Technical Note

Project: Land to the East of Fontwell Avenue, West Sussex

Subject: Convenience Store Car Parking

Client:	Dandara Ltd	**Version:**	A
Project No:	03545	**Author:**	LS
Date:	23/04/2019	**Approved:**	MF

1 Introduction

1.1.1 PJA have been commissioned by Dandara Ltd to provide a technical note in relation to a mixed-use development on Land East of Fontwell Avenue, Fontwell. Outline planning consent was granted in 2017 (application WA/22/15/OUT) for the development of 400 new residential dwellings, 500sqm of non-residential floorspace (land use classes A1, A2, A3, D1 and / or D2) and 5,000sqm of light industrial floorspace (B1b or B1c).

1.1.2 This note has been prepared in support of a Reserved Matters application, to justify the provision of 11 car parking spaces and a loading bay for the proposed circa 384sqm Class A1 convenience store on the site. This provision equates to one space per 35sqm, compared to the West Sussex County Council (WSCC) maximum standard of one space per 14 sqm (which would equate to 27 spaces for the proposed retail unit).

1.1.3 To confirm that the 11 spaces proposed would be sufficient, this technical note includes the following:

- A review of comparable convenience stores in the TRICS database;
- Identification of parking provision at existing convenience stores in the vicinity of the site;
- Identification of the likely local catchment of the proposed convenience store.

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2 Comparable Convenience Stores

2.1 Comparable Stores within the TRICS Database

2.1.1 The TRICS database (version 7.6.1) has been interrogated to assess the car parking levels provided for other convenience stores. Convenience stores were selected from TRICS based on the following criteria:

- Located in England, excluding Greater London
- Not located in a town centre or edge of town centre
- Surveyed 2006 - 2017

2.1.2 The selected sites are summarised in Table 2-1.

Table 2-1: TRICS Convenience Stores

TRICS Reference	Description	Town / City	Location	GFA (sqm.)	Car Parking	Car Parking Ratio
BA-01-O-01	Co-op	Bath	Suburban Area	165	None on-site	N/A
CA-01-O-01	Co-op	Peterborough	Neighbourhood Centre	375	None on-site	N/A
CB-01-O-01	Co-operative	Carlisle	Suburban Area	300	None on-site	N/A
DC-01-O-01	Londis	Dorchester	Suburban Area	176	None on-site	N/A
DH-01-O-01	Sainsbury's Local	Hartlepool	Suburban Area	469	20 + loading bay	1 space / 23sqm
DV-01-O-01	Premier	Plymouth	Suburban Area	70	None on-site	N/A
ES-01-O-01	One Stop	Hastings	Suburban Area	280	6	1 space / 47sqm
HF-01-O-01	Spar	Bushey	Neighbourhood Centre	300	5	1 space / 60sqm
LE-01-O-01	Best One	Leicester	Suburban Area	220	4	1 space / 55sqm
LN-01-O-01	Spar	Lincoln	Edge of Town	350	23	1 space / 15sqm
NE-01-O-01	Tesco Express	Scunthorpe	Suburban Area	1200	22 + 6 motorcycle bays	1 space / 55sqm
NF-01-O-01	Tesco Express	Norwich	Suburban Area	298	10	1 space / 30sqm
NY-01-O-03	Co-operative	Northallerton	Suburban Area	305	None on-site	N/A
SY-01-O-02	Sainsbury's Local	Sheffield	Neighbourhood Centre	306	None on-site	N/A
TW-01-O-01	Co-op	Near Newcastle	Neighbourhood Centre	400	14 + loading bay	1 space / 29sqm
TW-01-O-02	Co-operative	Sunderland	Suburban Area	330	12	1 space / 28sqm
WL-01-O-01	One Stop	Swindon	Suburban Area	292	17	1 space / 17sqm
WY-01-O-01	Sainsbury's Local	Bradford	Edge of Town	400	31	1 space / 13sqm
WY-01-O-02	Co-operative	Wetherby	Neighbourhood Centre	539	None on-site	N/A
Average				**357sqm**	**8.6**	**1 space/41sqm**
Average (sites with parking only)				**413sqm**	**14.9**	**1 space/28sqm**

2.1.3 The sites in Table 2-1 have an average of one car parking space per 41sqm, which is lower than proposed for the convenience store in Fontwell. Excluding the stores with no on-site car parking, the remaining sites have an average of one car parking space per 28sqm. Whilst this is higher than proposed for the Fontwell site, it is substantially lower than the WSCC maximum car parking standard for convenience stores.

