DTPC

Report No. J087/TA addendum
July 2014

PROPOSED RESIDENTIAL DEVELOPMENT
WADDOW VIEW, LAND OFF
WADDINGTON ROAD, CLITHEROE

TRANSPORT ASSESSMENT ADDENDUM

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TRANSPORT ASSESSMENT ADDENDUM

CONTROLLED DOCUMENT

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A	-	

Development Transport Planning Consultancy (DTPC) Unit 3 Philips Road, Weir, Bacup, Lancashire, OL13 8RH
T: 01706 872323, M: 07521560109 E – info@dtpc.uk.com www.dtpc.uk.com

PROPOSED RESIDENTIAL DEVELOPMENT
WADDOW VIEW, LAND OFF WADDINGTON ROAD, CLITHEROE
TRANSPORT ASSESSMENT ADDENDUM

C O N T E N T S

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1. INTRODUCTION

DTPC has been appointed by Ingham and York on behalf of **'The Huntroyde Estate;Clitheroe Auction Mart Co Ltd;Mr J Taylor, Ms Sarah Howard & Ms Samantha Howard'** to provide transport and highway advice for the traffic and transportation implications associated with their planning application submission at the Waddow View area on land off Waddington Road, Clitheroe.

The submission follows a previous refusal by Ribble Valley and subsequent dismissed appeal. In both case LCC the highway authority had no objections to the scheme. The appeal inspector found that the Bawdlands/Castle View junction was not capable of accommodating additional flows in/out from the scheme without affecting safety levels and thus refused the appeal.

The scheme set out no longer uses the Kirkmoor/Castle View route and thus removes the inspectors concerns. All trips will use the Waddington Road corridor.

The TA report set out the inspectors report outcomes on all other highway matters, scoping discussions with LCC and the outcomes of the trip review and offsite mitigation.

This report sets out the assessments of the junctions in the scope based on the previous trips rates and distributions.

This report has been prepared solely in connection with the proposed development as stated above. As such, no responsibility is accepted to any third party for all or any part of this report, or in connection with any other development

2. JUNCTION ASSESSMENTS

Background

Previous reports in support of the phase 2 and appeal have assessed the following Phase 2 development scenarios:

1. 220 residential dwellings accessed from Waddington Road
   50 place Nursery accessed from Waddington Road
   125 residential dwellings accessed via Castle View

2. 145 residential dwellings accessed from Waddington Road
   50 place Nursery accessed from Waddington Road
   125 residential dwellings accessed via Castle View
   75 residential dwellings accessed from Milton Avenue

3. The third and final development scenario now being considered is 275 dwellings being accessed from Waddington Road

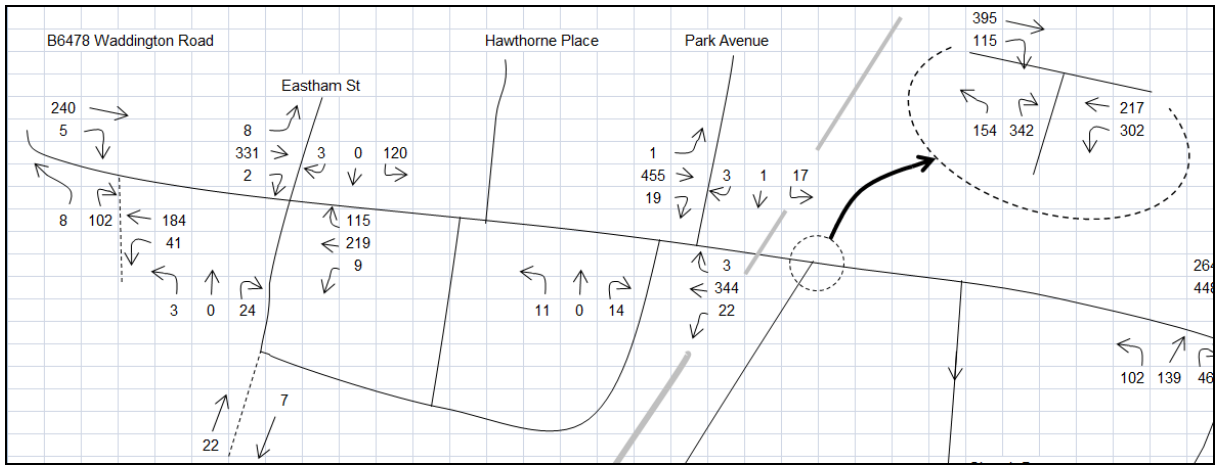
The table below summarises the two way development at each junction across the study network.

