ISPA Local Plan Modelling : Model Run 7 Sensitivity Test

DATE: 08/12/2020		**CONFIDENTIALITY:**	Public
DOCUMENT NAME:	ISPA Model Run 7 Sensitivity Test – Technical Note on adjustments to A1214		
DOCUMENT NO:	MRNEOI-WSP-ZZ-XX-RP-TM-0004	**REVISION:**	P00
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1. INTRODUCTION

1.1.1. This Technical Note (TN) has been produced as an addendum to document references "D35 – ISPA Local Plan Modelling Methodology Report" and "D36 - Local Plan Modelling for ISPA Methodology Report", which relate to strategic traffic modelling undertaken to support the examination of the Ipswich Local Plan. This TN details a sensitivity test which has been undertaken to provide further evidence in response to issues raised in hearing position statements from the Northern Fringe Protection Group (NFPG) and Save Our County Spaces (SOCS), in particular responses to the following question from PINS related to the Ipswich Garden Suburb;

31. Is the list of strategic and neighbourhood infrastructure requirements for the IGS in Table 8B complete?

1.1.2. In the position statements, both NFPG and SOCS have raised the following concern in response to the above question:

"Currently there is a major disconnect between the delivery dates assumed in the modelling and those specified in Planning applications, which is clearly unsound."

1.1.3. This TN seeks to demonstrate the conclusions from the traffic modelling are not significantly affected by changes in when highway mitigation is delivered for the IGS development. The modelling in this TN is based on a sensitivity test of the following scenario which is considered a worst case:

- 2026 AM peak hour (0800-0900) and PM peak hour (1700-1800) **without demand mitigation**

1.1.4. The mitigation detailed below was previously assumed to be in place in the 2026 forecast year. These junctions were reverted to be the same as the 2016 base year for the purposes of the sensitivity test

- Westerfield Road / A1214 Valley Road junction
- Tuddenham Road / A1214 Valley Road junction

1.1.5. Other mitigation associated with IGS such as the road bridge over the railway line, Henley Road / A1214 Valley Road and Dale Hall Road / A1214 Valley Road has not previously been considered in the strategic highway model given they do not have an impact on highway traffic in the AM and PM peak hour.

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2. IPSWICH GARDEN SUBURB ASSUMPTIONS

2.1.1. It is important to note the assumptions around the phasing of the IGS development differ between the strategic modelling and the latest delivery timetable provided by IBC in their I6 topic paper. Table 1 provides a comparison of what has been included in the strategic modelling compared to the topic paper, this demonstrates a significant difference of an additional 452 dwellings has been modelled. Therefore in terms of the trip generation to/from the IGS development, the 2026 modelling demonstrates a robust and worst-case scenario.

Table 1 – Comparison of assumptions on buildout for Ipswich Garden Suburb for 2026 forecast year

Ipswich Garden Suburb parcel	2026 dwellings – ISPA Local Plan modelling	2026 dwellings – IGS delivery from 1st April 2020 (I6 Topic Paper)
IGS Phase 1a - Fonnereau	364	210
IGS Phase 2a – Henley Gate	526	343
IGS Phase 3a & 3b – Red House Farm	241	126
IGS Phase 1b – Ipswich School	0	0
Total	**1131**	**679**

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3. MODEL RESULTS

3.1. OVERALL JUNCTION VOLUME / CAPACITY

3.1.1. In keeping with how congested locations are reported in the D35 and D36 documents, Volume / Capacity ratio (V/C) is presented, firstly in terms of the overall figures for junctions on the A1214 Valley Road which have had the highway mitigation removed.

3.1.2. Table 2 shows the V/C values at the A1214 Valley Road junctions increase without the mitigation in place to a level where the junction is considered to be congested. However, overall the junctions are still considered to be operating within capacity.

Table 2 – Overall junction Volume / Capacity changes for selected A1214 junctions

Junction	AM 2026 (V/C)	AM 2026 Sensitivity Test (V/C)	PM 2026 (V/C)	PM 2026 Sensitivity Test (V/C)
A1214 Valley Road / Westerfield Road	76%	92%	69%	88%
A1214 Valley Road / Tuddenham Road	77%	93%	74%	90%

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3.2. LINKED BASED VOLUME / CAPACITY

3.2.1. Table 3 details the link based V/C for the A1214 Valley Road / Westerfield Road junction between the 2026 scenarios. This demonstrates the eastern A1214 Valley Road approach becomes over capacity without the highway mitigation in place.

Table 3 – Link based Volume / Capacity changes for approaches to A1214 Valley Road / Westerfield Road junction

Junction	AM 2026 (V/C)	AM 2026 Sensitivity Test (V/C)	PM 2026 (V/C)	PM 2026 Sensitivity Test (V/C)
Westerfield Road North	78%	97%	41%	57%
A1214 Valley Road East	95%	104%	88%	102%
Westerfield Road South	52%	68%	54%	81%
A1214 Valley Road West	63%	80%	66%	92%

3.2.2. Table 4 details the link based V/C for the A1214 Valley Road / Tuddenham Road junction for the 2026 scenarios. This analysis shows the A1214 Colchester Road eastern arm becomes over capacity in the AM peak, whilst the southern Tuddenham Road approach in the PM peak become over capacity without the highway mitigation in place.

Table 4 – Link based Volume / Capacity changes for approaches to A1214 / Tuddenham Road junction

Junction	AM 2026 (V/C)	AM 2026 Sensitivity Test (V/C)	PM 2026 (V/C)	PM 2026 Sensitivity Test (V/C)
Tuddenham Road North	88%	95%	57%	65%
A1214 Colchester Road East	80%	100%	79%	96%
Tuddenham Road South	60%	70%	90%	100%
A1214 Valley Road West	76%	97%	72%	96%

3.2.3. In summary, whilst the increased congestion including links at/over capacity on the A1214 corridor is not ideal, the mitigation related to the IGS development is considered likely to be delivered in 2027 or 2028, therefore alleviating the congestion issues at these locations at the earliest opportunity during the Local Plan period.

3.3. AIR QUALITY

3.3.1. In relation to changes in traffic flows on the A1214 corridor, the changes in peak hour flows are not considered to materially change the conclusions which have been derived from the Air Quality assessment detailed in documents D33 and I9.

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4. CONCLUSION

4.1.1. The sensitivity test within this note has sought to demonstrate the impact of removing the IGS improvements at the existing Westerfield Road and Tuddenham Road roundabouts on the A1214.

4.1.2. The sensitivity test is considered a robust test of likely traffic congestion in 2026 given it has been undertaken without the demand adjustment mitigation, and also includes a significantly higher quantum of development at the IGS development compared to the latest delivery timetable.

4.1.3. Congestion issues are shown to increase on the A1214 corridor without the highway mitigation in place at the two specified junctions, with specific arms becoming at or over capacity. However, overall these junctions continue to operate within capacity without the mitigation in place.