

# Technical note

<b>Project:</b>	The Maltings, Millfield, Cottenham	<b>To:</b>	Julie Ayres (SCDC)
<b>Subject:</b>	Trip Generation Comparison	<b>From:</b>	Atkins
<b>Date:</b>	30 Apr 2014	<b>cc:</b>	

## Highways advice relating to Application S/076713/F: The Maltings, Millfield, Cottenham, Cambridgeshire

### Introduction

This Technical Note has been prepared for South Cambridge District Council (SCDC). It provides a trip generation exercise aimed at determining and comparing the likely trips that could be generated from the above named site based on a 1975 planning permission, the 2006 lapsed planning permission and the most recent 2013 planning application.

### Background

We understand the above named site is located to the eastern side of the Maltings, which is on the northeast fringe of the village of Cottenham. We also understand the historic use of the site was a builders yard, which was granted planning permission in 1975 following a successful appeal. In 2006 the applicant HC Moss (builders) applied to SCDC for the construction of 10 office/storage units. Planning permission was granted with a personal condition (no.4), which stated:

*"The premises, hereby permitted, shall not be occupied other than by HC Moss (Builders) Ltd  
Reason In order to assist in the expansion of this local firm in accordance with approved structure and local plan policies and to minimise additional traffic movements which may be generated by other occupiers"*

We are informed that no formal notification of commencement of this application was received within the statutory time period. We understand it is South Cambridgeshire District Council's (SCDC) view that the application therefore expired on the 14<sup>th</sup> February 2010 and SCDC considers the 2006 permission to have fallen and a new application for the buildings is required.

A new application has then since been received in 2013 requesting permission for a dual use of B1(a) and B8 use.

### Approach

Atkins have undertaken the following tasks and this technical note summarises the findings of this analysis:

- Determined trip generation (car trips and HGV trips) for the GFA and use type granted permission in 1975 (Scenario 1).
- Determined trip generation (car trips and HGV trips) for the 10 office/storage units granted permission in 2006 assuming all buildings are occupied by one firm and therefore all B8 use (i.e. minimal B1 use associated with the B8 use) (Scenario 2).
- Determined trip generation (car trips and HGV trips) for the 10 office/storage units being requested as part a recent planning application in 2013 assuming mix of B1 and B8 use (Scenario3).

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- Compared the trip generation (car trips and HGV trips) for each of the above and provided a summary of the difference.

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## Information Provided

This technical note is based on the following information provided by SCDC :

- Scenario 1 - GFA of the builders yard granted permission in 1975 = 540sqm total (0sqm B1 + 540sqm B8).
- Scenario 2 - GFA of the development site granted permission in 2006 = 630sqm total (0sqm B1 + 630sqm B8).
- Scenario 3 - GFA of the development site granted permission in 2006 = 527sqm total (196sqm B1 + 331sqm B8).

## Trip generation comparison

TRICS version 7.1.1 (25/03/14) has been interrogated to determine the trip rates for B1 and B8 type use. These were determined using the following trip rate scenarios (The full outputs are attached to this note):

- Average rates for sites located within East Anglia.
- Average rates for sites located across the UK with a total GFA of below 5,000sqm.

TRICs was also interrogated to determine trip rates for sites with a GFA of 1,000sqm or less. However, due to the limited number of sites that fall into this range the trip rates were deemed inappropriately high for both B8 and B1 type use (20 two-way vehicles movements per day per sqm for both uses).

**Tables 1 & 2** below summarise the trip rates for each trip rate scenario.

**Table 1. Trip rates (peak hour and daily) per 100sqm GFA – Sites located within East Anglia only**

	AM Peak (08:00 – 09:00)			PM Peak (17:00 – 18:00)			Daily		
	IN	OUT	TWO WAY	IN	OUT	TWO WAY	IN	OUT	TWO WAY
B1 Trip Rates (vehicles)	1.813	0.302	2.115	0.276	1.502	1.778	6.489	6.409	12.898
B1 Trip Rates (HGVs)	0.009	0.009	0.009	0	0	0	0.036	0.036	0.072
B8 Trip Rates (vehicles)	0.035	0.049	0.084	0.044	0.085	0.129	0.692	0.661	1.353
B8 Trip Rates (HGVs)	0.022	0.022	0.044	0.031	0.036	0.067	0.481	0.469	0.950

**Table 2. Trip rates (peak hour and daily) per 100sqm GFA – Sites of 1,000sqm or less located across the UK**

	AM Peak (08:00 – 09:00)			PM Peak (17:00 – 18:00)			Daily		
	IN	OUT	TWO WAY	IN	OUT	TWO WAY	IN	OUT	TWO WAY
B1 Trip Rates (vehicles)	2.006	0.254	2.260	0.238	1.586	1.824	7.866	7.653	15.519
B1 Trip Rates (HGVs)	0.006	0.008	0.014	0.004	0.008	0.012	0.114	0.114	0.228
B8 Trip Rates (vehicles)	0.383	0.158	0.541	0.079	0.331	0.410	2.036	2.023	4.059
B8 Trip Rates (HGVs)	0.039	0.039	0.078	0.013	0	0.013	0.299	0.261	0.560

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**Tables 3 - 6** below summarise the trip generation for each development scenario and a comparison between 1975, 2006 and 2013 uses. These are separated into vehicle trips and HGV trips.