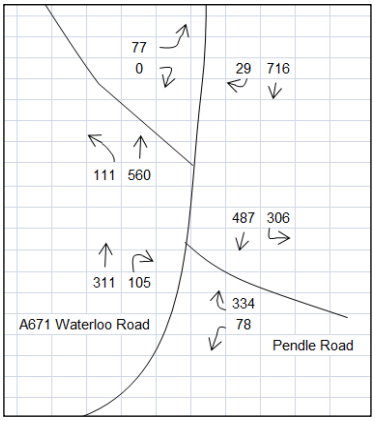
Junction	Phase 2 Two Way Development Flows at Junctions									
	Scenario 1		Scenario 2		Scenario 3		Scenario 3 - Scenario 1		Scenario 3 - Scenario 2	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
B6478 Waddington Road / Northern site Access	162	179	120	135	161	182	-1	3	41	47
Milton Ave / B6478 / Eastham Street	149	158	153	165	148	160	-1	2	-5	-5
Park Ave / B6478 / Chester Ave	149	158	150	159	148	160	-1	2	-2	1
Railway View Road / B6478	157	170	158	167	149	160	-8	-10	-9	-7
Milton Road Site Access	0	0	44	50	0	0	0	0	-44	-50
A671/B6478	124	119	124	117	111	104	-13	-15	-13	-13
Market Place / Church Brow	0	0	0	0	0	0	0	0	0	0
Railway View Road / Kings St / station Road	52	72	53	71	38	56	-14	-16	-15	-15
Castle Street / Kings street / Kings Lane	0	0	0	0	0	0	0	0	0	0
A671 Waterloo Road/ Wellgate	60	37	59	37	56	26	-4	-11	-3	-11
A671 Waterloo Road / Pendle Road	89	83	89	83	69	62	-20	-21	-20	-21
Bawdlands / Corporation Street	83	77	83	77	31	25	-52	-52	-52	-52
Bawdlands / Castle View	102	109	102	109	31	25	-71	-84	-71	-84
South Site Access	74	84	74	84	0	0	-74	-84	-74	-84
Bawdlands / Station Road / B6243 Parsons Lane	56	84	56	84	39	56	-17	-28	-17	-28
Moor Lane / Woone Lane / Lowergate	47	55	47	55	8	31	-39	-24	-39	-24
A671 Whalley Road / Queensway	85	88	85	88	47	62	-38	-26	-38	-26
A671 Whalley Road	69	89	69	89	47	62	-22	-27	-22	-27
Eshton Terrace / Woone Lane / Green Acre / Primrose Ave	53	46	52	46	9	4	-44	-42	-43	-42
Eshton Terrace / Thorn Street / Corporation Street / Thorn Street / Cooperation Street	98	68	96	68	18	8	-80	-60	-78	-60

With the exception of the proposed Waddington Road site access the table above clearly demonstrates that the scenario 3 development trips will result in a decrease in traffic across the study network.

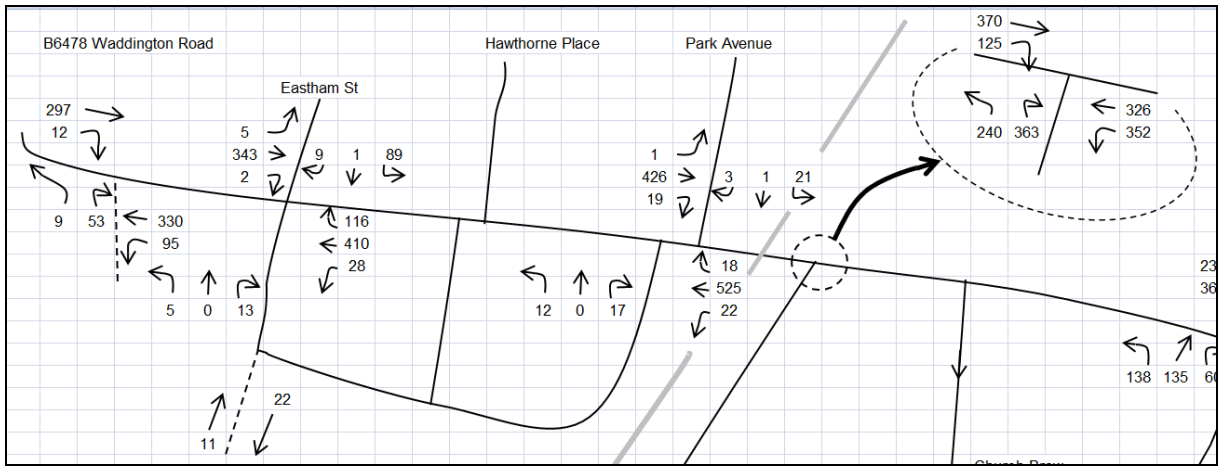
As such the assessments are confined to the site access, Railway View/Waddington junction and the Waterloo Rd/Shawbridge junctions.

