WARRINGTON
Borough Council

Warrington Borough Council

TOWN AND COUNTRY PLANNING ACT 1990

TOWN AND COUNTRY PLANNING (APPEALS) (INQUIRIES PROCEDURE) (ENGLAND) RULES 2000

PROOF OF EVIDENCE FOR

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Warrington Borough Council

Public Inquiry against the decision by Warrington Borough Council to refuse planning permission for a Major Development on land at Peel Hall, Warrington

Local Authority Reference: 2016/28492

PINS Reference: APP/M0655/W/17/3178530

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1.0 Introduction

1.1 My name is Dave Rostron and I am the UTMC, Town Centre CCTV and Parking Services Manager at Warrington Borough Council. I hold a BSc degree with commendation, a MPhil for medical electronics research. I am a Chartered Engineer and am a Member of the Institution of Engineering and Technology. I have worked at a number of highway authorities, including TfL and also for the private sector and have over 30 years of experience in traffic engineering.

1.2 I was employed by Warrington Borough Council in March 2011 and my position includes the assessment and impact of major developments on the highway network.

1.3 Following the Transport Assessment and VISSIM micro simulation model report carried out by WSP, which reports and summarises the submission made by Highgate Transportation, I have been asked to review and comment on the conclusions drawn from this report and the possible impact this development may have on some existing traffic signalled junctions.

1.4 The report covers a number of junctions on the A49 corridor from the junction of Hollins Lane with the A49 to the north down to the A49 Winwick Road/ A50 Long Lane/Hawley's Lane junction to the south.

1.5 For the purposes of this review, it has been agreed that the VISSIM base model that was submitted in October 2020 is acceptable for the purposes of forecasting future scenarios.

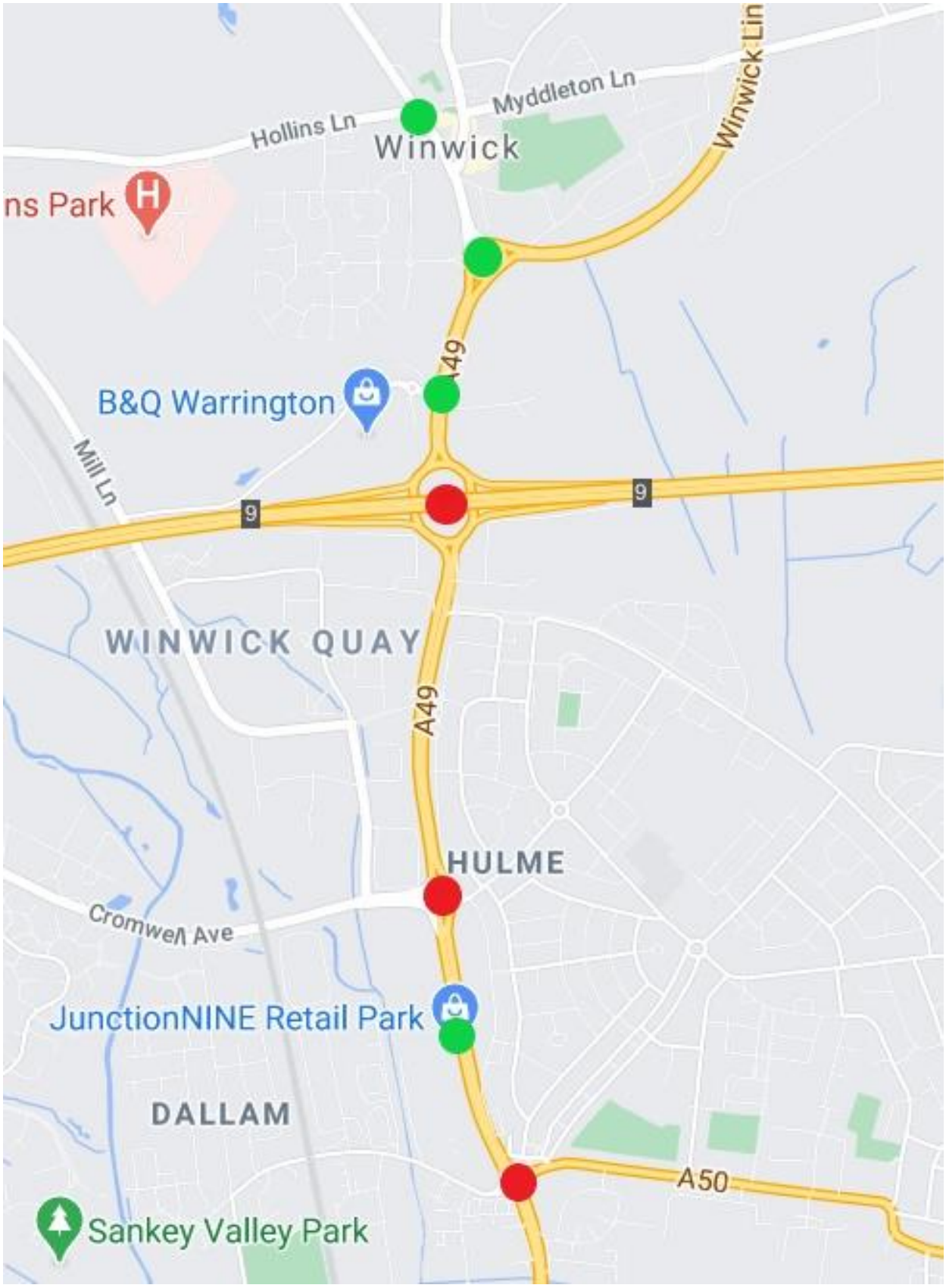
1.6 It has also been accepted that the committed mitigation measures at the junctions listed below are acceptable:

- A49 Newton Rd/Hollins Lane Junction - improved northbound capacity
- A49 Newton Road/ Winwick Link Road Junction (Winwick Island) - widening of northbound, southbound and westbound approach; segregated left turn lane
- A49 Newton Road / Delph Lane Junction - additional lane for Newton Road northbound
- Winwick Road/ Junction Nine Retail Park Junction - widening of northbound and southbound lanes

1.7 Therefore the remainder of this report will concentrate on the potential effectiveness of the proposed mitigation measures at the junctions of:

- A49 Winwick Road/A50 Long Lane/Hawley's Lane
- A49 Winwick Road/Sandy Lane West/A574 Cromwell Avenue Junction
- M62 Junction 9

A plan showing the location of each junction described in sections 1.6 (coloured green) and 1.7 (coloured red) is shown below:


Hollins Ln
Myddleton Ln
Winwick
Winwick Lin
ns Park
B&Q Warrington
A49
Mill Ln
9
9
WINWICK QUAY
A49
HULME
Cromwell Ave
JunctionNINE Retail Park
DALLAM
A50
Sankey Valley Park

2.0 Background

2.1 A49 Winwick Road/ A50 Long Lane/Hawley's Lane

The junction was upgraded in 2011 from a signalised roundabout to a large, five stage, signal controlled junction which is linked to the adjacent junctions (Orford Park and Junction 9 Retail) in order to maximise the efficiency of the network during peak periods. This 'linking' of junctions enables platoons of vehicles to progress through each junction in turn on a green signal and is commonly known as SCOOT control of junctions.

2.2 A49 Winwick Road/Sandy Lane West/A574 Cromwell Avenue

The junction was first commissioned in 1994 but was upgraded in 2007. This is a signalised roundabout that consists of a number of traffic and pedestrian phases and operates using carefully determined fixed time plans (that are introduced at different times of the day) which vary the green times for both the approach and circulatory traffic in order to maximise the efficiency of the junction.

2.3 M62 Junction 9

This site is a signalised roundabout that was fully upgraded in 2019 and split into two controllers (North and South) each consisting of four traffic phases but there are no pedestrian phases. As part of the upgrade, traffic detector loops were cut into the surface of the carriageway which count vehicles on each approach. The junction controller alters green times depending on traffic demand which in turn, optimises the overall efficiency of the junction. This method of control is often referred to as MOVA control. To further improve the operation of the junction as a whole, the North and South sides were linked using a hardwired cable between the two controllers to ensure synchronisation.

3.0 Existing operational issues

3.1 A49 Winwick Road/ A50 Long Lane/Hawley's Lane

This is one of the busiest junctions on the A49 corridor and at peak times runs a 144 second cycle time. This long cycle time is a result of the number of stages required to service all approaches as well as the site operating at junction capacity. The junction regularly suffers from queuing on all approaches during peak periods. The site was recently validated as part of the A49 Warrington Intelligent Transport System (WITS) corridor, which improved journey times as a whole along the A49 corridor.

3.2 A49 Winwick Road/Sandy Lane West/A574 Cromwell Avenue

The circulatory of the roundabout has limited queueing space so the effectiveness of the junction is very much dependent on keeping this space clear to prevent exit blocking which could result in the whole junction becoming grid locked. This is currently achieved through the use of carefully coordinated

fixed time plans referred to in section 2.2, which allow progression for the heaviest movements through each node of the junction. Termination of the approach and circulatory greens is offset to allow vehicles to clear each node in turn in order to minimise the potential for vehicles to get 'trapped' within the circulatory space. Traffic flow on Sandy Lane West approach is somewhat hindered by several 'give way' junctions (Winwick Road, Gough Avenue and Chiltern Road) along with an uncontrolled retail park entry/exit in close proximity to the junction, all acting to interrupt traffic flow, reducing the smooth or saturated flow across the stop line as vehicle 'platoons' are 'broken up'. Because of this reduced flow across the stop line, the effective green time on Sandy Lane West is limited once the initial vehicles have dispersed from the stop line. Detailed observations and site visits have shown that increasing the green time on Sandy Lane West does not significantly increase traffic flow across the stop line, but instead wastes valuable green time as vehicles arrive at the stop line much more spaced out due to the traffic flow being more 'broken up' or interrupted. It has been shown to be more effective to stop vehicles at the stop line to enable vehicles to build up again and then disperse them with a higher flow rate at the beginning of the next traffic cycle.