**Table 3. Trip generation comparison (Vehicles) –TRICS sites located within East Anglia only**

	AM Peak (08:00 – 09:00)			PM Peak (17:00 – 18:00)			Daily		
	IN	OUT	TWO WAY	IN	OUT	TWO WAY	IN	OUT	TWO WAY
<b>Scenario 1 – 1975 Permission</b>									
B1 Trip Generation	0	0	0	0	0	0	0	0	0
B8 Trip Generation	0.2	0.3	0.5	0.2	0.5	0.7	4	4	7
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>4</b>	<b>4</b>	<b>7</b>
<b>Scenario 2 – 2006 Permission</b>									
B1 Trip Generation	0	0	0	0	0	0	0	0	0
B8 Trip Generation	0.2	0.3	0.5	0.3	0.5	0.8	4	4	9
<b>Total</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>4</b>	<b>4</b>	<b>9</b>
<b>Scenario 3 – 2013 Application</b>									
B1 Trip Generation	3.6	0.6	4.1	0.5	2.9	3.5	13	13	25
B8 Trip Generation	0.1	0.2	0.3	0.1	0.3	0.4	2	2	4
<b>Total</b>	<b>4</b>	<b>1</b>	<b>4</b>	<b>1</b>	<b>3</b>	<b>4</b>	<b>15</b>	<b>15</b>	<b>30</b>
<b>1975 / 2006 Comparison</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.1</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>1975 / 2013 Comparison</b>	<b>3.5</b>	<b>0.5</b>	<b>4.0</b>	<b>0</b>	<b>2.8</b>	<b>3.2</b>	<b>11</b>	<b>11</b>	<b>22</b>
<b>2006 / 2013 Comparison</b>	<b>3.4</b>	<b>0</b>	<b>3.9</b>	<b>0</b>	<b>2.7</b>	<b>3.1</b>	<b>11</b>	<b>11</b>	<b>21</b>

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**Table 4. Trip generation comparison (HGVs) –TRICS sites located within East Anglia only**

	AM Peak (08:00 – 09:00)			PM Peak (17:00 – 18:00)			Daily		
	IN	OUT	TWO WAY	IN	OUT	TWO WAY	IN	OUT	TWO WAY
<b>Scenario 1 – 1975 Permission</b>									
B1 Trip Generation	0	0	0	0	0	0	0	0	0
B8 Trip Generation	0.1	0.1	0.2	0.2	0.2	0.4	2.6	2.5	5.1
<b>Total</b>	<b>0.1</b>	<b>0.1</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.4</b>	<b>3</b>	<b>3</b>	<b>5</b>
<b>Scenario 2 – 2006 Permission</b>									
B1 Trip Generation	0	0	0	0	0	0	0	0	0
B8 Trip Generation	0.1	0.1	0.3	0.2	0.2	0.4	3.0	3.0	6.0
<b>Total</b>	<b>0.1</b>	<b>0.1</b>	<b>0.3</b>	<b>0.2</b>	<b>0.2</b>	<b>0.4</b>	<b>3</b>	<b>3</b>	<b>6</b>
<b>Scenario 3 – 2013 Application</b>									
B1 Trip Generation	0.02	0.02	0.02	0	0	0	0.1	0.1	0.1
B8 Trip Generation	0.1	0.1	0.1	0.1	0.1	0.2	1.6	1.6	3.1
<b>Total</b>	<b>0.1</b>	<b>0.1</b>	<b>0.2</b>	<b>0.1</b>	<b>0.1</b>	<b>0.2</b>	<b>2</b>	<b>2</b>	<b>3</b>
<b>1975 / 2006 Comparison</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>
<b>1975 / 2013 Comparison</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>-1</b>	<b>-1</b>	<b>-2</b>
<b>2006 / 2013 Comparison</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>-1</b>	<b>-1</b>	<b>-3</b>

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**Table 5. Trip generation comparison (Vehicles) –TRICS sites < 1,000sqm located across the UK**