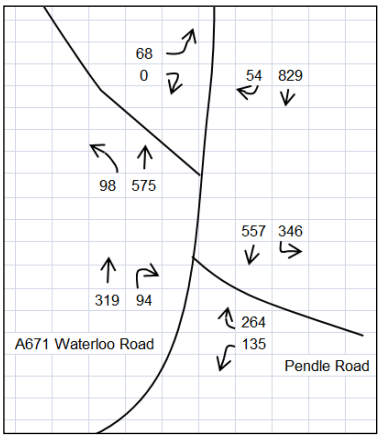
In terms of the reassessment due cognisance has been taken of year in which this report has been produced i.e. the future assessment year 2019 - 5 years post current year.





2017 AM Base Flows Plus Scenario 1 Development Flows – Rev H
Analysis File





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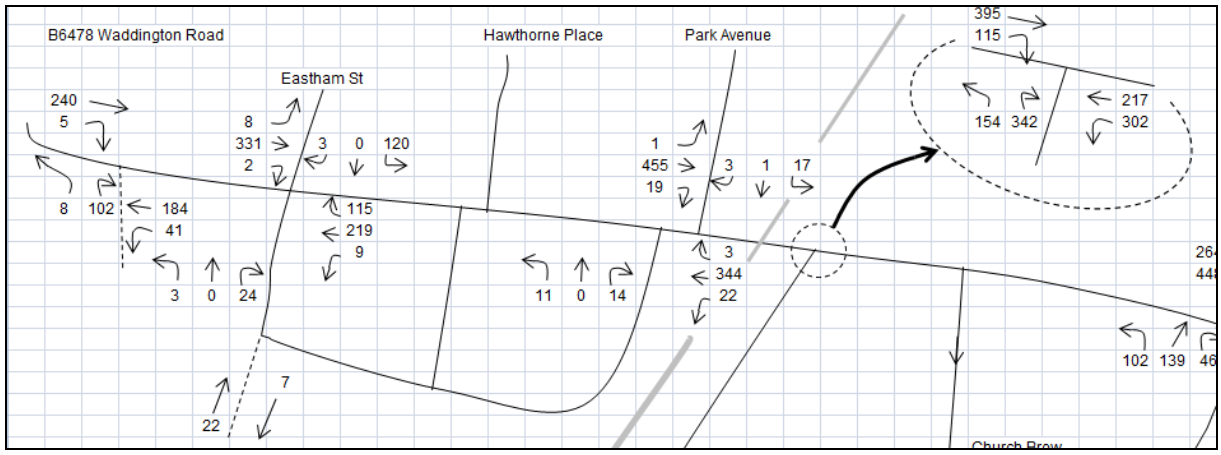

