



**Petrol filling stations
research:
Sainsbury's/Asda**

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2. Executive summary

Background

The CMA is conducting an inquiry into the anticipated merger between J Sainsbury PLC (Sainsbury's) and Asda Group Ltd (Asda), the UK business of Walmart. The inquiry covers a broad scope overall, but the focus of this strand of the research was the Parties' petrol filling stations (PFSs).

Customer research surveys at the Parties' petrol filling stations were required to understand decision making regarding PFS behaviour and usage, closeness of competition (including diversion between the Parties) and competitive constraints.

This report summarises the findings of this research.

Key findings

- The majority of customers travelled **less than 10 minutes** to their PFS. Asda PFS customers have a slightly longer journey time on average. For most, the **primary purpose** was to visit the PFS, the shop or the supermarket.
- A third (33%) of Sainsbury's PFS customers **also visited the supermarket**, compared to more than two-fifths (43%) of Asda PFS customers. Less than a fifth of customers visit the **PFS shop or kiosk**.
- Customer mean **spend on fuel** and **distribution of spend** was comparable between the Parties, with **mean spends** at both Parties' PFSs being around £35.
- A **higher proportion of Asda customers said they would divert to Sainsbury's** than vice versa, irrespective of whether the customer diverts fuel only, fuel and kiosk, or fuel and supermarket spend.
- There is a clear correlation between **fuel spend weighted diversion ratio** and **proximity** to nearest Merger Party PFS. Diversion ratios tend to be higher the closer the nearest Merger Party PFS.
- Over three-quarters of both Sainsbury's and Asda customers diverting their fuel only would **go to a site within a 10 minute drive**. Over two-thirds would do the same when diverting their **combined fuel and supermarket spend**.
- A quarter of Sainsbury's customers who **diverted their supermarket spend to a separate location** from their diverted fuel spend, diverted to another Sainsbury's. Almost a third (31%) of Asda customers diverted to an Aldi. The diversion ratios to the Merger Party supermarket are 18% for Sainsbury's and 16% for Asda customers.

- The **diversion ratio to the Merger Party** is higher for customers diverting their fuel and supermarket spend together than it is for those diverting their fuel spend.

Notes on Interpretation

Data was examined by the field and research teams throughout the fieldwork period. Edits were made to correct errors and inconsistencies and verbatim (open text) responses relating to diversion destinations were also coded. In most cases, it was possible to assign a unique code identifying the diversion PFS (the CAT code).

Data were weighted in two ways. Reported data were weighted in accordance with petrol station footfall, using data provided by the Parties. The derived data (the diversion ratios) were spend or transaction weighted. See Appendix for a detailed explanation of the weighting process. Throughout the report, charts show unweighted base sizes.

Colour coding has been used throughout to depict Sainsbury's (**orange**) and Asda results (**green**).

Please note: Throughout the report PFS kiosks, shops and other non-pay at pump methods are referred to collectively as "kiosks".

3. Introduction

PFS selection

PFSs were considered part of the target population if they were not pipeline sites and failed one of the following three filters:

- The nearest competing PFS by drive-time belongs to the other merging party;
- The merger results in a 4:3 or worse in fascia; or,
- The merger results in a 2:1 in supermarket fascia (i.e. it removes the only rival supermarket).

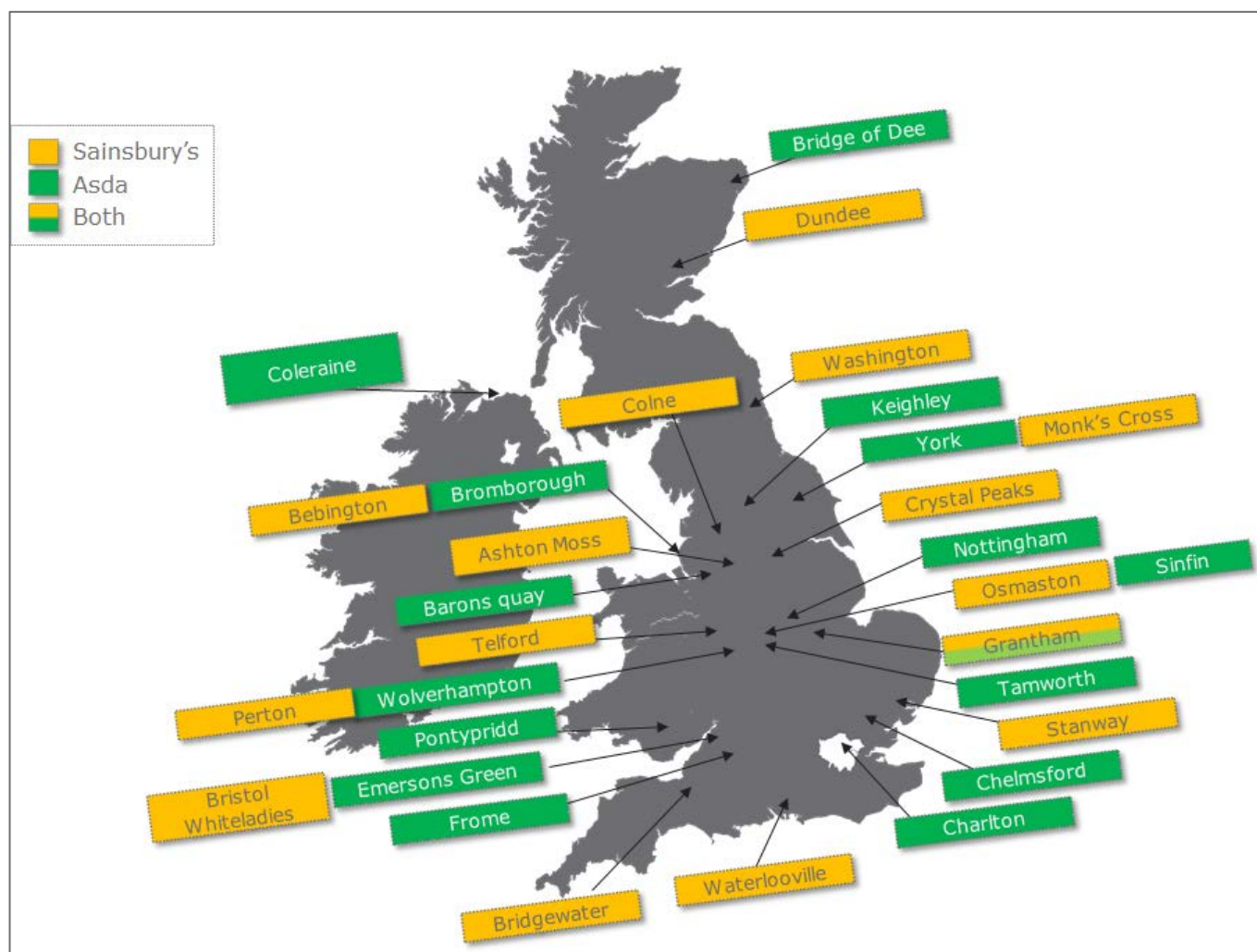
A total of 65 PFSs failed these filters (30 Sainsbury's and 35 Asda). The CMA selected 32 PFSs to survey (16 Sainsbury's and 16 Asda). The method was:

- Both Parties had a single PFS in the target population in Northern Ireland. These two PFSs were chosen with certainty.
- For each of the Parties an equal probability stratified sample of 15 PFSs was taken in Great Britain.

Locations

Selected locations participating in the research can be seen in Table 1.

Figure 1 - PFS locations



Methodology

Interviewing took place at 25 manned and seven unmanned PFSs. A Computer Aided Personal Interviewing (CAPI) methodology was predominantly used for data collection (at 25 sites). However, a supplementary paper methodology was required at seven sites due to a lack of safe space for the interviewing to take place.

A total of **7,863 exit interviews** were completed: 3,891 at Sainsbury's (4,175 weighted) and 3,972 at Asda (3,688 weighted).

Of these, 6,517 were CAPI and 1,346 paper based. Fieldwork took place between 8th October 2018 and 6th November 2018. The average interview length was 5 minutes, and the overall response rate achieved was 43%. A breakdown of response rates

can be found in Table 1. Response rate is calculated as the proportion of completes against the sum of completes and refusals, based on interviewer counts.

Table 1 – Response rates

	Sainsbury's	Asda	Total
Total (n)	3,891	3,972	7,863
Response rate (%)	38%	49%	43%

	Sainsbury's				Asda			
	Males	Females	Total		Males	Females	Total	
Total (n)	2,138	1,773	3,891		2,118	1,834	3,972	
Response rate (%)	36%	43%	38%		42%	53%	47%	
	17-34	35-54	55+	Total	17-34	35-54	55+	Total
Total (n)	682	1,400	1,802	3,884 (Ref: 7)	965	1,608	1,383	3,956 (Ref: 16)
Response rate	34%	37%	40%	38%	44%	45%	55%	48%
	Car	Other	Total		Car	Other	Total	
Total (n)	3,611	280	3,891		3,636	311	3,947 (DK: 25)	
Response rate (%)	40%	52%	41%		48%	42%	48%	

Fieldwork method

Interviewers were required to adhere to certain rules throughout the fieldwork period to ensure sampling validity:

- Interviewers were briefed to recruit fuel-purchasing customers at the pump and to request they move to a “safe zone” to conduct the interview (at least 4 metres away from the pump).
- Where no “safe zone” was available, a paper methodology was used to enable interviewers to conduct interviews with customers at or near to the pump.
- Customers were recruited purely at random. After completing an interview, interviewers were instructed to interview the next person they saw arriving at the pumps.
- Both non-pay-at-pump and pay-at-pump paying customers needed to be interviewed, but still by targeting the next customer seen arriving at the pumps after the previous interview had ended.
- Refusals were recorded.
- No quotas were set but a minimum number of interviews was provided as a guideline to ensure overall targets were met (minimum of 120 per site and a total sample size of 4,800).
- Questions were asked exactly as written in the questionnaire. Interviewers were briefed to avoid paraphrasing or leading customers and to only prompt customers when instructed.
- The questionnaire contained a pre-coded list of all PFS sites within a 10 minute drivetime of each of the surveyed PFSs
- Interviewers were briefed to adhere strictly to their allocated shift times.
- Breaks of 30 minutes per shift were allocated at specific times to ensure no time was under-represented during fieldwork; interviewing to take place throughout remainder of the shift, regardless of number of completed interviews.

