

## Chestnut Homes Ltd - Proposed Developments at Tytton Lane, Boston

### 1. Calculation of 2013 AADT Flows

1.1 For the A16 and London Road site frontages ATC data collected in June 2013 provides weekday 16-hour June traffic flows which may be converted to AADT by applying an 'M' factor from COBA. From Part 4 table 9.2 and based on an Seasonality Index of 1.0 a June 'M' factor of 351 is appropriate.

1.2 Average weekday 16-hour traffic flows on the A16 and London Road site frontages in June 2013 is detailed below:

#### A16 - Average Weekday 16-hour flow (vehicles)

Northbound	9399
Southbound	9259
Combined	18659

#### London Road - Average Weekday 16-hour flow (vehicles)

Northbound	4302
Southbound	4186
Combined	8487

1.3 2013 AADT flows for the A16 and London Road site frontages are therefore as follows (16hr flow x M/365):

#### **A16 - 2013 AADT**

Northbound	9039
Southbound	8904
Combined	17943

#### **London Road - 2013 AADT**

Northbound	4137
Southbound	4025
Combined	8162

1.4 AADT for the Tytton Lane East site frontage has been obtained by reference to the weekday peak period traffic surveys undertaken at the junctions of Tytton Lane East with London Road and A16 on Friday 11 October 2013. AADT for Saundergate Lane has similarly been obtained by reference to the weekday peak period surveys undertaken at the junctions of Saundergate Lane with London Road and A16 on the same date.

1.5 The approach used is to derive a factor to convert the sum of weekday morning and evening peak period flows (0700-0900 and 1600-1800 hours) recorded in the junction count to a weekday 16-hour flow, by applying a local conversion factor derived from the London Road ATC and then apply an October 'M' factor from COBA (of 358) to obtain AADT. From the ATC for London Road the local factor to convert the sum

1.6 From the ATC on London Road, the local factor to convert the sum of weekday peak period flows to 16-hour flow is 3.3908. From the COBA Manual the 'M' factor to convert an October 16-hour flow to AADT is 358.

#### **Tytton Lane East**

	0700-0900	1600-1800	Sum	16-hour	2013 AADT
Westbound	78	200	278	941	923
Eastbound	144	116	260	880	863
Combined	221	316	537	1821	1786

#### **Saundergate Lane**

	0700-0900	1600-1800	Sum	16-hour	2013 AADT
Westbound	222	285	507	1717	1685
Eastbound	237	246	483	1636	1605
Combined	459	531	989	3354	3289

## 2. Existing Traffic Speeds

2.1 Existing Traffic speeds on the A16 and London Road site frontage have been taken directly from the ATC data. Traffic movement on A16 is subject only to the national speed limit of 60mph whilst a 40 mph speed limit is in operation on London Road. Existing traffic speeds on A16 and London Road are as follows:

<b>A16</b>	85%ile	Average
Northbound	67.5mph	59.0mph
Southbound	52.0mph	47.0mph
<b>London Road</b>		
	85%ile	Average
Northbound	44.5mph	39.2mph
Southbound	44.5mph	39.2mph

2.2 A 30mph speed limit is in operation on Tytton Lane East and Saundergate Lane. Traffic speed surveys have not been undertaken on these routes however it is considered that the following are likely to be representative of existing traffic

<b>Tytton Lane East</b>	85%ile	Average
Westbound	35mph	30mph
Eastbound	35mph	30mph
<b>Saundergate Lane</b>		
	85%ile	Average
Westbound	35mph	30mph
Eastbound	35mph	30mph

## 3. Existing Vehicle Proportions

3.1 Existing OGV proportions on the A16 and London Road site frontage have been taken directly from the ATC data as follows:

<b>A16</b>	OGV
Northbound	7.7%
Southbound	5.6%
Combined	6.6%
<b>London Road</b>	
	OGV
Northbound	1.5%
Southbound	1.4%
Combined	1.4%

3.2 Vehicle proportions for the Tytton Lane East site frontage has been obtained by reference to the weekday peak period traffic surveys undertaken at the junctions of Tytton Lane East with London Road and A16 on Friday 11 October 2013. For the purposes of this assessment, daily vehicle proportions have been considered to be the same as those recorded in the peak period surveys. Vehicle proportions for Saundergate Lane have been considered similarly by reference to the weekday peak period surveys undertaken at the junctions of Saundergate Lane with London Road and A16 on the same date.