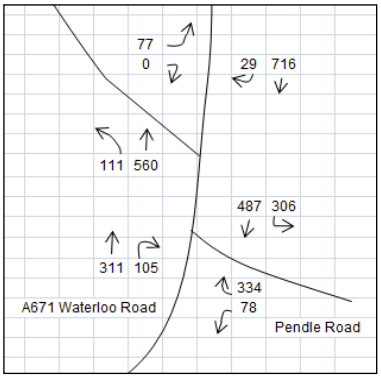

2017 AM Base Flows Plus Scenario 3 Development Flows – Rev J
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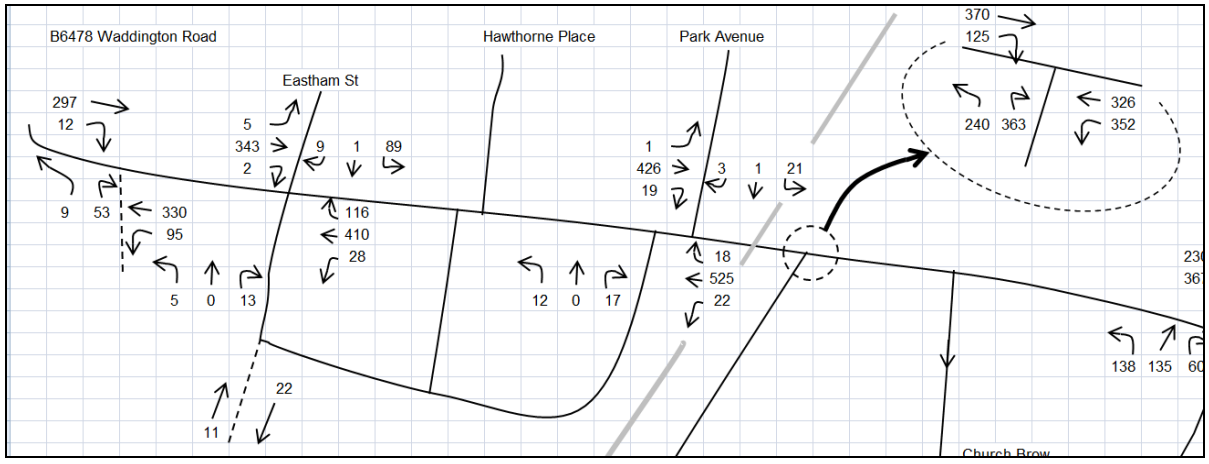