Sampling

A strict sampling frame was designed in order to ensure coverage was representative of customer volumes. It was important to cover every day of the week at each PFS during the fieldwork. Interviewing occurred between 8am-8pm Monday-Saturday, and 10am-4pm on Sunday.

Manned PFSs were allocated nine shifts each in order to cover every day of the week, and have a ‘safety net’ of two extra shifts should they be needed to ensure the

minimum target of 120 per site were met. Additional shifts were carried out at PFSs where response rates were lower than anticipated (e.g. Colne).

Unmanned PFSs were allocated 12 shifts each in case these proved to be more complicated (with harder to achieve minimum interview numbers) than manned PFSs. These shifts covered every day of the week, plus five extra shifts at times/days where customer volumes were higher. Fewer shifts (<12) were conducted at a number of unmanned PFSs as overall response rates were higher than expected.

All respondents were approached at random. Interviewers were briefed to interview constantly throughout their shift (aside from their allocated break) and to approach the next customer seen arriving at the pumps, after the previous interview had been completed.

A full breakdown of completed interview numbers by PFS site are shown in Tables 2i and 2ii.

Table 2i – Interviews by PFS site: Sainsbury's

PFS	Methodology	Sample achieved
Ashton Moss	CAPI	207
Bridgewater	CAPI	359
Coleraine	CAPI	183
Colne	CAPI	143
Crystal Peaks	CAPI	234
Dundee	CAPI	208
Emersons Green	CAPI	477
Grantham	CAPI	215
Monks Cross	CAPI	226
Osmaston	CAPI	296
Perton	CAPI	207
Bebington	CAPI	193
Stanway	CAPI	181
Telford	CAPI	237
Washington	CAPI	310
Waterlooville	CAPI	215
TOTAL		3,891

Table 2ii – Interviews by PFS site: Asda

PFS	Methodology	Sample achieved
Asda York	CAPI	217
Barons quay Northwich	CAPI	259
Bridge of Dee Supercentre	PAPER	164
Bristol Whiteladies Rd	PAPER	383
Bromborough	CAPI	242
Charlton	PAPER	260
Chelmsford	PAPER	312
Coleraine NI	CAPI	136
Frome	PAPER	255
Grantham	CAPI	208
Keighley	PAPER	242
Nottingham (SOL)	PAPER	211
Pontypridd Rhondda	CAPI	343
Sinfin	CAPI	164
Tamworth Supercentre	CAPI	290
Wolverhampton	CAPI	286
TOTAL		3,972

Fieldwork quality

Rigorous quality checks were put in place to ensure the research programme had optimal robustness and validity:

- **Face to face briefing:** Thorough, face to face briefings with interviewers were undertaken to communicate the importance of quality and adhering to procedures, encourage engagement and clarify processes.
- **Pilot interviews:** The questionnaire and recruitment technique were piloted at five test sites prior to main fieldwork commencing.
- **Frequent feedback gathered:** Regular direct contact with interviewers was maintained throughout the fieldwork period to ensure they were comfortable with the process and sampling procedures were being adhered to. As part of this, any interview challenges were discussed and resolved.
- **Spot checks:** These were conducted by the research team and supervisors at 20 locations including Northern Ireland; spot checks were also conducted by representatives of the CMA.

- **Back checking:** 20% of customers were recontacted to check responses. Interviews conducted using paper questionnaires were subject to a higher rate of back checking (50%).
- **Daily data checks:** Completed interviews reviewed daily, to track the data and the interview quality and ensure interviewers were adhering to allocated shift dates and times.

Additionally, following their first shifts, interviewers were contacted for a debrief. This led to several actions being taken to ensure any identified interviewing and/or sampling issues were resolved and this was monitored in following shifts (Table 3).

Table 3 – Pilot issues identified

Location	Issue	Resolution
Frome	CAPI interviewing proved challenging	Methodology changed to paper and interviewers rebriefed
Washington	No collection of refusals	All interviewers contacted to re-emphasise the importance of collecting refusals
Keighley / Grantham	Interviewer late / consistently not adhering to sampling process	Interviewer and interviews replaced

In addition, at a number of paper sites it was observed that interviewers had not followed the correct questionnaire routing (in Chelmsford, Frome and Keighley). This led to a replacement of the interviewers and the shifts where this had occurred.

Interviewers were instructed to inform the research team if they encountered any issues during their shifts that caused a gap in interviewing. Issues were reported in Ashton (power cut / PFS closure), Chelmsford (fault with the pumps) and Crystal Peaks (part closure of PFS). Dates and times were recorded.

Presentation of results

Some results are based on aggregated samples. These have been weighted to represent all PFSs that failed the CMA filters but are not a representation of all the Parties' UK PFSs. The choice attributes results are weighted to represent the number of users in the PFS but are not spend weighted. All diversion results are spend weighted.

In the main, chart data shows results of Sainsbury's in orange and Asda in green.

4. Findings: Non-Diversion questions

Customer profile

Gender breakdown was similar across both supermarkets, with a higher number of males at each (Figure 2).

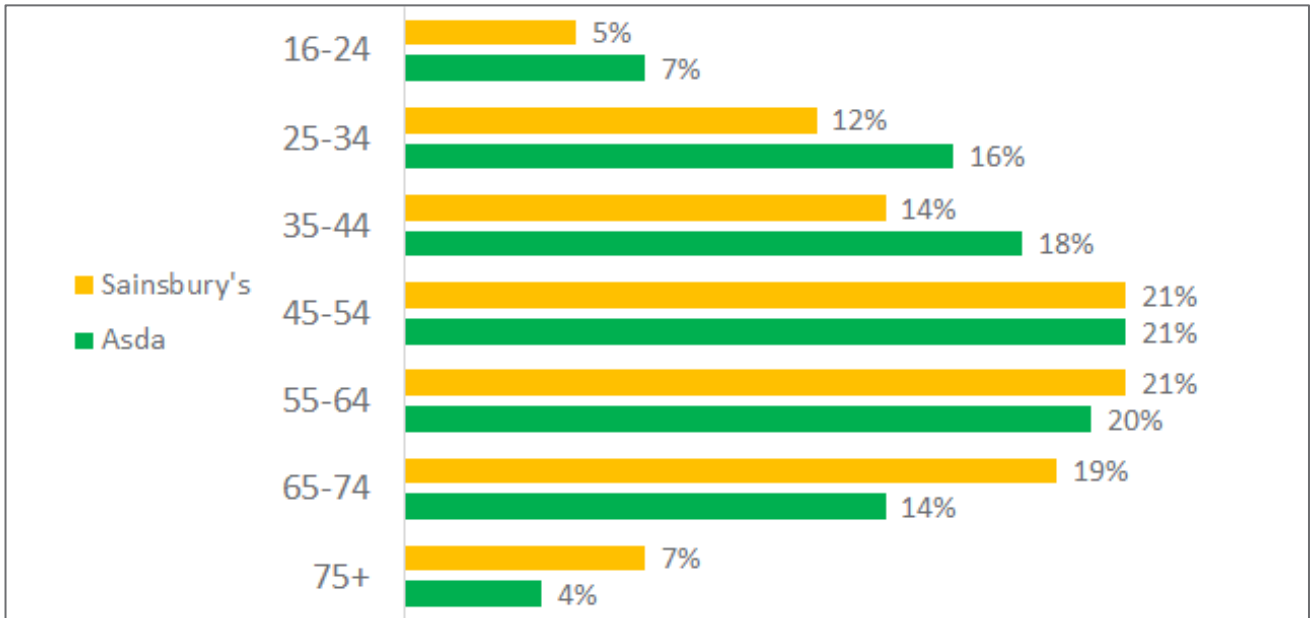
Figure 2 – Gender



Base: All respondents, unweighted base (total 7863; Sainsbury's 3891, Asda 3972)

The spread of ages was also similar across the supermarkets although with a slightly younger profile at Asda. There was a higher proportion of 25-44 year olds at Asda PFSs and more 65 years and over at Sainsbury's.

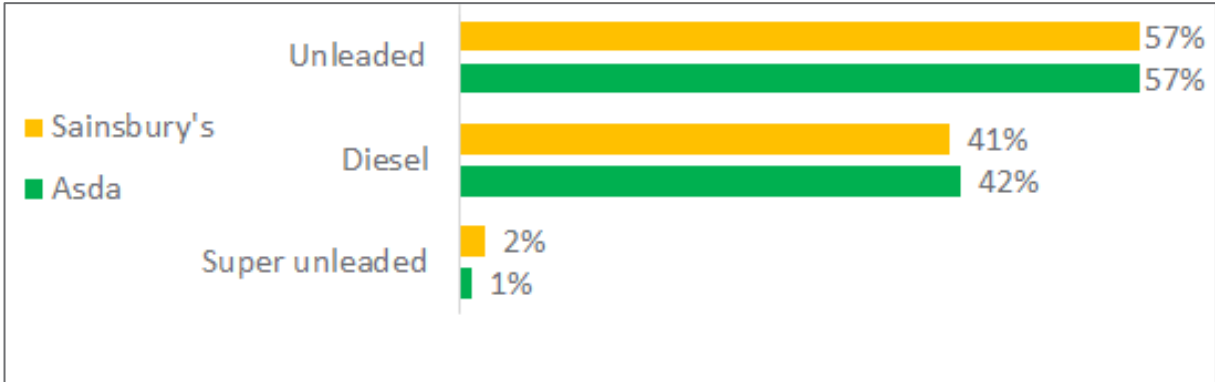
Figure 3 – Age



Base: All respondents, unweighted base (total 7863; Sainsbury's 3891, Asda 3972)

Over nine out of every 10 respondents were driving a car (92% Sainsbury's and 93% Asda) and of the rest, the highest proportion were in vans/minibuses (5% at both sites). The vast majority of respondents buy either unleaded or diesel fuel for their vehicles (Figure 4).