2.2 Other Local Convenience Stores

2.2.1 Other convenience stores in the vicinity of Fontwell have been reviewed, to determine their car parking provision (Table 2-2, locations shown in Figure 2-1). Most of the shops were observed to have very low levels of off-street car parking for customers.

Figure 2-1: Local Convenience Stores

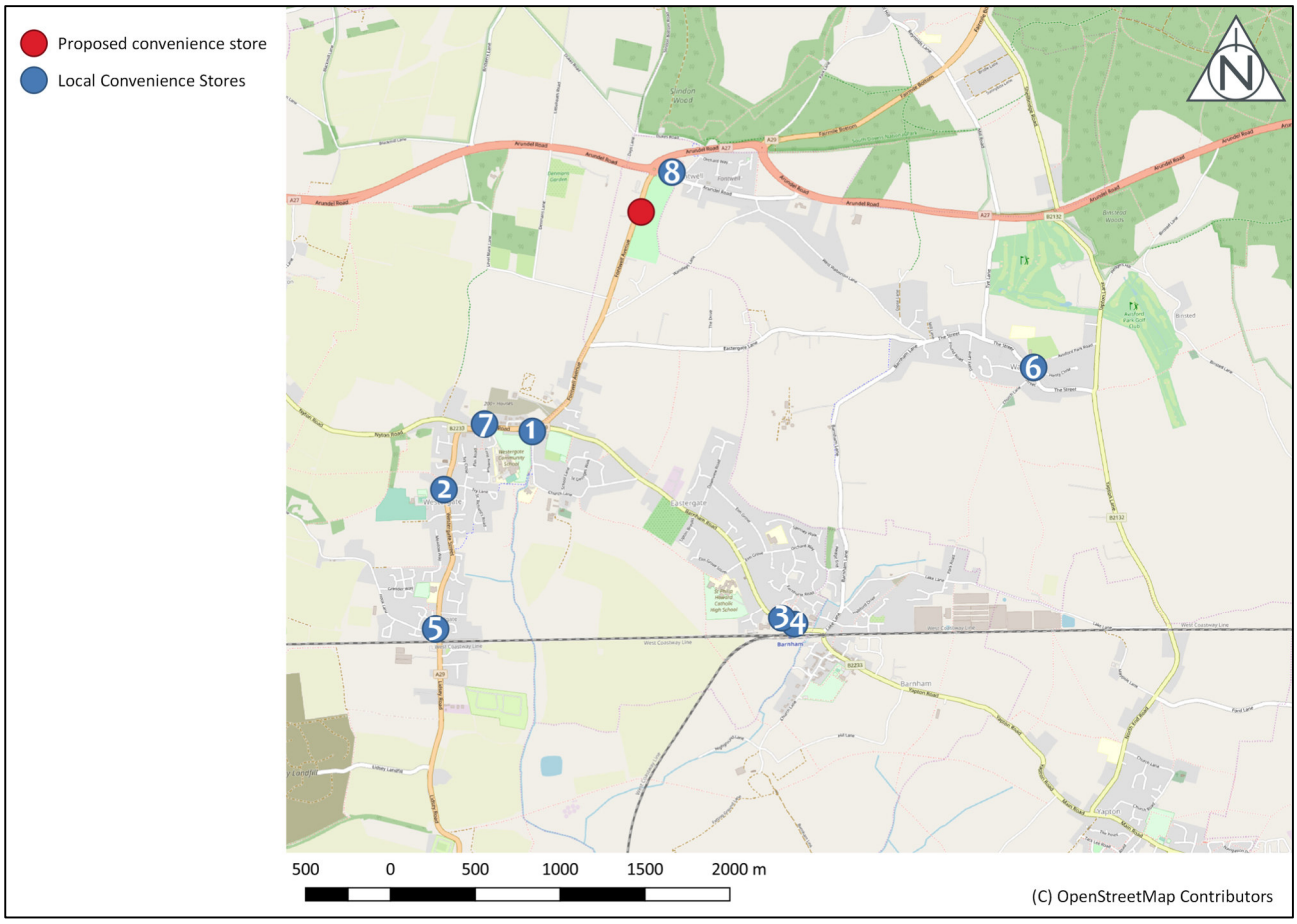

Table 2-2: Local Convenience Stores

Store	Car Parking Provision
1. Central Convenience Store, Eastergate	No off-street car parking. On-street parking unrestricted, although located on a relatively busy road near a roundabout.
2. Hirange Supermarket, Westergate	One car parking space in layby, no other off-street car parking. On-street parking unrestricted – although to the south of the convenience store there are bollards in the footway alongside the carriageway to discourage on-street parking, and to the north there are two spaces before zig-zag markings for a pedestrian crossing.
3. Co-op Food, Barnham	No off-street car parking – use of public pay and display off-street car parks or on-street bays (one hour restriction, space for approximately six cars outside shop).
4. Tesco Express, Barnham	10 car parking spaces, including one accessible bay – maximum stay 30 minutes. On-street parking prohibited directly outside shop (unrestricted on-street parking available within approx. 30m to the east).
5. Aldingbourne Village Stores	Approx. three/four off-street parking spaces, as well as a lay-by with space for approx. three cars. On-street parking unrestricted.
6. Waberton News	Off-street car parking area shared between six commercial units (approx. 14 spaces).
7. Hursts	Within petrol station
8. Waitrose	Within petrol station