<b>Tytton Lane East</b>	OGV
Westbound	2.0%
Eastbound	1.5%
Combined	1.8%
<b>Saundergate Lane</b>	
	OGV
Westbound	2.1%
Eastbound	1.9%
Combined	2.0%

#### 4. Future Year Traffic Flows

4.1 For the purposes of this assessment 2023 is considered the year when the proposed development will be fully complete. Future year traffic flows are being considered in a SATURN traffic model being prepared by LCC. For the purposes of this initial assessment, future year traffic flows without the proposed development may be considered by applying a growth factor of 1.1086 obtained from TEMPRO, with local adjustment for Boston Borough obtained from NTM.

<b>A16 - AADT</b>	2013	2023 Without Development
Northbound	9039	10020
Southbound	8904	9871
Combined	17943	19892
<b>London Road - AADT</b>	2013	2023 Without Development
Northbound	4137	4586
Southbound	4025	4462
Combined	8162	9048
<b>Tytton Lane East - AADT</b>	2013	2023 Without Development
Westbound	923	1023
Eastbound	863	957
Combined	1786	1980
<b>Saundergate Lane - AADT</b>	2013	2023 Without Development
Westbound	1685	1867
Eastbound	1605	1779
Combined	3289	3646

4.2 With access to the development being from A16 and London Road and a new distributor road to be provided through the site, it is considered that traffic flows on Tytton Lane East and Saundergate Lane are unlikely to be materially affected by development. There may be some small increase in traffic movements generated by the development however this is likely to be counterbalanced by a decrease in non-local traffic that would reassign to the new distributor road. The overall effect on Tytton Lane East and Saundergate Lane is therefore considered to be neutral with traffic volumes remaining as in the 'without development' scenario.

4.3 Estimates of traffic increase and 2023 with development traffic flow on A16 and London Road are as follows:

<b>A16 - AADT (vehicles)</b>	2013	2023 Without	Increase	2023 With
Northbound - North of Site Access	9039	10020	1300	11320
Northbound - South of Site Access			380	10400
Southbound - North of Site Access	8904	9871	1300	11170
Southbound - South of Site Access			380	10250
Combined - North of Site Access	17943	19892	2600	22490
Combined - South of Site Access			760	20650
<b>London Road - AADT (vehicles)</b>	2013	2023 Without	Increase	2023 With
Northbound - North of Site Access	4137	4586	500	5086
Northbound - South of Site Access			750	5336
Southbound - North of Site Access	4025	4462	500	4962
Southbound - South of Site Access			750	5212
Combined - North of Site Access	8162	9048	1000	10048
Combined - South of Site Access			1500	10548

#### 5. Future Year Traffic Speeds (2023)

5.1 In future year scenarios without the proposed development, it is envisaged traffic speeds on roads in the vicinity of the site would remain as existing.

5.2 In future year scenarios with the proposed development, traffic speeds on A16 and London Road are likely to be constrained by the proposed site access junctions; a roundabout on A16 and a traffic signal controlled junction on London Road. Introduction of a 40 mph speed limit on A16 may well be considered appropriate. 2023 traffic speeds on A16, with the proposed development may be considered as follows:

<b>A16</b>	85%ile	Average
Northbound	40mph	35mph
Southbound	40mph	35mph
<b>London Road</b>	85%ile	Average
Northbound	35mph	30mph
Southbound	35mph	30mph

5.3 In future years scenarios, with the proposed development traffic flows on Tytton Lane East and Saundergate Lane are considered to remain as existing.

## **6. Future Year Vehicle Proportions (2023)**

6.1 In future year scenarios with and without the proposed development, it is envisaged vehicle proportions on roads in the vicinity of the site would remain as existing.