Figure 4 – Type of fuel



Base: All respondents, unweighted base (total 7863; Sainsbury's 3891, Asda 3972)

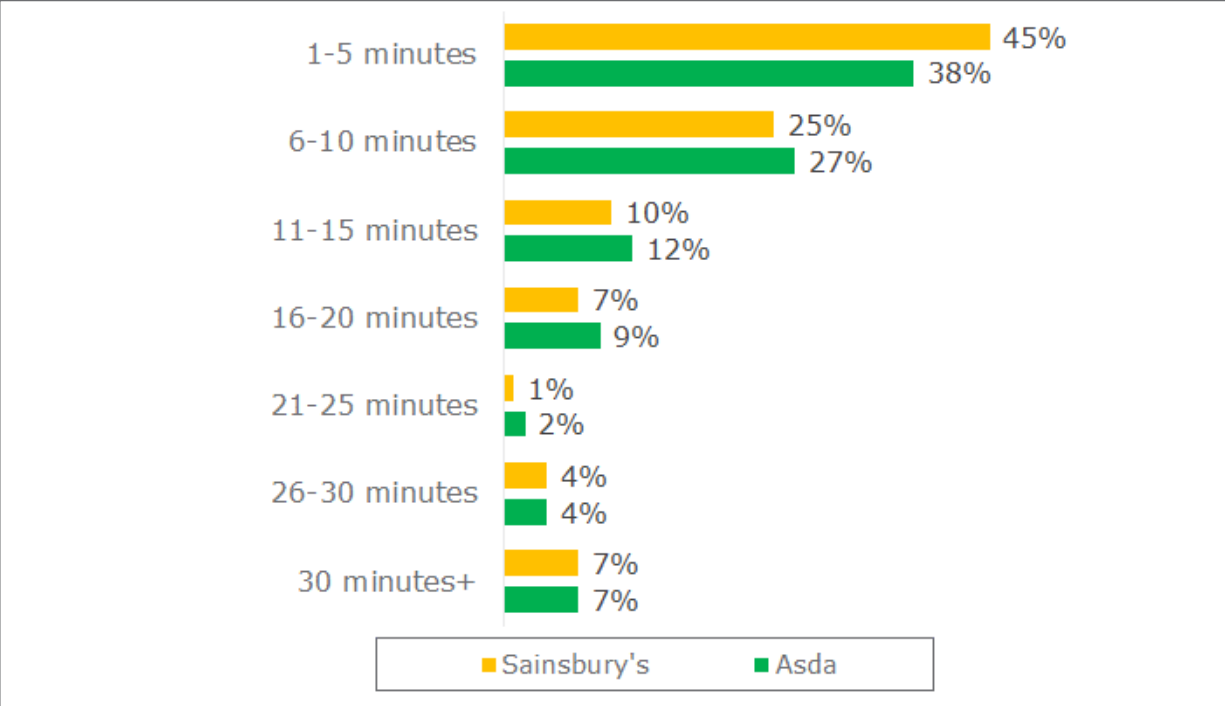
Sainsbury's customers only were asked about Nectar card usage. Nearly three quarters of those asked used their Nectar card when buying their fuel (75%).

The visit and spend

Travel time and reason for visit

Most customers travelled within 10 minutes to their PFS (70% of Sainsbury's and 65% of Asda customers) with a higher proportion of Sainsbury's customers travelling within 5 minutes (45% versus 38% of Asda customers) as shown in Figure 5. Asda customers had a slightly longer journey time on average - a mean of 14 minutes and 42 seconds compared to 13 minutes and 54 seconds for Sainsbury's customers. The 80th percentiles were 15 minutes (Sainsbury's) and 20 minutes (Asda).

Figure 5 – Travel time to petrol station

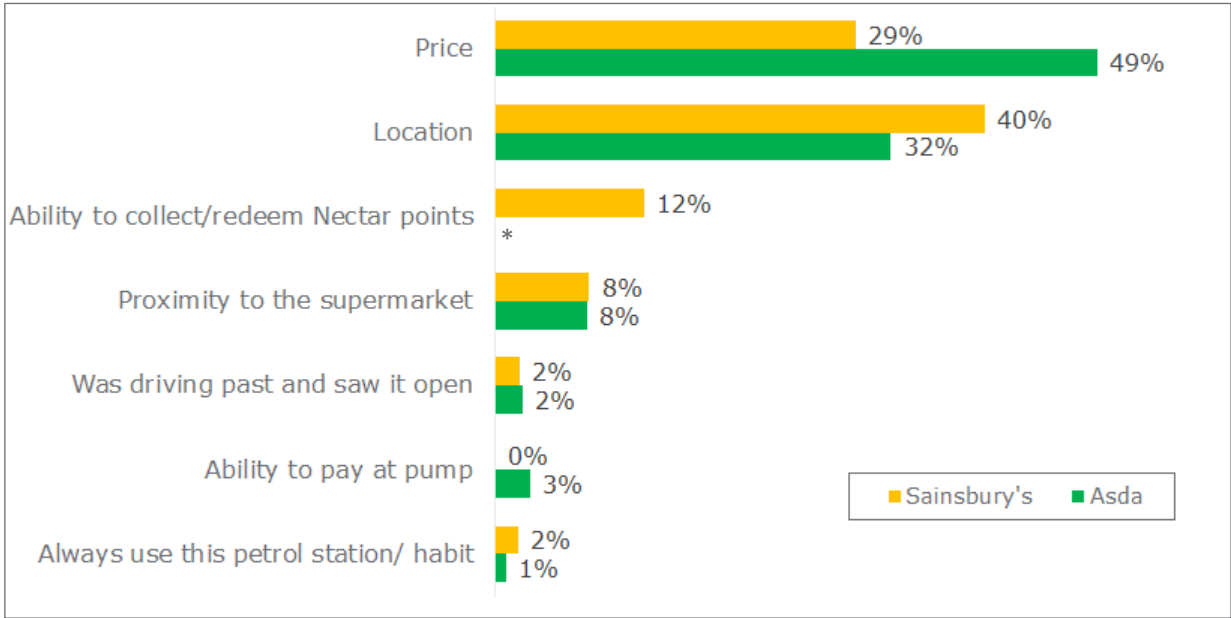


Q09 How long did it take you to travel to this petrol station? Base: All respondents, unweighted base (total 7863; Sainsbury's 3891, Asda 3972)

Average time differed across PFS. The longest mean travel times were to Asda York (21 minutes, 24 seconds), Sainsbury's Monks Cross, York (18 minutes, 30 seconds) and Sainsbury's Stanway, Colchester (18 minutes, 18 seconds). The shortest mean travel times were to Sainsbury's Bebington, Wirral (8 minutes, 18 seconds), Sainsbury's Washington (8 minutes, 18 seconds) and Asda Bromborough, Wirral (9 minutes, 54 seconds).

Both Sainsbury’s (71%) and Asda (65%) customers were there primarily to use the petrol filling station, the shop or the supermarket with around a third of customers being en route to somewhere else. Main reasons for visiting that particular petrol filling station were largely due to price and location, price being more important for Asda customers and location for those at Sainsbury’s PFSs as Figures 6 and 7 suggest.

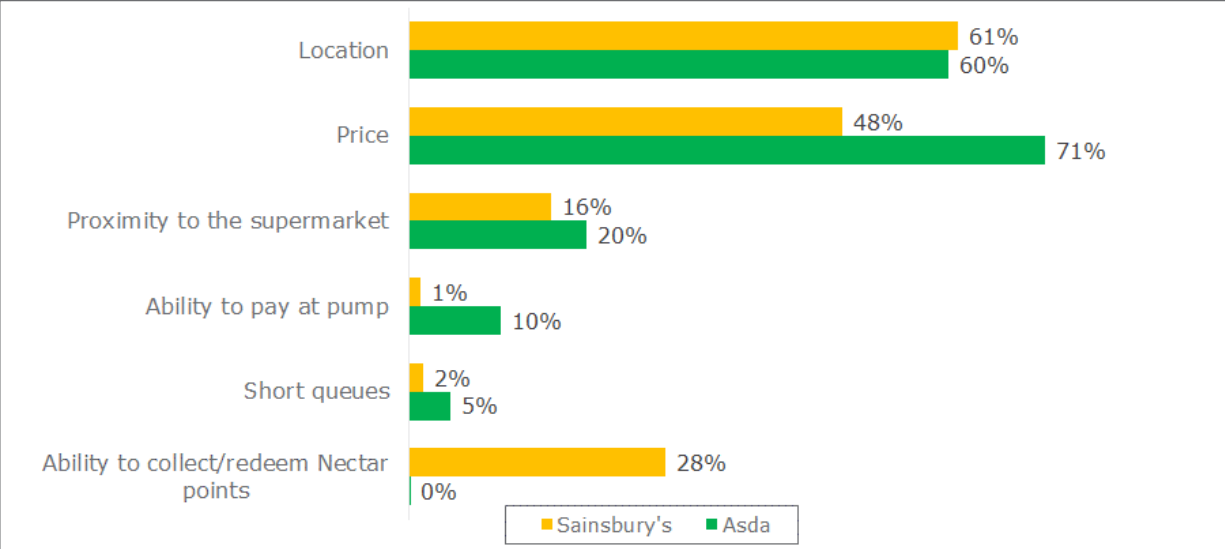
Figure 6 – Main reason for choosing PFS



* Not applicable

Q11. What was the one main reason you chose to buy fuel at this petrol station, rather than at any alternative petrol station available to you? Base: All respondents, unweighted base (total 7863; Sainsbury’s 3891, Asda 3972)