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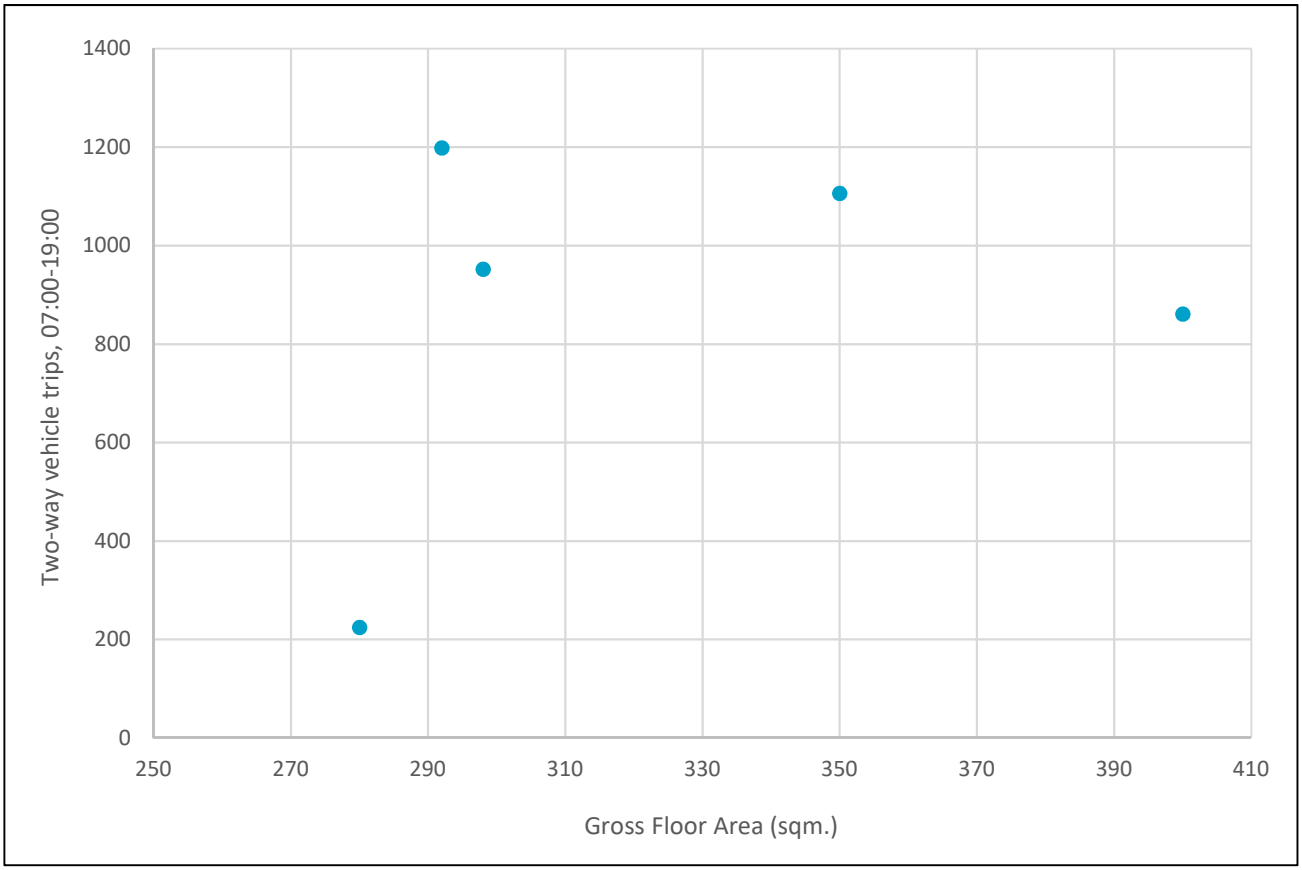
3 Trip Generation

3.1.1 Trip generation has been undertaken using the TRICS database version 7.6.1. Convenience store sites were selected based on the following criteria:

- Located in England, excluding Greater London
- Not located in a town centre or edge of town centre
- Surveyed 2006 – 2017
- At least five car parking spaces
- Weekday surveys only
- Between 200 and 400 sqm gross floor area

3.1.2 The full TRICS output is provided as **Appendix A**. The TRICS surveys suggest little correlation between the gross floor area of a convenience store and the number of daily two-way vehicle trips generated, as shown in Figure 3-1.

Figure 3-1: Relationship between two-way vehicle trips and gross floor area



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3.1.3 The information presented in Figure 3-1 demonstrates that the floor area of the store is not the determining factor in the number of vehicle trips generated and therefore the rigid application of the WSCC maximum standard of one car parking space per 14 sqm does not correspond to the actual car parking requirement, which is independent of the floor area. It is more likely that the number of vehicle trips depends on the catchment area of the shop, the level of services offered, and the number of pass-by trips generated.

