

Transport Note

27.01.2020

Hayling Island Transport Assessment - Addendum

1.0 INTRODUCTION

- 1.1. The purpose of this Transport Note is to provide independent comments on the appropriateness of the assessment methodology, derived outputs and overall conclusions contained within the Hayling Island Transport Assessment Addendum (HITAA), dated November 2019, associated with the projected Local Plan development on the Island.
- 1.2. The HITAA was produced to further clarify regarding specific mitigation measures that were alluded to as part of the original Hayling Island Transport Assessment (HITA). The HITAA builds on the work previously undertaken and the modifications can be summarised below:
- Main mitigation package M1A has been identified and tested, comprising measures that will improve the free-flow of traffic on the A3023;
 - The Model network has extended beyond the A27 Langstone Roundabout to understand the interaction of this roundabout with the A3023 and Havant Town Centre;
 - Further detailed design work has been carried out on the proposed junction improvements / interventions (including a consideration of signal timings);
 - Additional work with the local Bus Company, walking and cycling groups to encourage more sustainable forms of travel has been undertaken; and
 - Additional consideration has been given to non-transport benefits of the proposed mitigation packages. There is now included an assessment of the measures in terms not only of maintaining traffic flow but also of benefits to air quality; reduced severance; safety improvements; and environmental benefits.
- 1.3. In terms of a response to the HITAA, we have been made aware of initial responses and representations and have therefore been asked to focus our review on the more fundamental issues raised in some of the comments made, specifically in reference to the suitability of the modelling carried out to inform the original HITA and the subsequent Addendum.

2.0 HAYLING ISLAND – LOCAL TRANSPORT MODEL

- 2.1. It is clear from the initial HITA, the subsequent HITAA and the responses received to date that there is a clear understanding that Hayling Island has a constrained local road network which is solely reliant on the A3023 to connect the Island with the mainland. If an incident or disruption occurs on the A3023, it is realised without delay and exacerbated quickly due to no immediate diversionary routes.
- 2.2. It is understood that the proposed package of measures (identified by Havant Borough Council) is therefore designed to try and reduce the likelihood of such incidents occurring by lowering the speed of traffic along the A3023 to ensure a smoother flow of traffic, introducing right turn filter

lanes at key junctions to allow the north-south movement to continue and removing opportunities to park along the route during peak hours.

- 2.3. In order to represent the potential benefits and drawbacks of the package of mitigation measures, a Local Transport model was developed to examine and assess the Island in detail. Following discussion with Hampshire County Council as local highway authority, a Paramics micro-simulation model was used due to the nature of the Island and the level of detail required.
- 2.4. While the specific requirements and scope would have been discussed between Havant Borough Council and Systra at the outset it is recognised that micro-simulation models (including Paramics) represent individual vehicles and can attempt to replicate the behaviour of individual drivers which makes them particularly appropriate for examining certain (more complex) traffic situations. This allowed the testing of mitigation measures beyond those at specific junctions. This in turn has led to a package of friction reduction measures along the A3023 corridor. In contrast, a volume over capacity model would be focussed on specific junctions and their individual capacities. Whilst this would have allowed testing of the more significant proposed mitigation measures, it would not have allowed the granularity of analysis associated with the friction reduction measures in package M1A.
- 2.5. This made micro-simulation a suitable and robust model for assessing the individual constraints that the Hayling Island network represents, and allow tweaks to the model which would allow the existing travel behaviour to be accurately represented. The outputs from micro-simulation models are traditionally in a different form, (e.g. journey times, queue lengths), compared to more standard capacity assessments.
- 2.6. Robust and reliable traffic modelling depends on good data input and I see in the report that a lot of emphasis was placed on this in terms of data capture to inform the Model which included:
 - Previously collected classified junction counts:
 - o A3023 Havant Rd/ Technology Park – Tuesday 27/06/2017;
 - o A3023 Havant Rd/ Northney Rd – Monday 19/06/2017;
 - o A3023 Havant Rd/ West Lane – Monday 19/06/2017;
 - o A3023 Havant Rd/ Copse Lane – Wednesday 28/06/2017;
 - o A3023 Havant Rd/ Yew Tree Rd - Wednesday 28/06/2017; and
 - o A3023 Havant Rd/Mill Rythe Roundabout – Thursday 29/06/2017.
 - Classified Automatic Traffic Counts (ATC). (June 2017).
 - Bluetooth journey time surveys. Two routes undertaken over 4 weeks (1st June and 7th-20th August 2017). Importantly, this traffic data was collected to provide existing journey times, to and from Hayling Island.
 - Traffic signal timings for applicable junctions; and
 - Data from the SRTM (Solent Transport's Sub-Regional Transport Model).

- 2.7. It is considered that the above represent a suitable and robust data-set by which to inform the transport model.
- 2.8. With regard to the HITAA and the Addendum work, it is understood that the Assessment was based on typical (neutral) flow conditions on the network (i.e. weekday, non-school holiday periods) with neutral months of April, May, June, September and October being considered as most representative.
- 2.9. However, data collection that informs the model and the assessment should also take account of holiday periods in tourist areas, where peaks could occur in periods that might normally be considered non-neutral. Bluetooth Journey Time Surveys which was used to validate the model were collected in both June and August.
- 2.10. While the neutral day has been assessed for the purposes of the Local Plan HITAA, there has been some discussion surrounding the 'peak hour' assessment. It has been confirmed that the developed Paramics model reflects a 12 hour neutral weekday from 07:00-19:00.
- 2.11. The Transport Model was split into three distinct time periods, with traffic demand and composition derived individually for each, based on the traffic survey data collected. Within each of these periods, traffic is profiled in 5 minute intervals to reflect the observed build up and dissipation of congestion throughout each period. The forecasting undertaken to derive the future years model for testing considers this – development trip rates were derived from TRICS for each hour modelled and the resulting trips added to the demands for each period, profiled accordingly.
- 2.12. The reporting that was subsequently undertaken deals with both peak hour and peak three hour period. The journey times presented in the HITAA are for the peak hours of 0800-0900, 1200-1300 and 1700-1800 to provide the worst case for each period, assuming that the commuting hours to be the worst case ("peak") hours as is fairly standard to do. The queue results are presented for the peak periods, but are the maximum occurring queue within each period, and so again present the worst case conditions.
- 2.13. It is considered, in the context of the Paramics modelling, the results are not dampened in any way as a result of averaging over the full AM, IP or PM periods. The definition of the time periods for the transport modelling is consistent with the majority of studies undertaken, whereby the start/end times for the AM and PM are selected to capture fully the build-up and dissipation of significant commuting period congestion, with the IP sitting in between.