Figure 7 – Reasons ever mentioned for choosing that PFS (by 4% or more)



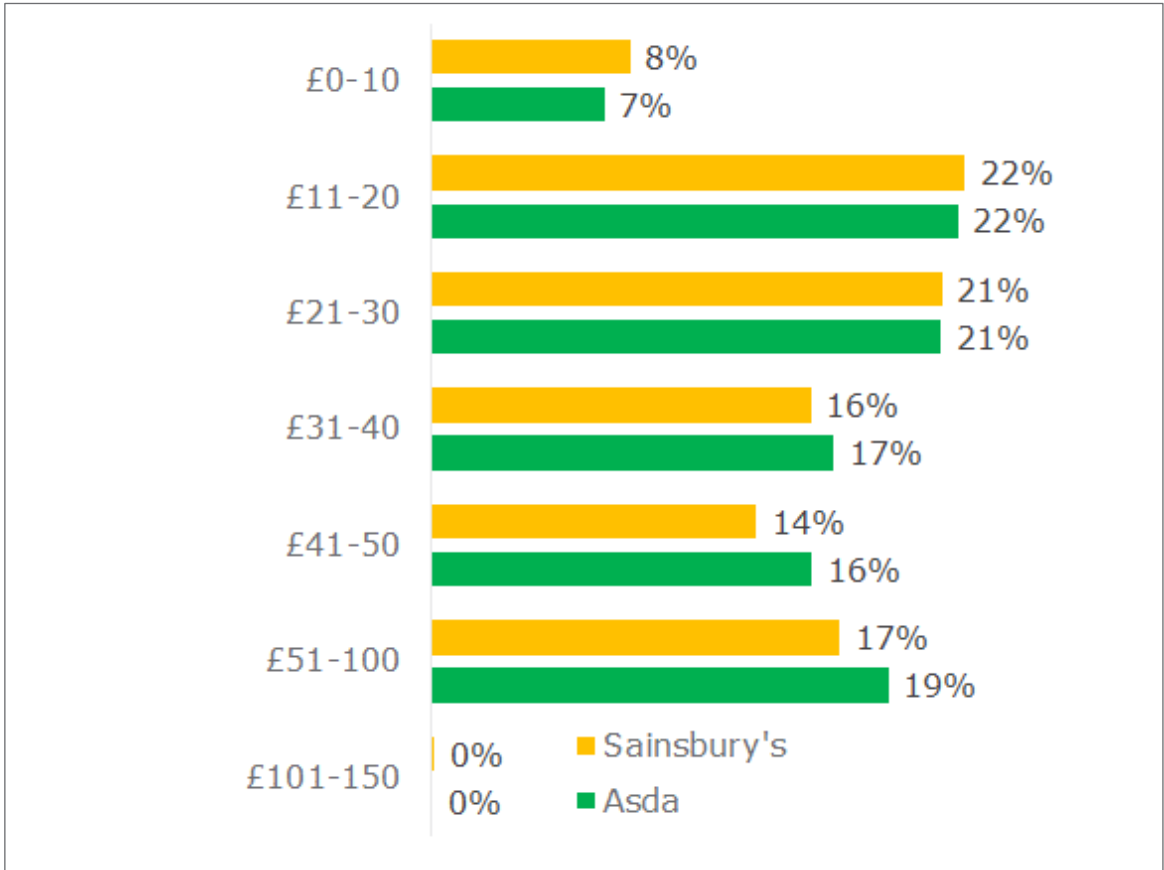
Q11. What was the one main reason you chose to buy fuel at this petrol station, rather than at any alternative petrol station available to you? / Q12. And why else did you choose to buy your fuel here? Base: All respondents, unweighted base (total 7863; Sainsbury's 3891, Asda 3972)

More often than not, customers were coming to use the petrol filling station only. A third of Sainsbury's (33%) and around two fifths of Asda customers (43%) at a PFS with an adjacent supermarket were combining their visit with a supermarket shop. Only a minority of customers bought items at the kiosk where there was one (17% Sainsbury's and 13% Asda customers).

Fuel spend

Fuel spend was very similar across the supermarkets with the majority of customers at both spending between £1-£40 (Figure 8) and similar amounts on average, around £35 (£35.10 at Sainsbury's and £35.64 at Asda).

Figure 8 – Spend on fuel (to the nearest £)



Q04. How much did you spend on fuel today? Base: All respondents, unweighted base (total 7863; Sainsbury's 3891, Asda 3972)

Average and median fuel spend figures differed across PFS and the highest and lowest per supermarket can be seen in the table below (Table 4).

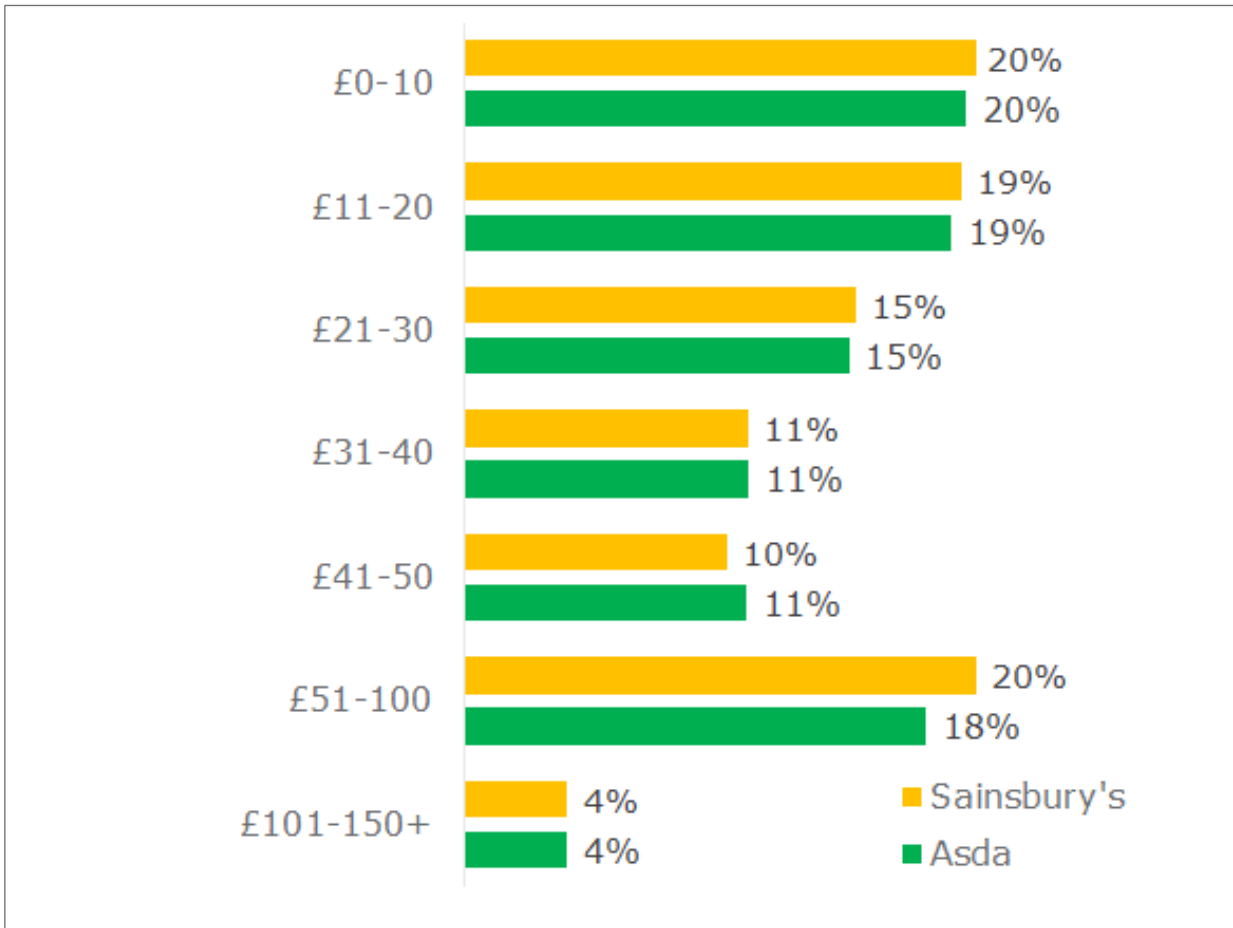
Table 4 – Average and median fuel spend

Mean	Overall	Highest	Lowest
Sainsbury's	£35.10	£40.49 Stanway	£28.18 Bebington
Asda	£35.64	£41.25 Bristol Whiteladies	£27.79 Pontypridd
Median	Overall	Highest	Lowest
Sainsbury's	£30.51	£40.00 Stanway/Grantham/ Waterlooville	£25.00 Bebington
Asda	£30.00	£40.00 Bridge of Dee/Tamworth/ Bristol Whiteladies	£25.00 Coleraine/ Pontypridd

Supermarket and kiosk spend

Spend at the supermarket is also very similar across Sainsbury's and Asda with around three-quarters of customers spending up to £50 and an average of just over £36 at each (Figure 9).

Figure 9 – Spend at the supermarket (to the nearest £1)



Q06. / Q07. How much did you spend / roughly how much do you think you'll spend at the <Sainsbury's/Asda> supermarket today? Base: All respondents who have been/will be using the supermarket, unweighted base (total 2610; Sainsbury's 1238, Asda 1372)

Average and median supermarket spend figures can be seen in the Table 5.