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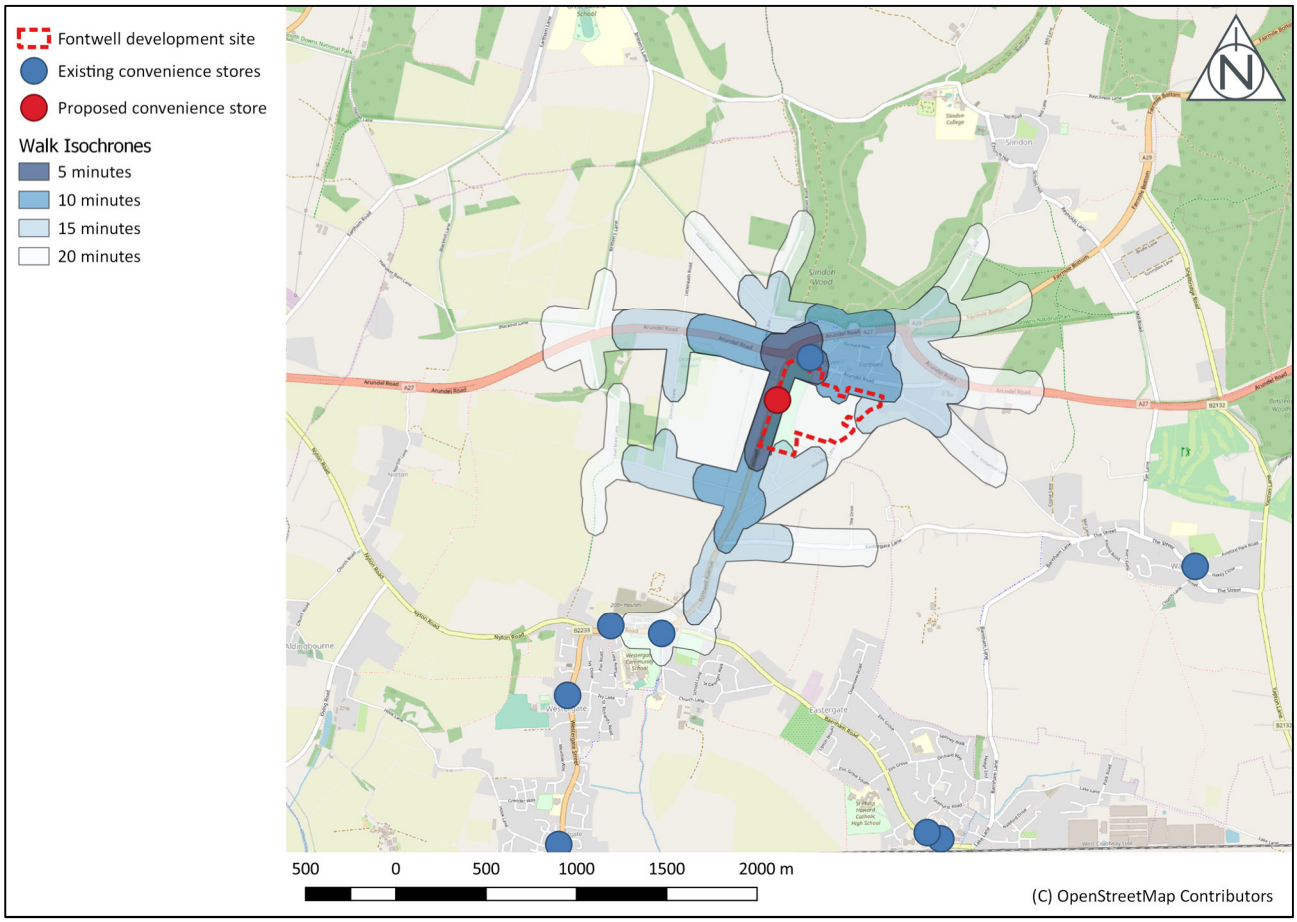
4 Catchment

4.1 On Foot

4.1.1 *"The Local Shop Report 2017"* prepared by the Association of Convenience Stores (ACS) states that 78% of trips to convenience stores are less than one mile in length (approx. 20 minutes walk time). The proposed convenience store could be reached by all existing Fontwell residents and all residents of the mixed-use development within a walk distance of one mile, as shown in Figure 4-1. The proposed pedestrian and cycle permeability through the site to Arundel Road would also mean that, for residents in the existing village, the proposed store would be more directly accessed by these modes as opposed to driving which will reduce parking demand.

4.1.2 It should also be noted that Westergate, Eastergate, Barnham and Walberton have existing convenience stores, and therefore those living in these villages are likely to travel to their closest store, rather than driving to Fontwell.

