller Name**		**Modeller Company**		**Response Date**	

JCT Audit Notes (Page 1)		**Modeller's Response**
Note Number	**Comment**	
1	Model assumes a non-blocking storage of 2.0 pcus. This might be possible, although will be dependent on where first queuing right-turner decides to wait.	
2	Assume Traffic Flow Matrices are correct, although they have been adjusted since original model, with 2 flow groups for each peak	

bsi.

UKAS MANAGEMENT SYSTEMS
0003

quickGreen Report

Project:	20022 The Homend Intergreens
Title:	Proposed Junction

Filename:	The Homend Intergreens.qgn
Location:	Ledbury
Designer:	Simon Swanston
Organisation:	JCT Consultancy
Address:	LinSig House
	Deepdale Lane
	Nettleham
	Lincoln
	LN2 2LL

Junction Geometry
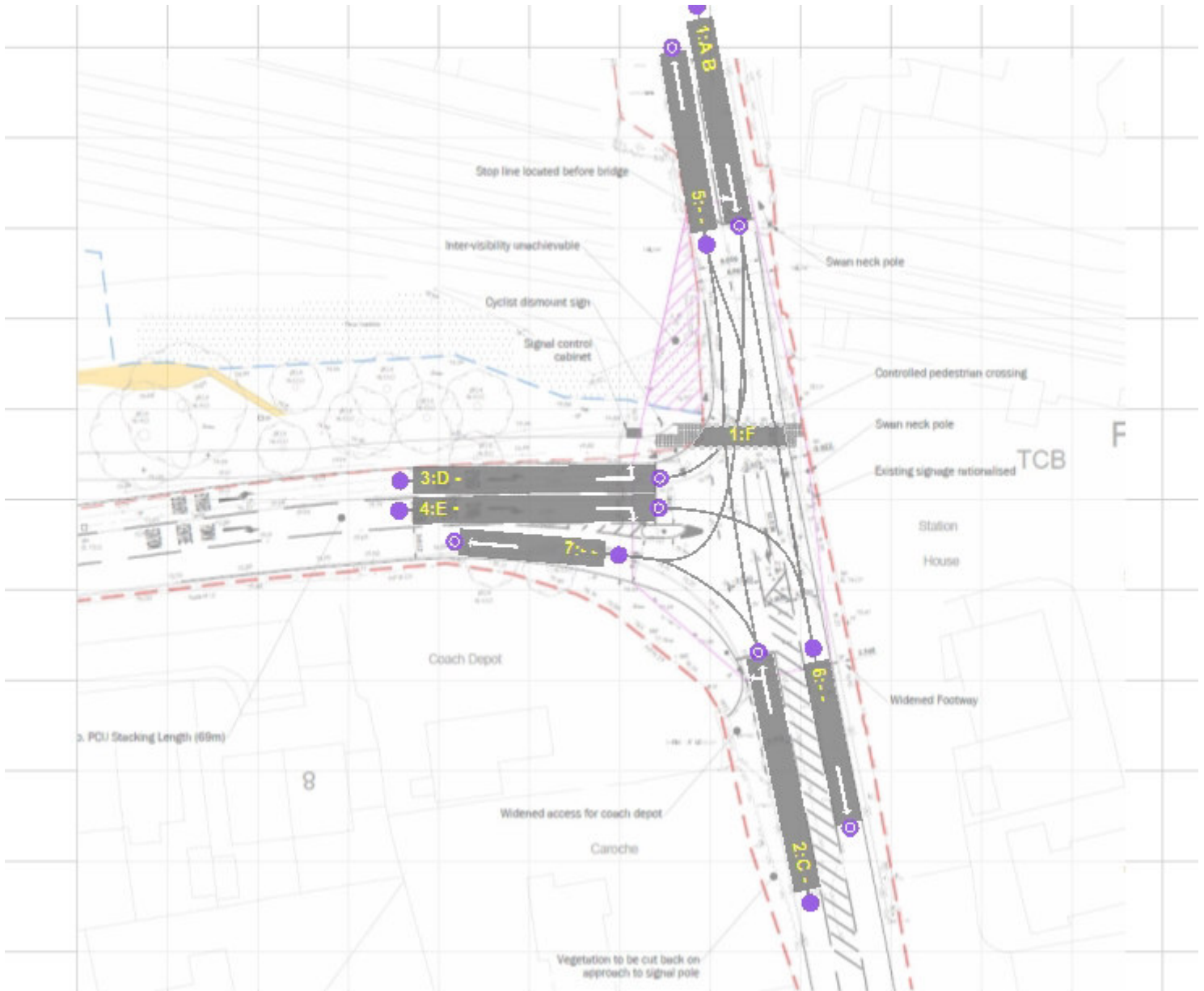
Notes

This model does not have notes

Lane Details

Lane	Width (m)	Controlling Phase	Controlling Arrow Phase	Number of Turns	ASL Length (m)	Num Turning Movements
1	3	A	B	2		0 of 2
2	3	C		2		0 of 2
3	3	D		1		0 of 1
4	3	E		1		0 of 1

Pedestrian Crossings

Crossing	Walk Distance (m)	Walk Time (s)	Terminating Intergreen (s)
1	9.71	8.09	10.09

Traffic Signal Phases

Phase Name	Type	Lanes Controlled
A	3 Aspect Traffic	1
B	Ind. Arrow	1
C	3 Aspect Traffic	2
D	3 Aspect Traffic	3
E	3 Aspect Traffic	4
F	Pedestrian	1

Lane Conflict Distances

Starting Lane

Terminating Lane

Lane Conflict Distances (m)				
	1	**2**	**3**	**4**
1		25.84	9.55	25.39
2	-9.44		15.04	6.46
3	3.86	-14.04		
4	-21.02	-6.46		

Traffic\Pedestrian Conflict Distances

Starting Ped Crossing

Terminating Lane

Traffic/Pedestrian Conflict Distances (m)	
	P1
1	25.37
2	25.88
3	11.12
4	

Phase Intergreen Matrix

Starting Phase

Terminating Phase

Phase Intergreens (s)						
	A	**B**	**C**	**D**	**E**	**F**
A				6	7	7
B			7	6	7	7
C		5		6	5	7
D	5	5	5			6
E	5	5	5			
F	11	11	11	11		

Additional Phase Intergreen Detail

Phases	Type	Value	Notes
A => C	Phases Oppose	-	
C => A	Phases Oppose	-	

Audit Log Records

This model does not have any audit records