Table 5 – Average and median supermarket spend

Mean	Overall	Highest	Lowest
Sainsbury's	£36.02	£53.25 Stanway	£25.01 Perton
Asda	£36.36	£50.06 Coleraine	£24.90 Northwich
Median	Overall	Highest	Lowest
Sainsbury's	£30.00	£45.00 Stanway/Coleraine	£20.00 Perton/Telford/ Ashton Moss
Asda	£30.00	£50.00 Coleraine	£20.00 Northwich/Keighley

The majority of both Sainsbury's (81%) and Asda (68%) customers spent up to £5 in the kiosk. Asda customers spent more on average at £5.90, compared to £4.88 at Sainsbury's kiosk purchasers. The highest average spend by PFS was at the Sainsbury's in Grantham with Asda, Coleraine having the lowest (Table 6).

Table 6 – Average and median kiosk spend

Mean	Overall	Highest	Lowest
Sainsbury's	£4.88	£15.14 Grantham	£2.94 Washington
Asda	£5.90	£6.35 Pontypridd	£3.08 Coleraine
Median	Overall	Highest	Lowest
Sainsbury's	£2.00	£3.50 Coleraine	£1.00 Washington
Asda	£4.00	£5.67 Bristol Whiteladies	£2.00 Coleraine

5. Findings: Diversion questions - overall

Diversion approach

In order to ascertain Sainsbury's and Asda customers' diversion behaviour, a number of questions were asked about what they would do, should their petrol filling station be closed for 6 months. The questions used to derive their behaviour are illustrated in the flowchart shown in Figure 10 overleaf.

The diversion ratio at a PFS is the proportion of spend that would be diverted to the Merger Party in the event of the PFS's closure. We calculate it:

- 'Including Own Party (OP) diversion' – here we assume the PFS is closed but the Party's other PFSs, kiosks and supermarkets remain open; and
- 'Excluding OP diversion' – here we assume all of the Party's PFSs, kiosks and supermarkets are closed. Any respondents who state that they would divert to one of the other Party's PFSs, kiosks or supermarkets are therefore excluded from the denominator of the diversion ratio calculation.

The four diversion ratios used in this report are explained here:

Fuel diversion including OP

- This is the proportion of fuel spend that would be diverted to the Merger Party if the PFS was to be closed. For example, if interviewing in Pontypridd Asda PFS it is the proportion of all respondents (weighted by their spend on fuel) who said that they would divert instead to a Sainsbury's PFS.

Fuel diversion excluding OP

- The proportion of fuel spend that would be diverted to the Merger Party if all of the Party's PFSs were closed. Using our example again, if a customer interviewed at the Pontypridd Asda PFS said that they would divert to a different Asda PFS then in this calculation they would be excluded from the denominator of the diversion ratio calculation.

Fuel and supermarket spend excluding OP

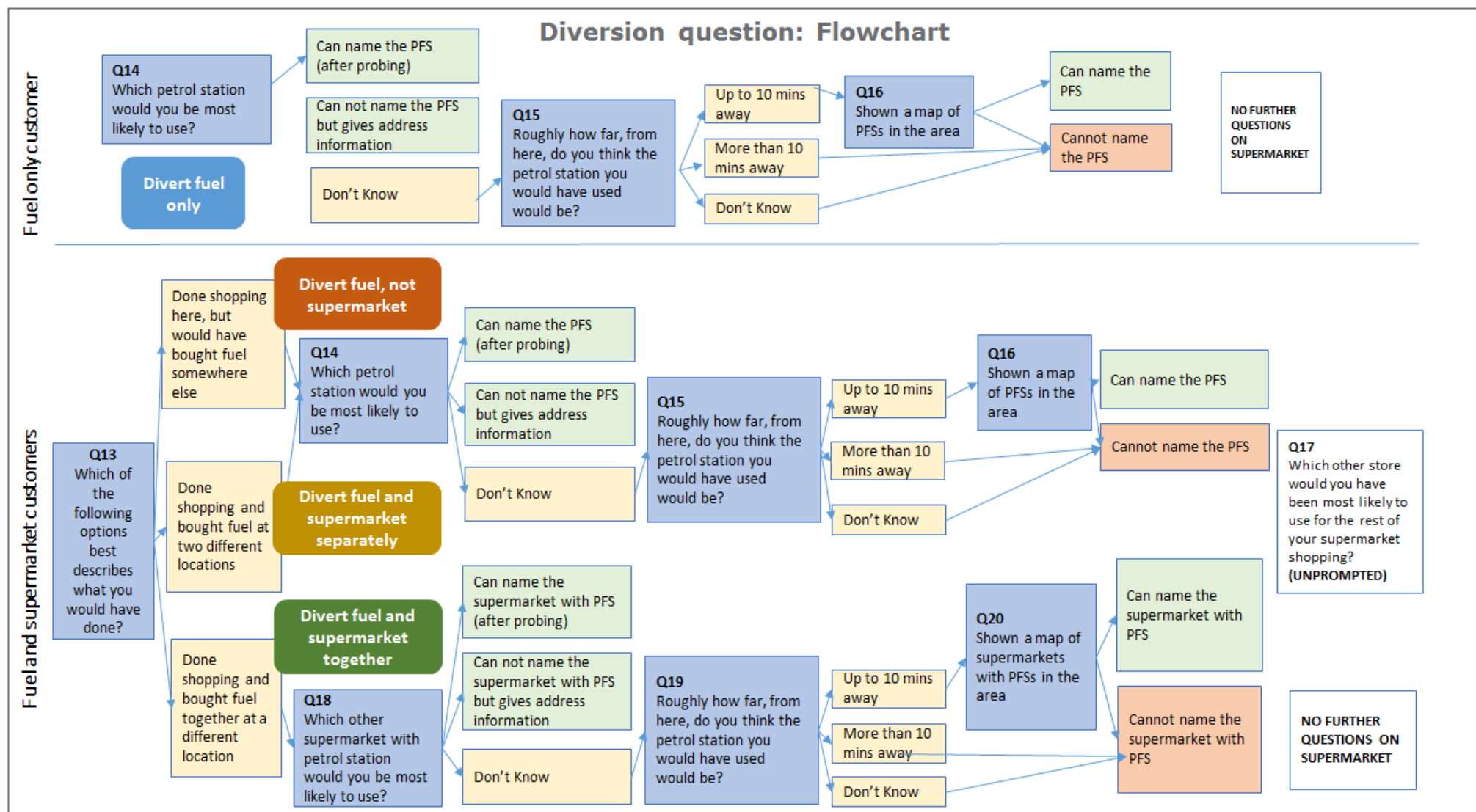
- The proportion of fuel and supermarket spend that would be diverted to the Merger Party if all of the Party's PFSs and supermarkets were closed. In our example, this would include all spending on fuel diverted to a Sainsbury's PFS and all supermarket spending diverted to a Sainsbury's supermarket. All fuel diverted to another Asda PFS, all supermarket spend diverted to another Asda supermarket and all spending still made in the Pontypridd Asda supermarket would be removed from the denominator of the diversion ratio calculation.

Fuel, kiosk and supermarket spend excluding OP

The proportion of total spend (fuel, kiosk and supermarket) that would be diverted to the Merger Party if all the Party's PFSs, kiosks and supermarkets were closed. In this case, we assume that all kiosk spend follows PFS spend, e.g. if the respondent in Pontypridd said that they had spent £30 on fuel and £5 in the kiosk then and they diverted their fuel to a Tesco PFS it was assumed that they would spend £30 on fuel at the Tesco and £5 at the Tesco kiosk. If the customer diverted to a PFS that didn't have a kiosk then the kiosk spend would be excluded from the diversion calculation.

All respondents are included in the diversion ratio calculations where OP diversions are included. The allocation of the final diversion is based on the series of questions from Q14 through Q22 based on both direct collected data and back-coding (see Figure 10). Where respondents were unable to provide a direct answer regarding diversion destinations, findings were imputed based on assumptions derived from the dataset. Please see Appendix B: Diversion Ratio Calculations for a technical description of how diversion ratios were calculated.

Figure 10: Diversion questions flowchart

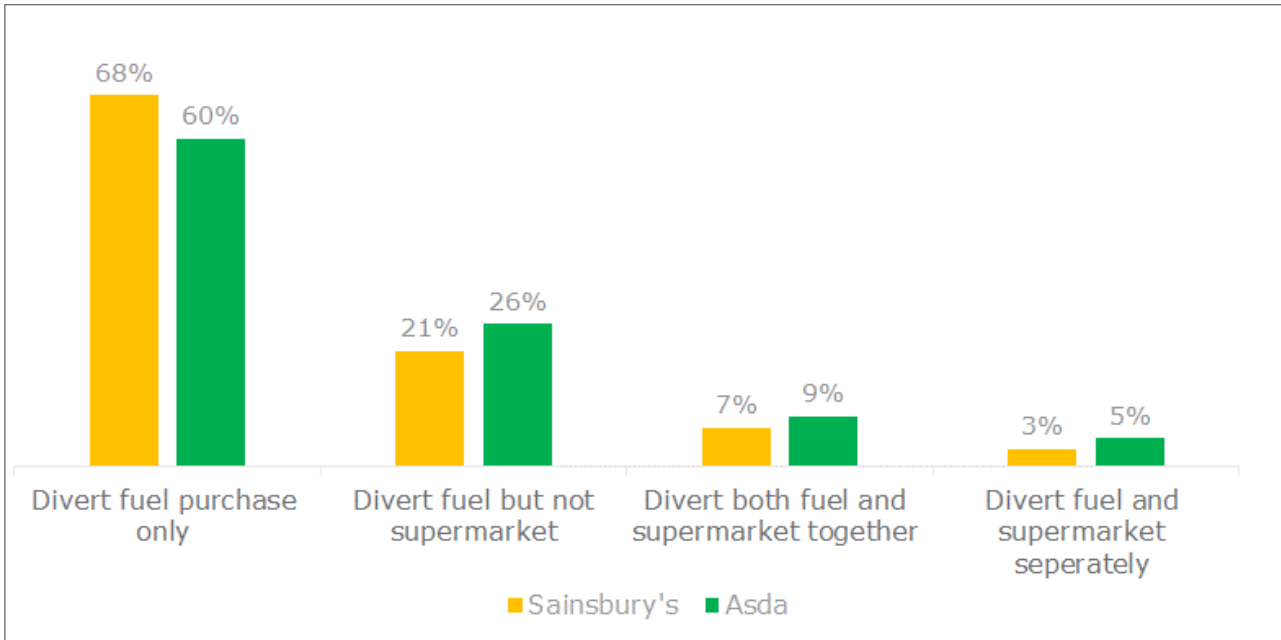


Diversion behaviour

Figure 11 shows the pattern of diversion across all customers in the survey and the break down is similar across the two brands. As most customers were there to purchase fuel only, it stands to reason that “fuel purchase only” spend accounts for the highest proportion.