Figure 4-1: Walk Isochrones

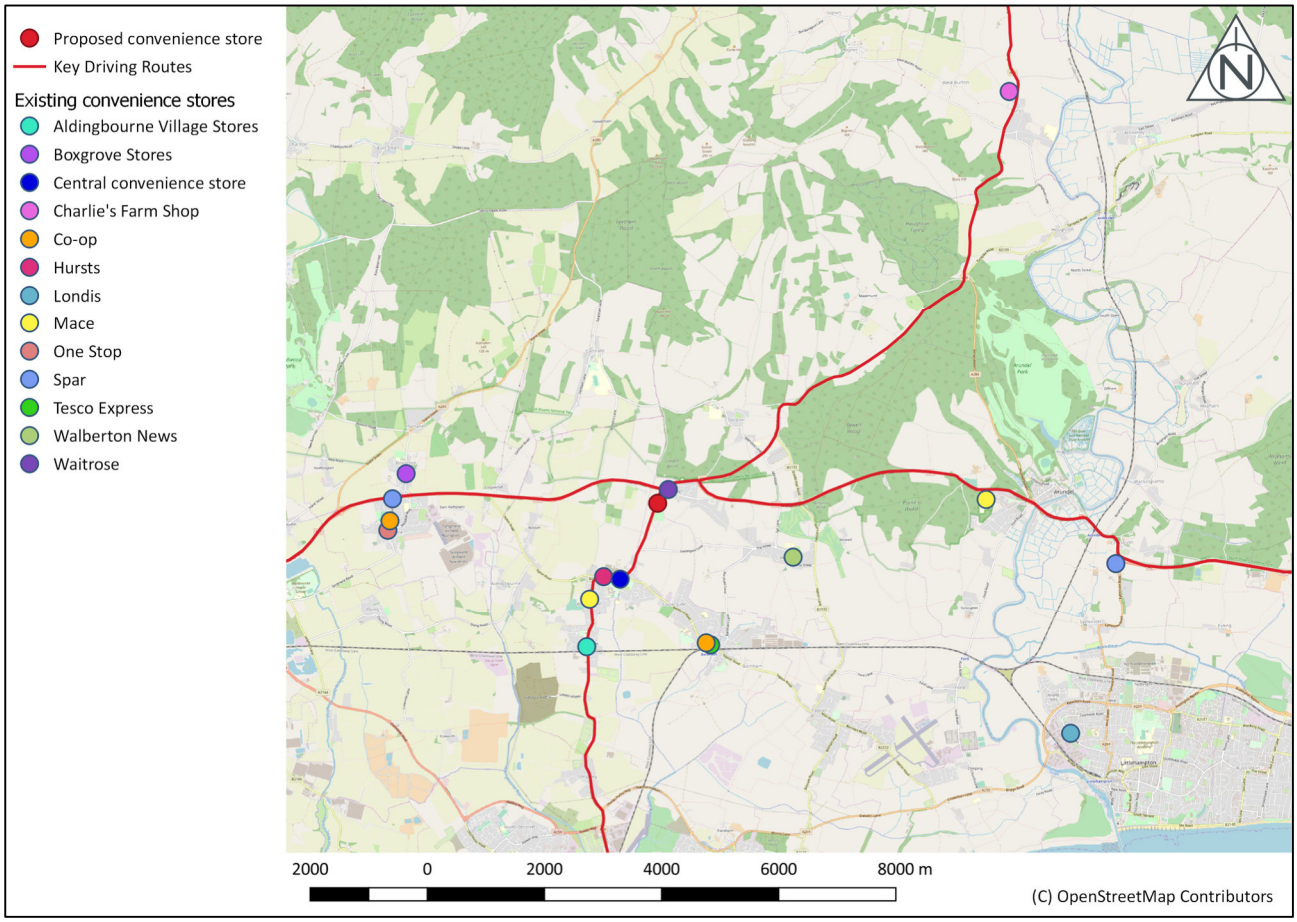


4.2 Pass-By Trips

4.2.1 In addition to local trips, convenience stores also attract pass-by trips. The TRICS Pass-by and Diverted Trip Research Report 95/2 states that "*All research confirms that very little new traffic is generated by new store developments. Figures compiled in this document suggest that in most circumstances 10% or less of the total trips are completely new and in practice the value is so small it can be discounted".* Furthermore, the TRICS Research Report 14/1 states that *"Convenience stores are more likely to produce pass-by trips, whilst comparison stores are more likely to produce diverted trips. People are prepared to travel further to access a comparison store than a convenience store (20 minutes for a comparison store, compared to 10 minutes for convenience)."*