	AM Peak (08:00 – 09:00)			PM Peak (17:00 – 18:00)			Daily		
	IN	OUT	TWO WAY	IN	OUT	TWO WAY	IN	OUT	TWO WAY
<b>Scenario 1 – 1975 Permission</b>									
B1 Trip Generation	0	0	0	0	0	0	0	0	0
B8 Trip Generation	2.1	0.9	2.9	0.4	1.8	2.2	11	11	22
<b>Total</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>11</b>	<b>11</b>	<b>22</b>
<b>Scenario 2 – 2006 Permission</b>									
B1 Trip Generation	0	0	0	0	0	0	0	0	0
B8 Trip Generation	2.4	1.0	3.4	0.5	2.1	2.6	13	13	26
<b>Total</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>2</b>	<b>3</b>	<b>13</b>	<b>13</b>	<b>26</b>
<b>Scenario 3 – 2013 Application</b>									
B1 Trip Generation	3.9	0.5	4.4	0.5	3.1	3.6	15	15	30
B8 Trip Generation	1.3	0.5	1.8	0.3	1.1	1.4	7	7	13
<b>Total</b>	<b>5</b>	<b>1</b>	<b>6</b>	<b>1</b>	<b>4</b>	<b>5</b>	<b>22</b>	<b>22</b>	<b>44</b>
<b>1975 / 2006 Comparison</b>	<b>0.3</b>	<b>0.1</b>	<b>0.5</b>	<b>0.1</b>	<b>0.3</b>	<b>0.4</b>	<b>2</b>	<b>2</b>	<b>4</b>
<b>1975 / 2013 Comparison</b>	<b>3.1</b>	<b>0.2</b>	<b>3.3</b>	<b>0.3</b>	<b>2.4</b>	<b>2.7</b>	<b>11</b>	<b>11</b>	<b>22</b>
<b>2006 / 2013 Comparison</b>	<b>2.8</b>	<b>0.0</b>	<b>2.8</b>	<b>0.2</b>	<b>2.1</b>	<b>2.3</b>	<b>9</b>	<b>9</b>	<b>18</b>

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**Table 6. Trip generation comparison (HGVs) –TRICS sites < 1,000sqm located across the UK**

	AM Peak (08:00 – 09:00)			PM Peak (17:00 – 18:00)			Daily		
	IN	OUT	TWO WAY	IN	OUT	TWO WAY	IN	OUT	TWO WAY
<b>Scenario 1 – 1975 Permission</b>									
B1 Trip Generation	0	0	0	0	0	0	0	0	0
B8 Trip Generation	0.2	0.2	0.4	0.1	0.0	0.1	2	1	3
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>3</b>
<b>Scenario 2 – 2006 Permission</b>									
B1 Trip Generation	0	0	0	0	0	0	0	0	0
B8 Trip Generation	0.2	0.2	0.5	0.1	0	0.1	2	2	4
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>4</b>
<b>Scenario 3 – 2013 Application</b>									
B1 Trip Generation	0.01	0.02	0.03	0.01	0.02	0.02	0.2	0.2	0.4
B8 Trip Generation	0.1	0.1	0.3	0.04	0	0.043	1	1	2
<b>Total</b>	<b>0.1</b>	<b>0.1</b>	<b>0.3</b>	<b>0.1</b>	<b>0.02</b>	<b>0.1</b>	<b>1</b>	<b>1</b>	<b>2</b>
<b>1975 / 2006 Comparison</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>
<b>1975 / 2013 Comparison</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>-1</b>
<b>2006 / 2013 Comparison</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>-1</b>	<b>-1</b>	<b>-1</b>

**Tables 3 - 6** show that, depending on which trip rate assumption is used, when compared with previously granted planning permissions (Scenarios 1 and 2) the recent 2013 application (Scenario 3) could generate between 18 – 22 additional two-way daily vehicle movements but between 1 – 3 fewer HGV daily movements. In terms of PCUs this translates into between 9 - 19 daily PCUs.

During the local highway peak hours (08:00 – 09:00 and 17:00 – 18:00) the increase in total vehicles could be between 3 – 4 vehicles under Scenario 3 compared to Scenarios 1 and 2. There would be no predicted change in HGV movements during the highway peak hours as any change in HGV movements is anticipated to occur outside the peak hours.

Comparing this analysis with analysis submitted by the applicant, as part of the 2013 planning application, the total number of Passenger Car Units (PCUs) more or less matches that predicted within the revised Transport Statement (9 PCU increase), albeit at the lower end of the trip generation range estimated within this note. However, quoting the number of PCUs does not provide a full assessment of the anticipated impact as, whilst there is an anticipated decrease in HGV movements, there is a larger anticipated increase in car movements<sup>1</sup>.

Taking into account total vehicle numbers the new revised application is anticipated to generate between 15 – 21 additional two-way daily vehicle trips. The number of HGV movements is however anticipated to drop.

<sup>1</sup> The predicted drop in HGV movements makes up for a high proportion of PCU movements due to their PCU factor. Likewise, the anticipated increase in car movements makes up for a smaller increase in PCU movements.