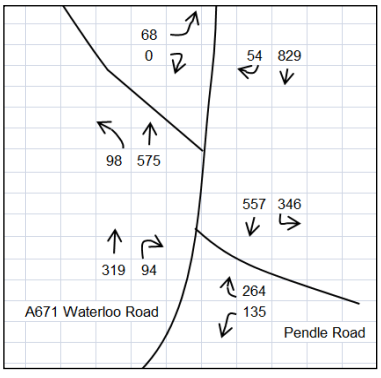

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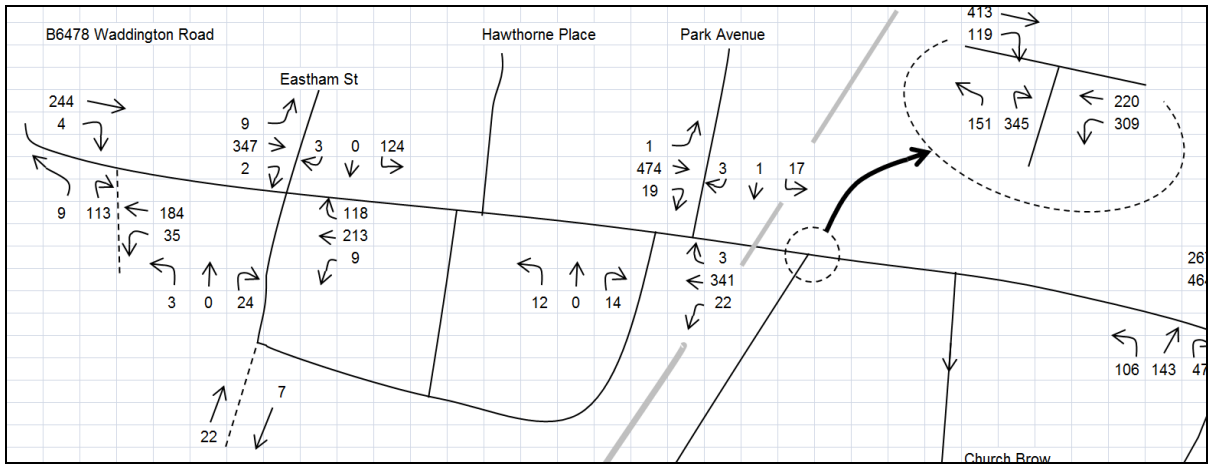
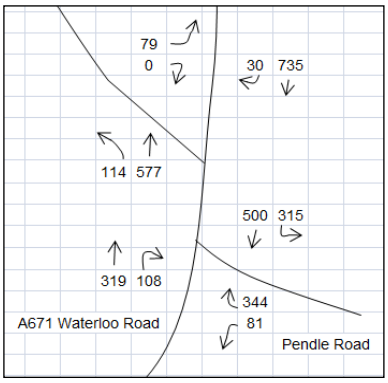
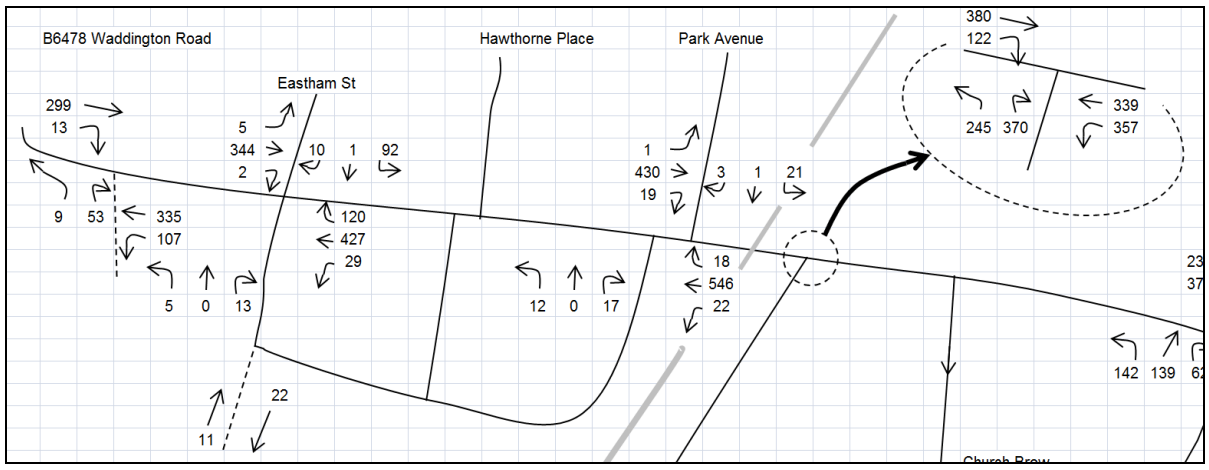
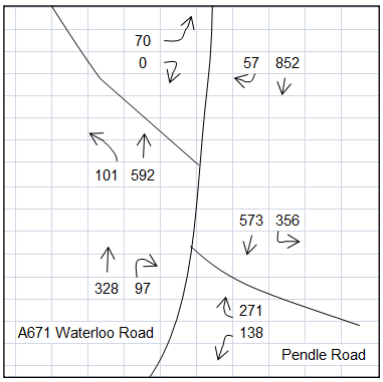




2019 AM Base Flows Plus Scenario 3 Development Flows – Rev I Analysis File





2019 PM Base Flows Plus Scenario 3 Development Flows – Rev I Analysis File

Utilising the above flow diagram the following junctions will be reassessed:

- Waddington Road / Site Access Ghost Island Junction

- Railway View Road / Waddington Road Priority T Junction
- Shawbridge Street / Waterloo Road

Waddington Road / Site Access Ghost Island Junction

The table below summarises the PICADY results for the Waddington Road / Site Access Ghost Island junction. Arm A is Waddington Road E, Arm B is Site Access, Arm C is Waddington Road W and Arm D is Eastham Street. For comparison the previously reported 2017 base flows plus development results have also been shown.

Movement	2017 Base Flows plus Scenario 1 Development					
	AM			PM		
	Q	Delay	RFC	Q	Delay	RFC
Stream B-AC	0	11.92	0.29	0	11.6	0.18
Stream C-B	0	5.84	0.01	0	6.53	0.02
Movement	**2017 Base Flows plus Scenario 3 Development**					
	AM			PM		
	Q	Delay	RFC	Q	Delay	RFC
Stream B-AC	1	12.36	0.32	0	11.58	0.18
Stream C-B	0	5.8	0.01	0	6.57	0.03
Movement	**2019 Base Flows plus Scenario 3 Development**					
	AM			PM		
	Q	Delay	RFC	Q	Delay	RFC
Stream B-AC	1	12.44	0.32	0	11.72	0.18
Stream C-B	0	5.81	0.01	0	6.6	0.03

Waddington Road / Site Access Ghost Island Junction

As it can be seen from the above table the junction is predicted to be able to accommodate the proposed development, regardless of scenario being assessed, with ample spare capacity.