A large proportion of those who were also doing a supermarket shop, stated they would divert their fuel but not their supermarket spend and this makes up for a fifth of Sainsbury’s (21%) and a quarter of Asda (26%) customers. Around a tenth would divert both their fuel and supermarket spend together to one other site and the smallest proportion stated they would divert their fuel and supermarket separately to different locations.

Figure 11 – Diversion behaviour of all customers



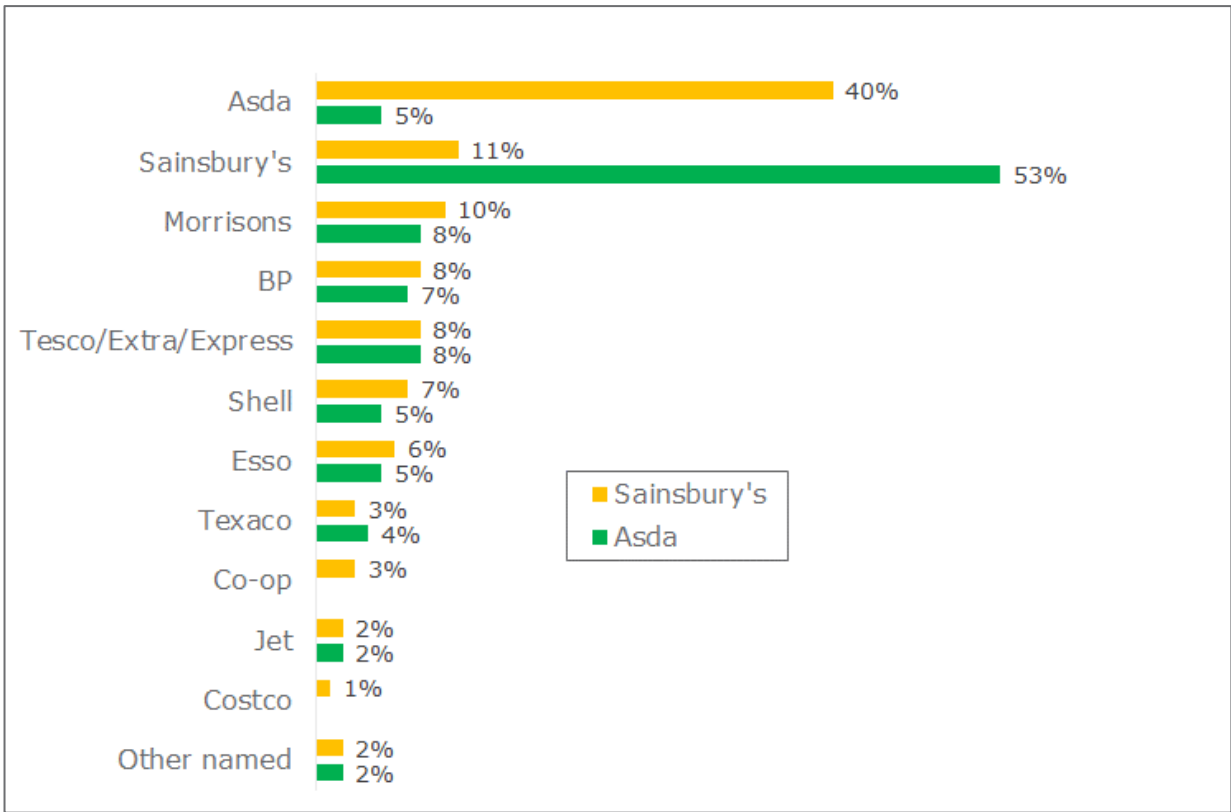
Q02 Have you, or will you, shop at the <Sainsbury’s/Asda> supermarket today? / Q13 Which of the following options best describes what you would have done? Base: All respondents, unweighted base (total 7863; Sainsbury’s 3891, Asda 3972)

Diversion behaviour: Fuel only customers, and customers who would separate fuel and supermarket spend

This group combines all customers whose choice of PFS to divert to is not tied to a choice of supermarket.

The highest proportion of both Sainsbury's and Asda customers would divert their fuel spend to the Merger Party. This is higher for Asda customers where over half (53%) would divert to a Sainsbury's PFS, compared to 40% of Sainsbury's customers diverting to Asda. Higher proportions of Sainsbury's customers would also divert to another Sainsbury's (11%) than Asda to another Asda (5%).

Figure 12 – Fuel diversion by fascia (excluding those customers diverting their fuel and supermarket spend together)

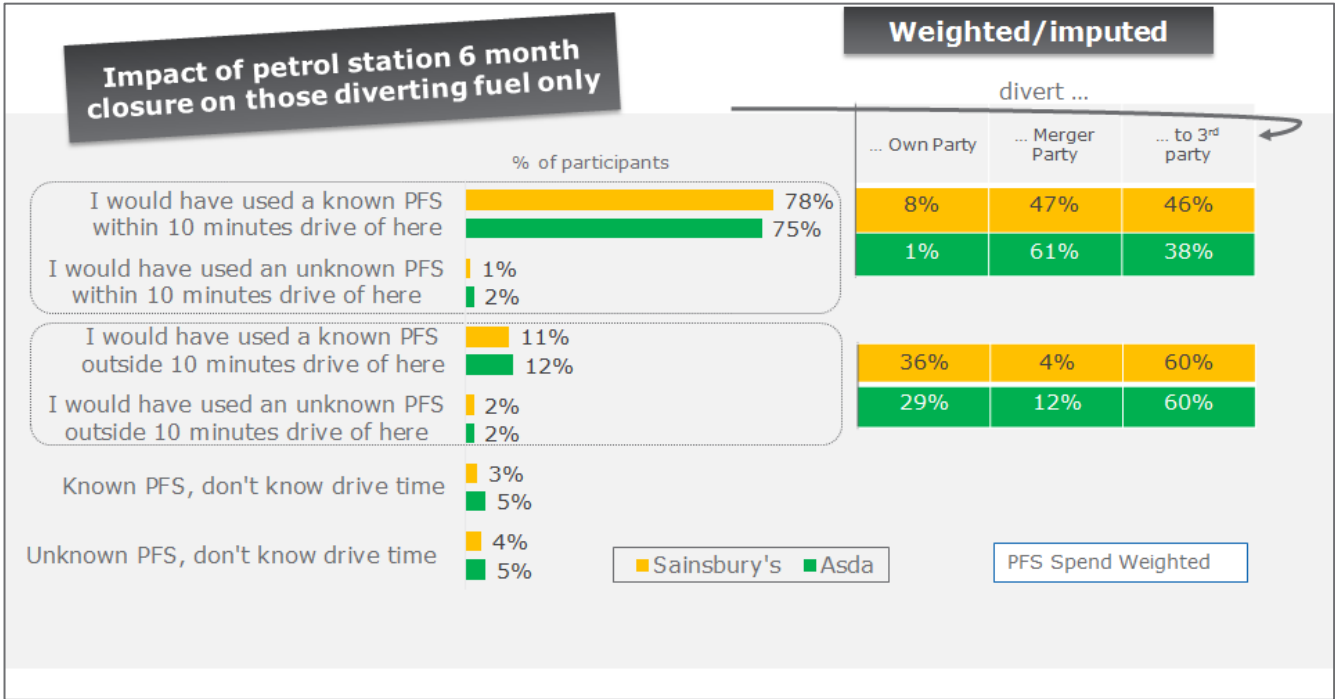


Q14 Which petrol station would you be most likely to use instead? / Q15. Roughly how far, from here, do you think the petrol station you would have used would be? / Q16. Please select from the list which one of these petrol stations would you be most likely to have visited instead? Base: All respondents where brand was known, excluding those who diverted fuel and supermarket spend together, unweighted base (total=6687; Sainsbury's 3335, Asda 3352)

Over three quarters of both Sainsbury's (79%) and Asda (77%) customers diverting their fuel only would to go a site within a 10 minute drive.

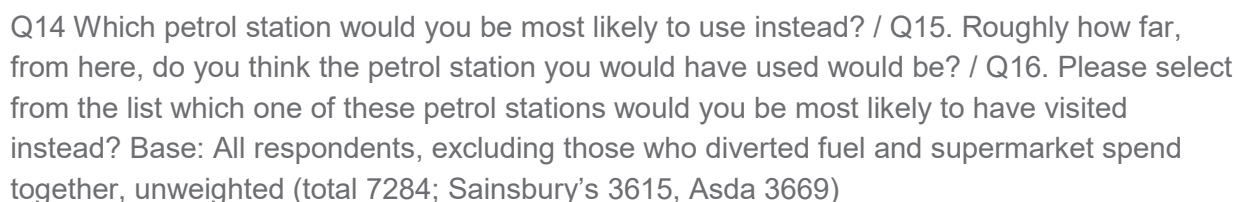
Figure 13 refers to all customers, excluding those who diverted their fuel and supermarket spend together to a different location. The figure shows their behaviour by those diverting to a PFS within and outside 10 minutes. In both circumstances, Asda PFS customers are more likely to divert their fuel spend to Sainsbury's PFSs than vice versa. The diversion ratio to Own Party PFSs is higher for customers diverting their fuel spend to a PFS outside of a 10 minute drive time.