3.3 M62 Junction 9

As referred to in section 2.3, the junction runs MOVA control as the optimised method of control and is near to capacity at peak times. Linking between the North and South controllers for the heaviest movements is always maintained to enable progression through the junction and reduce stacking on the circulatory, even though at this site the circulatory space is far greater than at A49/Cromwell Avenue/Sandy Lane West and so some circulatory stacking can be afforded on the bridges over the M62.

4.0 Mitigation proposals and associated areas of concern

4.1 A49 Winwick Road/ A50 Long Lane/Hawley's Lane

The proposed mitigation to implement MOVA as an alternative method of optimised control when compared to the current method of control could provide additional benefits at this junction, particularly off-peak and at times when linking to adjacent junctions is not as critical. This strategy has already been successfully implemented at Junction 9 Retail Park junction.

4.2 A49 Winwick Road/Sandy Lane West/A574 Cromwell Avenue

The proposed mitigation at this site is to lengthen the A49 northbound left-turn lane and provide an additional left-turn lane to Cromwell Avenue and also to further optimise traffic signal timings.

The model shows that traffic wishing to travel along Cromwell Avenue use the inside lane but also use the second, offside lane (intended for vehicles wishing to turn into Calver Road) and then merge within a very short distance. This is of concern and must be subject to a Road Safety Audit as there is limited distance for vehicles to change lanes or 'weave' on the approach to the

adjacent junction at Calver Road. Modelling it in this way over-inflates the capacity of this movement - if each lane was modelled for its' 'correct destination' (nearside lane for Cromwell Avenue and the offside lane for Calver Road), it would reduce capacity and modelling results would not be as positive.

The second mitigation proposal to further optimise the signal timings by increasing the green time on the majority of approaches to the roundabout, whilst reducing the green time for circulatory traffic is likely to lead to increased stops and an increased risk of exit blocking.

Currently this junction often operates at full capacity, particularly at peak times and the signals operate to allow progression through the various nodes for the heaviest movements dependent on the time of day. As the current signal timings have been validated recently and are constantly monitored, any deviation from these timings is likely to cause issues due to the limited internal space available for vehicles to queue. As described in section 3.2 of this report, there is little benefit to be had from increasing the approach green time on Sandy Lane West.

4.3 M62 Junction 9

The proposed mitigation at this site is to widen the eastbound on-slip and optimise traffic signal timings which may have a positive benefit. Again the model shows that green time on the majority of approaches has increased and circulatory green time has reduced; however, this is less of a concern at this site as there is considerably more circulatory queueing space available.

5.0 Conclusions

The introduction of MOVA at A49 Winwick Road/A50 Long Lane/Hawley's Lane could provide some benefit and is likely to moderate any potential impact at this location, particularly during the off-peak periods.

The optimisation at the junctions of M62/J9 and A49/Cromwell Avenue/Sandy Lane West involves increasing green time on approach arms at the expense of the circulatory green time. The potential impact of this is increased stopping/starting and lack of progression through the junction which could lead to exit blocking and in turn, could lead to the grid locking of the whole junction; particularly as the internal queueing space is very limited.

The proposed widening of the left turn lane on Winwick Road Northbound at Cromwell Ave to incorporate two lanes may benefit the existing network; however, any benefits may only be realised provided the correct lane designations are used to prevent late lane changes on the short approach to the Calver Road junction.

The Council is satisfied that with the recent introduction of MOVA signal control at M62 junction 9 that the local road network would not be unduly affected by development-related traffic associated with the Appeal site in this location. As highway authority responsible for the signal control operation at A49 / M62 junction 9 we cannot, however, confirm the amount of 'additional' green time

that could be afforded to the motorway off-slip road approaches, whilst maintaining safe and efficient progression of traffic through the junction. Any variance from current signal timings, for a junction that is already operating near to capacity, should be expected to be minimal, on a cycle-by-cycle basis. For these reasons there remains a risk that the signal 'optimisation' timings, adopted by the Appellant's consultants Modelling Group, in their future year VISSIM modelling of the junction would not be replicable on the ground, with longer than predicted queues on the motorway off-slips as a consequence.

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31st January 2021