4.2.2 It can be expected that there would be pass-by trips associated with drivers routing along the A27 and the A29. Figure 4-2 illustrates the key driving routes and the locations of existing convenience stores.

Figure 4-2: Pass-By Trips – Alternative Convenience Stores



4.2.3 Figure 4-2 shows that there are a number of convenience stores along each route, which could be used by drivers. It should be noted that it is likely that the majority of those routing along the A27 would stop at Waitrose in Fontwell instead of the proposed convenience store, since this is less of a detour. In addition, supermarkets are located in Chichester, Bognor Regis and Littlehampton.

4.2.4 The propensity for drivers to stop at a particular convenience store is primarily driven by the diversion from their route and easy availability of parking. Therefore the demand for parking arising from pass-by trips is self-limiting in that, if the parking is often fully occupied, drivers would choose to stop at one of the alternative stores along their route reducing the demand at the proposed Fontwell store.

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5 Summary and Conclusions

5.1.1 This technical note has been prepared by PJA to provide evidence that 11 car parking spaces would be sufficient to serve a circa 384sqm convenience store within the consented development on Land East of Fontwell Avenue, Fontwell. This provision equates to one car parking space per 35sqm floor area.

5.1.2 A review of existing convenience stores in the vicinity of the site shows that these stores typically have relatively low car parking provision, with an average of approximately 3.4 off-street car parking spaces per store, excluding on-street car parking. Furthermore, the TRICS sites also have low levels of car parking, with an average of one car parking space per 41sqm of floor area (one car parking space per 28sqm excluding sites with no off-street car parking provision). This illustrates that the proposed car parking provision is in excess of the typical local and national levels. It should also be noted that the TRICS sites demonstrate that there is no correlation between the size of a convenience store and the vehicular trip generation. Therefore, the level of car parking provision required is not dependent on the size of the store.

5.1.3 The key catchment area for the store will be the proposed development and existing dwellings within Fontwell. Local trips to the convenience store can be undertaken on foot, since the whole of Fontwell is within a 15 minute walk distance. Journeys on foot or bicycle will also be more direct for existing residents than using the car due to the proposed pedestrian/cycle connection between the site and Arundel Road.

5.1.4 Parking is likely to be the key determining factor for the attractiveness of the proposed store to pass-by trips. These longer distance driving pass-by trips will predominantly be along the A29, with pass-by trips along the A27 more likely to be attracted to Waitrose in Fontwell, which is less of a detour. Both these roads also benefit from further convenience stores, which would be used by drivers if there is no car parking available at the proposed store.

5.1.5 Based on the information presented within this note it is therefore concluded that 11 car parking spaces would be an appropriate level of provision for the 384sqm convenience store.

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Appendix A TRICS Output

Calculation Reference: AUDIT-231601-190418-0430

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL
Category : O - CONVENIENCE STORE
VEHICLES

Selected regions and areas:

02	**SOUTH EAST**		
	ES	EAST SUSSEX	1 days
03	**SOUTH WEST**		
	WL	WILTSHIRE	1 days
04	**EAST ANGLIA**		
	NF	NORFOLK	1 days
05	**EAST MIDLANDS**		
	LN	LINCOLNSHIRE	1 days
07	**YORKSHIRE & NORTH LINCOLNSHIRE**		
	WY	WEST YORKSHIRE	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Secondary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Gross floor area
Actual Range: 280 to 400 (units: sqm)
Range Selected by User: 200 to 400 (units: sqm)