Railway View Road / Waddington Road Priority T Junction

It is proposed to upgrade the junction into a mini roundabout. The table below summarises the ARCADY results for the Railway View Road / Waddington Road priority T junction. Arm A is Railway View Road S, Arm B is Waddington Road and Arm C is Railway View Road N. For comparison the previously reported 2017 base flows plus development results have also been shown.

Approach	2017 Base plus Scenario 1 Development					
	AM			PM		
	Q	Delay	RFC	Q	Delay	RFC
Arm A	3	16.59	0.72	10	56.6	0.94
Arm B	4	23.99	0.79	3	22.75	0.78
Arm C	3	16.79	0.73	13	63.79	0.96
Approach	**2017 Base plus Scenario 3 Development**					
	AM			PM		
	Q	Delay	RFC	Q	Delay	RFC
Arm A	2	15.48	0.7	10	55.86	0.93
Arm B	4	25.22	0.8	3	21.64	0.77
Arm C	3	16.41	0.72	12	61.89	0.95
Approach	**2019 Base plus Scenario 3 Development**					
	AM			PM		
	Q	Delay	RFC	Q	Delay	RFC
Arm A	3	16.7	0.72	12	69.28	0.96
Arm B	4	28.61	0.83	4	24.21	0.79
Arm C	3	17.84	0.74	16	77.83	0.98

Railway View Road / Waddington Road Mini Roundabout Junction

From the table the development scenario 3 will have a positive impact at the proposed roundabout when compare to the previous agreed development scenario 1 whereby the RFC values on all arms is reduced in the year 2017. The 2019 future year has also been assessed and it can be stated that the increase in queues at the junction are a result of the background growth in traffic.

In summary the proposed mini roundabout is predicted to be able to accommodate the proposed development, alleviating the operational issues of the priority T junction and whilst maximising the ability to accommodate fluctuating demand patterns.

It should also be noted that this junction is likely to operate better than predicted since the proposed development sites are located in very close proximity to the railway station and town centre which will maximise the likelihood that persons will walk instead of using their cars.

Shawbridge Street / Waterloo Road

The previous application was supported by a test of the junction, this is set out below and shows a minor change is needed to the layout.

The Phase 2 development junction improvements promote the widening of all. Arm A is Shawbridge Street, Arm B is Waterloo Road south and Arm C is Waterloo Road north, with the existing situation results.

Approach	2017 Base					
	AM			PM		
	Q	Delay	RFC	Q	Delay	RFC
Arm A	5	45.88	0.86	4	38.94	0.82
Arm B	1	5.95	0.42	1	5.19	0.38
Arm C	13	59.69	0.96	62	230.7	1.12

Waterloo Road / Shawbridge Street Mini Roundabout Junction
Without Improvements

Approach	2017 Base Plus Scenario 1 Development					
	AM			PM		
	Q	Delay	RFC	Q	Delay	RFC
Arm A	3	23.86	0.75	3	25.14	0.76
Arm B	1	5.58	0.42	1	5.06	0.39
Arm C	10	43.32	0.93	38	128.89	1.05
Approach	**2017 Base Plus Scenario 3 Development**					
	AM			PM		
	Q	Delay	RFC	Q	Delay	RFC
Arm A	3	23.86	0.75	3	25.14	0.76
Arm B	1	5.58	0.42	1	5.06	0.39
Arm C	10	43.32	0.93	38	128.89	1.05
Approach	**2019 Base Plus Scenario 3 Development**					
	AM			PM		
	Q	Delay	RFC	Q	Delay	RFC
Arm A	3	26.6	0.78	3	25.7	0.76
Arm B	1	5.57	0.41	1	5.16	0.4
Arm C	13	53.78	0.95	46	151.8	1.07

Waterloo Road / Shawbridge Street Mini Roundabout Junction
With DTPC Proposed Improvements

It has been demonstrated that the new improvements would accommodate the scenario 3 development trips and answer the concerns raised by the inspector.

The 2019 future year has also been assessed and it can be stated that the increase in queues at the junction are a results of background growth in traffic.

Shawbridge Street / Waterloo Road Sensitivity Test

It is acknowledged that the Highway Authority have previously requested that the assessment of this junction also take account of a non committed development known as Standen which is proposed off Pendle Road to the east of the above assessed junction. Previous assessment work undertaken acknowledged that to accommodate the proposed Phase 2 development and the Standen development that the roundabout junction would have to be upgraded to a signalised junction.