Figure 13 – Impact of petrol station 6 month closure on those buying fuel only



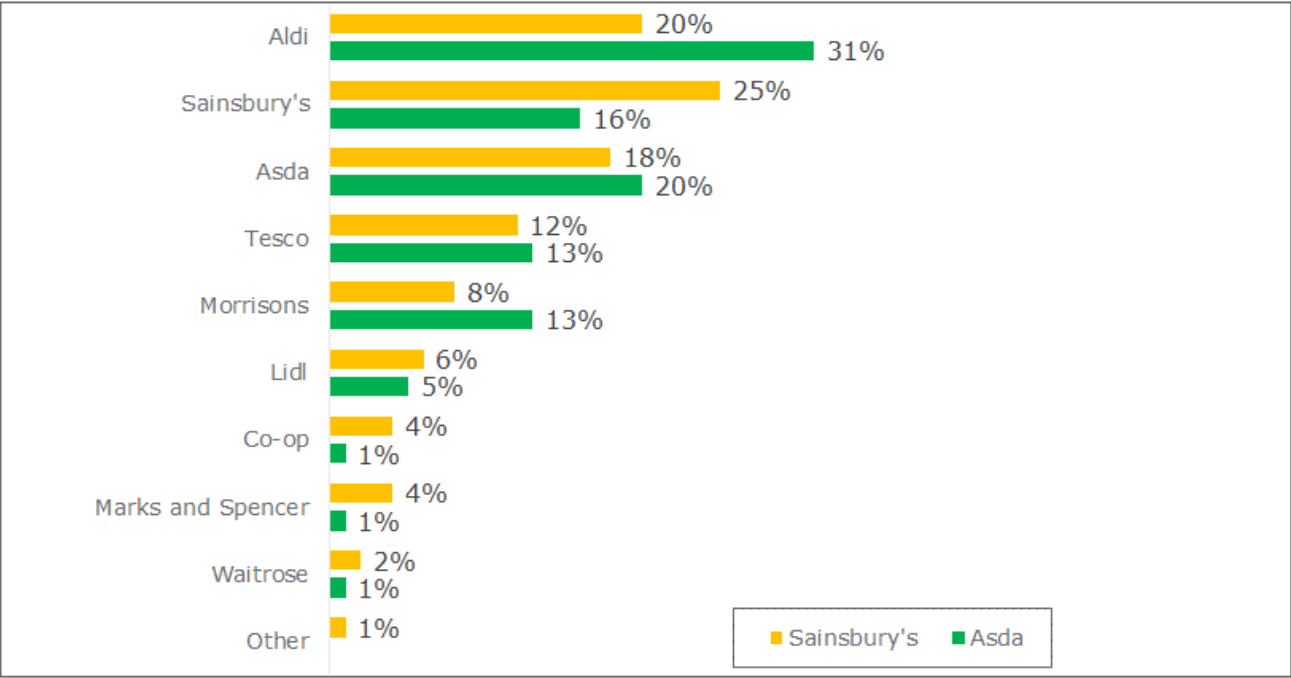
Q14 Which petrol station would you be most likely to use instead? / Q15. Roughly how far, from here, do you think the petrol station you would have used would be? / Q16. Please select from the list which one of these petrol stations would you be most likely to have visited instead? Base: All respondents, excluding those who diverted fuel and supermarket spend together, unweighted (total 7284; Sainsbury's 3615, Asda 3669)

Figure 14 – Impact of petrol station 6 month closure on those buying fuel and spending in kiosk



27

Figure 15 – Diversion to supermarket (those that divert their fuel and supermarket spend separately)

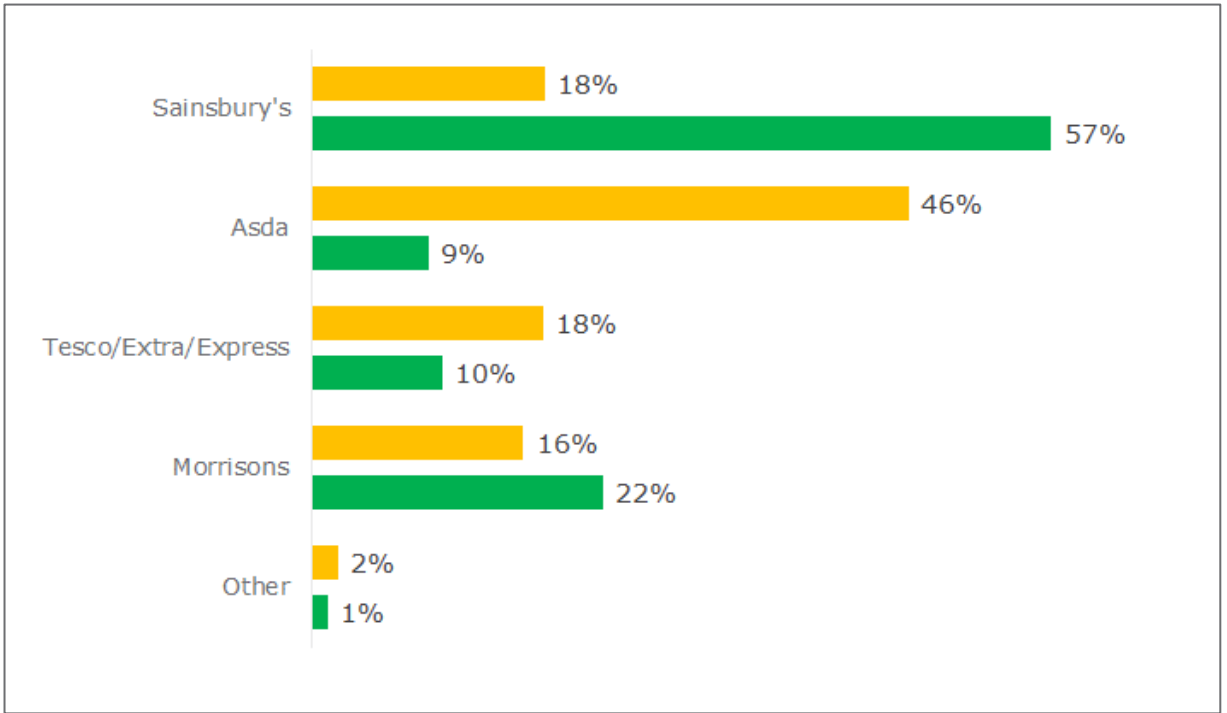


Q17 Which petrol station would you be most likely to use instead? Base: All respondents who would have diverted supermarket shopping and fuel to two different locations, unweighted base (total 264: Sainsbury's 118, Asda 146)

Diversion behaviour: Customers who would divert fuel and supermarket spend together

As with fuel only diversion, a higher proportion of Asda fuel and supermarket customers would divert to Sainsbury's than vice versa (57% compared to 46%). Tesco and Morrisons largely capture the remaining customers with a higher number of Sainsbury's customers diverting to the former and Asda's the latter (see Figure 16).

Figure 16 – Fuel and supermarket diversion by fascia (those customers diverting their fuel and supermarket spend together)

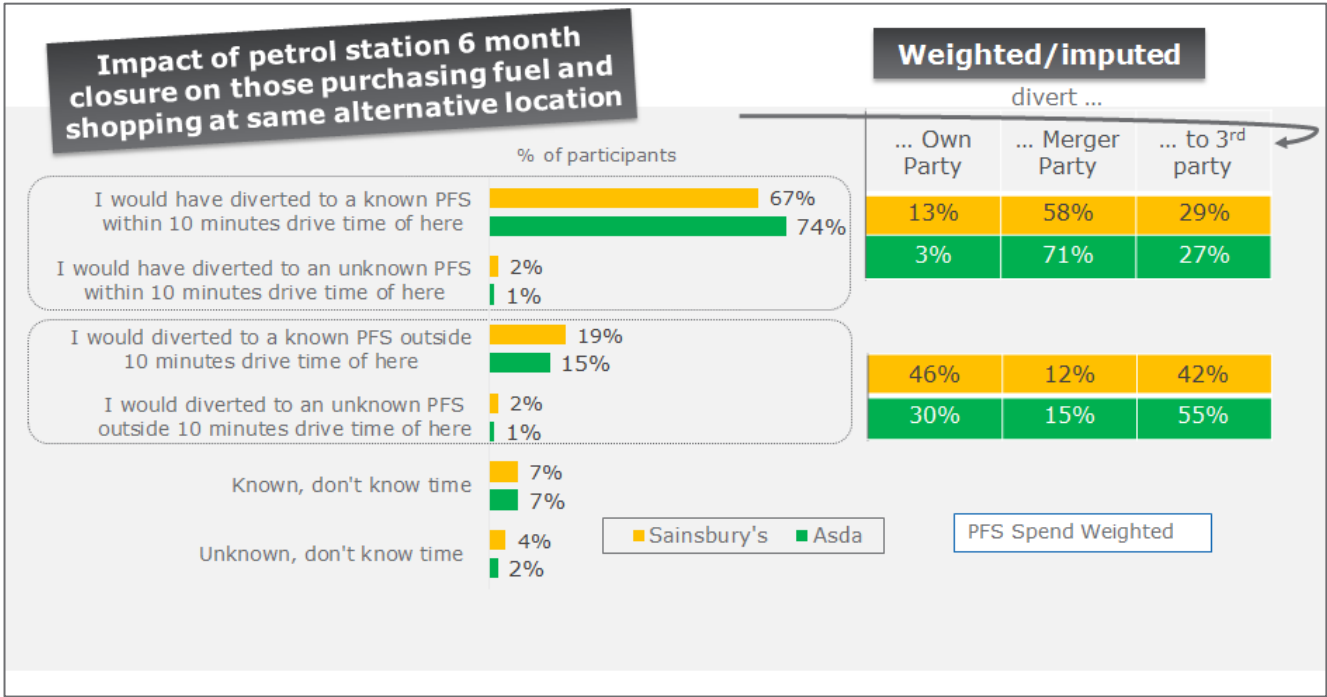


Q18 Which other supermarket with petrol station would you be most likely to use instead? / Q19. Roughly how far, from here, do you think the petrol station you would have used would be? / Q20. Here is a list of stores/stations in this area. Please select from the list which one of these petrol stations would you be most likely to have visited instead? Base: All respondents who diverted fuel and supermarket spend together to a known brand, unweighted base (total 546; Sainsbury's 255, Asda 291)