Parking Spaces Range: Selected: 5 to 31 Actual: 3 to 31

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/06 to 07/04/17

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Tuesday	1 days
Wednesday	1 days
Thursday	1 days
Friday	2 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	5 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre)	3
Edge of Town	2

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	5

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

A1	5 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 1 mile:

10,001 to 15,000	1 days
15,001 to 20,000	1 days
20,001 to 25,000	2 days
25,001 to 50,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

75,001 to 100,000	1 days
100,001 to 125,000	1 days
125,001 to 250,000	2 days
250,001 to 500,000	1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	2 days
1.1 to 1.5	3 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Petrol filling station:

Included in the survey count	0 days
Excluded from count or no filling station	5 days

This data displays the number of surveys within the selected set that include petrol filling station activity, and the number of surveys that do not.

Travel Plan:

No	5 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	5 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1 **ES-01-O-01** **ONE STOP** **EAST SUSSEX**
THE SIDINGS
HASTINGS
ORE VALLEY
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Gross floor area: 280 sqm
Survey date: WEDNESDAY *19/12/12* *Survey Type: MANUAL*

2 **LN-01-O-01** **SPAR** **LINCOLNSHIRE**
257 NEWARK STREET
LINCOLN
NORTH HYKEHAM
Edge of Town
Residential Zone
Total Gross floor area: 350 sqm
Survey date: TUESDAY *15/05/07* *Survey Type: MANUAL*

3 **NF-01-O-01** **TESCO EXPRESS** **NORFOLK**
DEREHAM ROAD
NORWICH

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Gross floor area: 298 sqm
Survey date: FRIDAY *26/10/12* *Survey Type: MANUAL*

4 **WL-01-O-01** **ONE STOP** **WILTSHIRE**
THE CIRCLE
SWINDON

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Gross floor area: 292 sqm
Survey date: FRIDAY *23/09/16* *Survey Type: MANUAL*

5 **WY-01-O-01** **SAINSBURY'S LOCAL** **WEST YORKSHIRE**
KEIGHLEY ROAD
BRADFORD

Edge of Town
Residential Zone
Total Gross floor area: 400 sqm
Survey date: THURSDAY *06/12/12* *Survey Type: MANUAL*

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
TW-01-O-02	No customer car parking

TRIP RATE for Land Use 01 - RETAIL/O - CONVENIENCE STORE

VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	2	289	2.249	2	289	1.903	2	289	4.152
07:00 - 08:00	5	324	9.691	5	324	8.642	5	324	18.333
08:00 - 09:00	5	324	9.444	5	324	9.074	5	324	18.518
09:00 - 10:00	5	324	8.395	5	324	7.716	5	324	16.111
10:00 - 11:00	5	324	7.840	5	324	7.469	5	324	15.309
11:00 - 12:00	5	324	8.827	5	324	9.136	5	324	17.963
12:00 - 13:00	5	324	11.420	5	324	11.296	5	324	22.716
13:00 - 14:00	5	324	7.778	5	324	7.284	5	324	15.062
14:00 - 15:00	5	324	9.012	5	324	8.519	5	324	17.531
15:00 - 16:00	5	324	9.198	5	324	10.000	5	324	19.198
16:00 - 17:00	5	324	11.111	5	324	9.568	5	324	20.679
17:00 - 18:00	5	324	10.741	5	324	9.938	5	324	20.679
18:00 - 19:00	**5**	**324**	**12.840**	**5**	**324**	**13.827**	**5**	**324**	**26.667**
19:00 - 20:00	5	324	10.494	5	324	12.222	5	324	22.716
20:00 - 21:00	4	332	6.175	4	332	7.455	4	332	13.630
21:00 - 22:00	3	326	2.556	3	326	3.783	3	326	6.339
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			137.771			137.832			275.603

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

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Parameter summary

Trip rate parameter range selected:	280 - 400 (units: sqm)
Survey date date range:	01/01/06 - 07/04/17
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	1

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.