

Subject : FW: Land North of Rounds Gardens, Rugby

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Dear Steve,

Please find below our comments related to the modelling undertaken in relation to the proposed residential development at Land North of Rounds Gardens, Rugby.

The comments below consider both the TA and TA Addendum Reports and the modelling spreadsheets supplied.

Development

We understand the modelling in the with Development scenarios includes the proposed one-way system and assumes forecast trips based on a worst case to allow for future changes to the layout, albeit the number of dwellings proposed has reduced from a total of 142 dwellings (89- east parcel, 53 west parcel) as represented in the demands build spreadsheet to 115 dwellings (48 east parcel, 67 west parcel).

Trip rates and Land uses

We have reviewed the TRICS trip rates and are unclear why the Edge of Town sites have been included in the sample set, as we expected the sites to be restricted to 'Edge of Town Centre' and 'Suburban' sites, which may inflate the resultant trip rates. We can only assume this was to enable a larger sample size from which to obtain the trip rates. It is also noted that the TRICS selection criteria also included Mondays and Fridays, which is contrary to WCC TRICS selection criteria requirements. In addition, the trip rates in the demand build spreadsheet also appear to incorrectly reference the AM Peak hour departures as 0.4371 instead of 0.371.

However, taking into consideration the factors above, it suggests that PJA's trip generation estimates used in their modelling assessment are likely to be robust.

Routing

We understand the trips have been distributed using the 2022/2023 WCC mobile network data for the Rugby 006C and 006D LSOA areas, as discussed in the SLR Scoping Note.

Modelling Scenarios

The following scenarios are listed in the model impact spreadsheet.

- Scenario 1: 2031 Reference Case (RWA model includes all committed developments and infrastructure)
- Scenario 2: 2031 Reference Case + Development (Scenario 1 + Development + one way system)
- Scenario 3: 2031 Local Plan (WCC Local Plan model only)
- Scenario 4: 2031 Local Plan + Development (Scenario 3 + development + 1 way system)

Impact Assessment

2031 Reference Case (Scenario 1) vs 2031 Reference Case + Development (Scenario 2)

Based on the criteria outlined in our Modelling Protocol Advice Note 003 we observed notable increases in the modelled maximum queue lengths and journey times on the key routes and junctions adjacent to the site which include a severe increase in queuing from 15 to 26 vehicles on Arm D of the Rugby Gyratory (Junction 17) in the PM Post-Peak hour with corresponding moderate journey time increase in delays at the Rugby Gyratory (Route 5 Section 2 NB) of 9.8% (275 to 302 (27)seconds).

Further delay increases along Route 8 Section 2 WB were observed ranging from very severe (22%/63 seconds) in the PM Pre-Peak to 12.8%/45 seconds severe increase in the PM Peak hour, reducing to a moderate 6.5%/19 seconds increase in delay in the PM Post Peak hour. Although there does not appear to be corresponding increases in queuing at Junctions 36, 54 and 55 along this route.

2031 Local Plan (Scenario 3) vs 2031 Local Plan + Development (Scenario 4)

In the Local Plan period there were also severe queue impacts observed at the Rugby Gyratory (Junction 17) during the PM Peak hour on Arm A Corporation Street SB (+11 vehicles) and Arm D- Bilton Road EB (+16 vehicles) with additional severe queues noted on Bilton Road EB during the AM Post-Peak hour (+10 vehicles) and very severe queue increases during PM Post-Peak hour (+27 vehicles).

Routes also including the Rugby Gyratory were also observed experiencing severe increases in average delay during the AM Peak hour on Route 5 Section 2 SB of 11.9%/48 seconds and on Route 7 Section 2 SB of 17.1%/ 57 seconds; and during the PM Peak hour on Route 5 Section 2 NB of 11.7%/ 60 seconds. Very severe average delay increases were also noted during the PM Post-Peak hour of 28.6% (133 seconds).

Severe queue impacts were also seen at the Avon Mill roundabout (Junction 21) on Arm A Leicester Road SB during the PM Peak hour (+13 vehicles) but there was no notable increase in average journey time delay on Route 4 Section 2 SB during the same time period.

The Evreux Way roundabout (Junction 34) also experienced an severe increase in queues on Arm A Newbold Road SB from 37 to 52 vehicles (+15) during the AM Peak

hour which also corresponds with a severe increase in delay on Route 5 Section 2 SB of 11.9%/48 seconds which includes the approach to this roundabout.

Severe delay increases in the Local Plan period also occurred during the PM Post- Peak hour on Route 7 Section 2 NB of 20 seconds (11.9% and Route 8 Section 2 WB of 132 seconds (11.3%) whilst very severe increases were observed during the AM Post-Peak hour on Route 6 Section 3 WB (19.2%/73 seconds) and Route 8 Section 1 WB (11.3%/ 132 seconds). There were also severe delay increases during the AM Post-Peak hour on Route 9 Section 1 WB of 20.9% (55 seconds).

Recommendations

Having considered the results presented above, the following next steps are recommended:

(a) Rugby Gyrotory (Junction 17)

There are residual cumulative impacts at Rugby Gyrotory associated with Local Plan development at South West Rugby. Based on the thresholds set out in Advice Note 003 in our modelling protocol, the modelling results show increases in average queues and journey times between Scenarios 3 and 4 during the AM and PM periods which are graded 'severe' or 'very severe'. This suggests that these residual cumulative impacts are likely to be further exacerbated by the proposed development.

In order to validate this point, it is recommended that PJA provide queue and journey time Confidence Interval analysis covering the AM and PM periods for Scenarios 3 and 4 to ascertain the extent to which these increases are likely to be attributable to the proposed development.

Based on the initial modelling results, this should cover the following junction approaches and journey time routes:

Junction 17 - Arm A - Corporation Street SB
Junction 17 - Arm D - Bilton Road EB

Route 5 Sec 2 NB
Route 5 Sec 2 SB
Route 7 Sec 2 SB

(b) Evreux Way roundabout (Junction 34)

Based on the thresholds set out in Advice Note 003, there is an increase in queuing on Arm A - Newbold Road SB which is graded 'severe' during the AM peak hour between Scenarios 3 and 4.

It is recommended that PJA be requested to provide queue Confidence Interval analysis to examine the likely extent and duration of this queue during the AM period, as the initial modelling results show that the queue length back from Evreux Way roundabout

would reach the St John Street junction which could become an issue for right turning vehicles out of St John Street, and result in some unsafe manoeuvres.

(c) Route 8 Section 2 WB

The initial modelling results show sustained increases in average journey times on this section of route across the 1600-1900 PM 3-hourly period between 2031 Reference Case (Scenario 1) and the 2031 Reference Case + Development (Scenario 2).

There is also an increase in average journey times during the 1800-1900 PM post peak hour between the 2031 Local Plan (Scenario 3) and 2031 Local Plan + Development scenario (Scenario 4).

It is recommended that PJA investigate whether these increases are likely to be attributable to the proposed development by undertaking journey time Confidence Interval analysis on this section of route during the PM period to cover all modelled scenarios.

(d) Route 8 Section 1 WB

Given the magnitude of the queue increase during the AM post-peak hour from 481 seconds in Scenario 3 to 635 seconds in Scenario 4 (32% or 154 seconds' increase) , it is recommended that PJA provide journey time Confidence Interval analysis to ascertain the extent to which this increase is attributable to the proposed development for these scenarios during the AM period.

Kind Regards

Anna

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