The Highway Authority are to send Standen development flows for incorporation into a sensitivity test.

Until that point DTPC have undertaken a sensitivity test assessment which is based on previous work.

The table below sets out the traffic flow figures at the Shawbridge Street / Waterloo Road junction. Arm A is Shawbridge Street, Arm B is Waterloo Road south and Arm C is Waterloo Road north.

Flows	AM				PM			
2019 Base Flows plus Scenario 3 Development Trips		a	b	c		a	b	c
	a	-	81	344	a	-	138	271
	b	108	-	319	b	97	-	328
	c	315	500	-	c	356	573	-
Pendle Road TA Figures 16, 17, 19, 20 21 and 22 Development Trips		a	b	c		a	b	c
	a	-	83	46	a	-	50	33
	b	56	-	0	b	67	-	0
	c	39	0	-	c	35	0	-
2019 Base Flows plus Scenario 3 Development Trips plus Pendle Road (Standen) Development Trips		a	b	c		a	b	c
	a	-	164	390	a	-	188	304
	b	164	-	311	b	164	-	328
	c	354	500	-	c	391	573	-

Waterloo Road / Shawbridge Street Traffic Flows

Utilising the 2019 Base Flows plus Scenario 3 Development Trips plus Pendle Road (Standen) development trips an assessment of a proposed signalised junction has been undertaken and the results are detailed below. It is proposed to allow the Waterloo Road north south movements to run together with the Shawbridge Street movements in a separate stage. A third stage will be incorporated to allow pedestrians to cross the road. This stage incorporates the signalised crossing that currently exists to the south of the junction. Two tests have been undertaken, one with the pedestrian stage being called every other cycle and the second never calling the pedestrian stage. It is likely that the demand for the pedestrian stage will be somewhere in between the two scenarios noted here.

Link	Approach Name	Pedestrian Phase Every Other Cycle				No Pedestrian Stage			
		AM		PM		AM		PM	
		DoS	Q	DoS	Q	DoS	Q	DoS	Q
11	Shawbridge Street	89	27	88	29	87	13	88	12
12	Waterloo Road south	79	18	74	19	73	8	71	8
13	Waterloo Road north	>90	36	90.92	61	85	16	89	20
Cycle Time		200		240		70		70	

Waterloo Road / Shawbridge Street Proposed Signalised Junction Results

It is generally accepted that a Degree of Saturation (DoS) value of 90% or less is acceptable in terms of being able to operate effectively and allow spare capacity to accommodate daily fluctuation in background traffic flows. Given this it is predicted that the junction would be able to accommodate

the additional flows resulting in the Pendle Road development which have been layered on top of the scenario 3 development flows.

There is the potential that the controller for this junction could a Microprocessor Optimisation Vehicle Actuation (MOVA) based. A MOVA controller could realise up to 25% additional capacity at the junction allowing it to operate more efficiently.

Regardless of controller type it is likely that the side road junctions with Wellgate and Taylor Street will have to be protected in terms of provision of keep clear markings.

Discussions with the Highway Authority will be undertaken to determine an acceptable level of monetary contribution for the proposed signalised junction.

It has been demonstrated that the new improvements would accommodate the development trips and answer the concerns raised by the inspector.

3. SUMMARY

Policy

The overriding theme of national policy is approval other than if the **residual impacts are deemed severe.**

The assessment shows that the scheme clearly does not give rise to any issues that can be deemed severe and from a transport point of view be approved.

Assessment Summary

The network has been robustly assessed with and without the development and has been shown to operate with spare capacity at all junctions assessed across the network with the mitigation proposed.

Private house ownership has the potential for reduced car dependency if walking and public transport modes are accessible from day one.

Mitigation

The capacity assessments show that the site access have no capacity issues and the location is highly sustainable it is proposed to provide some mitigation measure which will enhance the local area and assist existing residents in the area to travel by car and non car modes.

The wider network assessment shows some need for minor scale improvements to accommodate the development flows but these are also able to accommodate the exiting committed and approved schemes that have not considered or offered any mitigation.

There are no residual impacts that would give rise to safety concerns.

As such it is considered that there are no reasons why the scheme as set out should not be approved from a transportation point of view.