3.0 PROPOSED MITIGATION MEASURES

- 3.1. As part of the further work undertaken as part of the HITAA, updated mitigation measures proposals focussed on the following:
- 'friction reduction' measures along the A3023 including bus stop lay-bys and provision of right turn lanes;
 - Four new junction designs/layouts at Church Road/A3023, West Lane/A3023; Northney Road/A3023 and Langstone Technology Park/A3023.

- 3.2. These measures were then tested as a combined package (referred to as Package M1A) and as standalone measures to understand the potential benefit and drawbacks to the local road network.
- 3.3. In particular the interventions identified at Mill Rythe, West Lane and Langstone Road were initially tested as standalone measures without Package M1A but none of the results demonstrated an individual benefit.
- 3.4. Once it was recognised that M1A was required to provide the initial benefit to which the junction proposals then added, no further modelling of these junction proposals in isolation was undertaken.
- 3.5. In terms of the proposed mitigation, Section 4 of the HITAA stated:

"The best performing junction upgrades were tested in combination - West Lane (signalisation), Northney Road (folded option) and at Langstone Road. These were tested with and without mitigation package M1A. The results indicated that the major benefits to be gained initially were delivered by mitigation package M1A alone; the junction upgrades then provided further journey time savings but not to a statistically significant level.

The distribution of journey time improvements indicates that of all the proposed changes, the most valuable in terms of journey time savings is achieved by those at Langstone Road.

As a strategy it is therefore proposed that mitigation package M1A be implemented at the earliest opportunity. With today's traffic conditions, this will result in improvements to journey times in current conditions and will create a 'bank' of reduced journey times which phased development up to 2036 will then refill and then slightly exceed".

- 3.6. It is clear that a number of combinations and iterations have been tested and presented in order to understand what measures have, collectively, the most significant reduction in journey times over the key strategic routes. The proposed package of measures has been devised to address a number of existing conditions in terms of the free flow of traffic along the A3023, accommodating future background growth and Local Plan development traffic.
- 3.7. While this is a comprehensive approach, and therefore suitable to inform development at the Local Plan level, further details will need to be looked at as part of the site specific development proposals and further use of intelligent transport systems (such as MOVA) should be considered between existing and new signalised junctions (including Church Road / Manor Road and West Lane) to further optimise journey times.

4.0 CONCLUSION

- 4.1. It is therefore the overall conclusion that the assessment process has been undertaken based on a robust data collection process which in turn has informed the micro-simulation model. The extensive testing of individual and combinations of appropriate mitigation measures has allowed a refined package to be collated to best mitigate the impact of future Local Plan development traffic.
- 4.2. The outputs of the HITAA suggest that there is likely to be an increase in journey times along Strategic Routes 1 and 3 during peak hours (northbound in the AM Peak and southbound during the PM Peak). In terms of journey time data, it is estimated that of the six identified strategic

routes, during the AM Peak – all southbound routes demonstrate an improvement (though it is acknowledged that the southbound routes are not pressured during the AM peak) while one route (Strategic Route 2) highlights a broadly comparable journey time with the 2036 baseline. Of the two remaining northbound routes, the journey time increased by approximately 60 seconds over a distance of 5.4 miles (Strategic Route 1) and over a distance of 4.3 miles (Strategic Route 3).

4.3. During the PM Peak, four of the six strategic route journey times remain broadly comparable with the 2036 baseline. The two remaining routes Strategic Route 1 and Strategic Route 3 (travelling southbound) which indicate an increase in journey times of circa 45 seconds (Strategic Route 1) and 90 seconds (Strategic Route 3) respectively.

4.4. The significance of this impact to be considered in light of the updated National Planning Policy Framework (February 2019) of which Paragraphs 108 and 109 state that:

In assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:

a) appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;

b) safe and suitable access to the site can be achieved for all users; and

c) any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.

Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.

4.5. Taking the above into account, it is considered that the impact of the increase of traffic projected by background traffic growth and the suggested Local Plan development traffic has been clearly stated within the HITAA. As mentioned above, a number of iterations of the package of measures has been developed to mitigate the impact of the future development to an acceptable degree with a number of the routes showing betterment compared with the 2036 baseline, particularly during the AM Peak.

4.6. The suggested increase in journey times on the strategic routes, while inconvenient to road users, is not considered sufficient to trigger the 'severe' test in its own right, particularly when assessed against the wider transport issues (such as pedestrian / cycle access, alternative modes of travel, route choice).

4.7. It is evident that as part of the HITAA, that a number of the mitigation measures proposed, should improve pedestrian and cycle access in terms of crossing points – which while, in turn will introduce a slight delay along the A3023, have a greater benefit in terms of accessibility, safety and promoting sustainable travel.