Figure 17 shows the overall behaviour for those who would divert to the same site for fuel and supermarket shopping. Most fuel + supermarket diverters would go to a PFS and supermarket that is within a 10 minute drive (69% Sainsbury's and 75% Asda customers). A higher proportion of Sainsbury's customers (21%) would divert to a location more than 10 minutes away (compared to 16% of Asda customers).

The diversion ratio to Merger Party for combined fuel and supermarket spend is higher than the diversion ratio to Merger Party for fuel spend only.

Figure 17 – Impact of petrol station 6 month closure on those purchasing fuel and shopping at the same alternative location



Q18 Which other supermarket with petrol station would you be most likely to use instead? Q19. Roughly how far, from here, do you think the petrol station you would have used would be? Q20. Here is a list of stores/stations in this area. Please select from the list which one of these petrol stations would you be most likely to have visited instead? Base: All respondents who diverted fuel and supermarket spend together, including unknown distance, unweighted base (total 579, Sainsbury's 276, Asda 303)

6. Findings: Diversion questions – by PFS

The following tables and charts show the diversion ratio (DR) results by petrol filling station. All respondents are included in the base of all four DRs and all four are spend / transaction weighted. The DRs are computed for transactions (each respondent is one customer) and for total spend, using the imputed and capped spend. Spend was capped at £100 (fuel and kiosk spend) and £150 (supermarket spend) to mitigate the impact of outliers. Please see Appendix B for further information.

The tables below show four diversion ratios:

- Fuel only spend diversion, including own party (OP) diversion
- Fuel only spend diversion, excluding own party diversion
- Combined fuel and supermarket spend diversion, excluding own party diversion
- Combined fuel, supermarket and kiosk spend diversion, excluding own party diversion

Looking at fuel spend DRs including own party diversion, DRs range from 7% (Perton) to 73% (Coleraine) for Sainsbury's and between 13% (Bristol Whiteladies) and 77% (Coleraine) for Asda customers.

Of the 16 Sainsbury's sites, the higher proportion of sites had diversion ratios of 50% or less. Five have DRs in the 1-25% range, seven in the 26-50% range and four in the 51%+ range. By contrast, the majority of Asda sites had DRs of 51%+. The 16 Asda sites break down as two (1-25%), two (25-50%) and 12 (51%+).

Table 7 – PFS diversion rations: Sainsbury's

PFS	Distance to nearest MP PFS (in minutes)	DR in fuel only spend (incl. OP)	DR in fuel only spend (excl. OP)	DR in F+S spend (excl. OP)	DR in F+S+K spend (excl. OP)
Perton	12	7%	11%	12%	11%
Washington	9	17%	23%	25%	25%
Stanway	8	23%	26%	27%	27%
Bebington	8	24%	34%	34%	32%
Emersons Green	7	25%	27%	29%	29%
Osmaston	7	26%	43%	43%	43%
Bridgewater	1	35%	38%	38%	38%
Waterlooville	1	36%	41%	40%	40%
Ashton Moss	3	37%	43%	46%	45%
Dundee	5	40%	40%	37%	37%
Crystal Peaks	2	43%	46%	46%	45%
Telford	2	46%	51%	51%	50%
Monks Cross	1	57%	58%	56%	55%
Colne	3	66%	66%	67%	66%
Grantham	3	71%	72%	73%	70%
Coleraine	3	73%	74%	73%	73%

MP=Merger Party, DR=Diversion Ratio, OP=Own Party, F=Fuel, S=Supermarket, K=Kiosk

Base: All respondents at Sainsbury's, unweighted base (3891)

Table 8 – PFS diversion ratios: Asda

PFS	Distance to nearest MP PFS (in minutes)	DR in fuel only spend (incl. OP)	DR in fuel only spend (excl. OP)	DR in F+S spend (excl. OP)	DR in F+S+K spend (excl. OP)
Bristol Whiteladies Rd	8	13%	16%	16%	16%
Bromborough	9	22%	24%	26%	26%
Nottingham	2	37%	38%	38%	38%
Keighley	2	44%	45%	43%	43%
Pontypridd	3	51%	66%	66%	67%
Chelmsford	4	52%	53%	55%	55%
Frome	5	53%	54%	54%	54%
Bridge of Dee	1	56%	68%	66%	66%
Grantham	4	57%	59%	60%	60%
Charlton	2	57%	60%	60%	60%
York	1	61%	62%	59%	59%
Wolverhampton	3	61%	63%	64%	64%
Tamworth	1	62%	69%	68%	68%
Barons Quay	1	63%	65%	65%	65%
Sinfin	7	66%	67%	66%	66%
Coleraine	3	77%	77%	77%	77%

MP=Merger Party, DR=Diversioin Ratio, OP=Own Party, F=Fuel, S=Supermarket, K=Kiosk

Base: All respondents at Asda, unweighted base (3972)

Table 9i – Top and bottom five fuel diversion ratios, including own party diversion: Sainsbury's

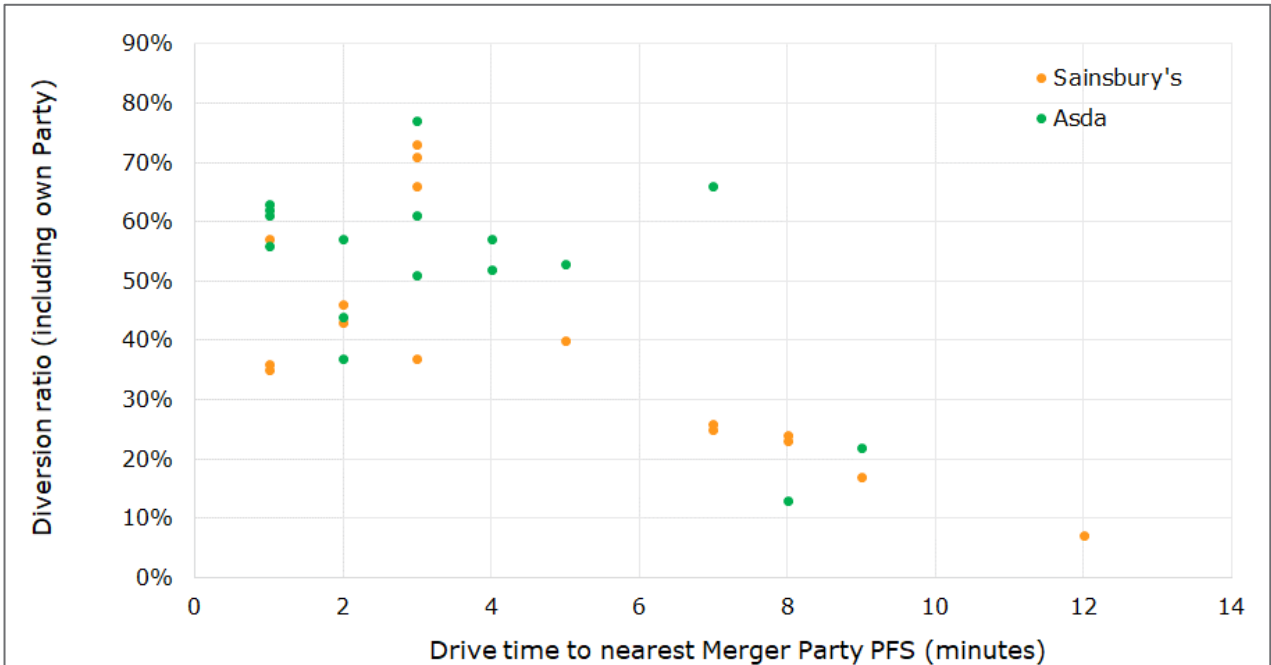
PFS	Rank	DR
Top Five		
Coleraine	1	73%
Grantham	2	71%
Colne	3	66%
Monks Cross	4	57%
Telford	5	46%
Bottom Five		
Perton	16	7%
Washington	15	17%
Stanway	14	23%
Bebington	13	24%
Emersons Green	12	25%

Table 9ii – Top and bottom 5 fuel diversion ratios, including own party diversion: Asda

PFS	Rank	DR
Top Five		
Coleraine	1	77%
Sinfin	2	66%
Barons Quay	3	63%
Tamworth	4	62%
York / Wolverhampton	5	61%
Bottom Five		
Bristol Whiteladies Rd	16	13%
Bromborough	15	22%
Nottingham	14	37%
Keighley	13	44%
Pontypridd	12	51%

Figure 18 shows the fuel diversion ratio for each PFS against the drive time to the closest Merger Party PFS. The fuel diversion ratio tends to be lower, the further away the Merger Party is.

Figure 18 – Diversion ratio of fuel vs. drive time to closest Merger Party PFS



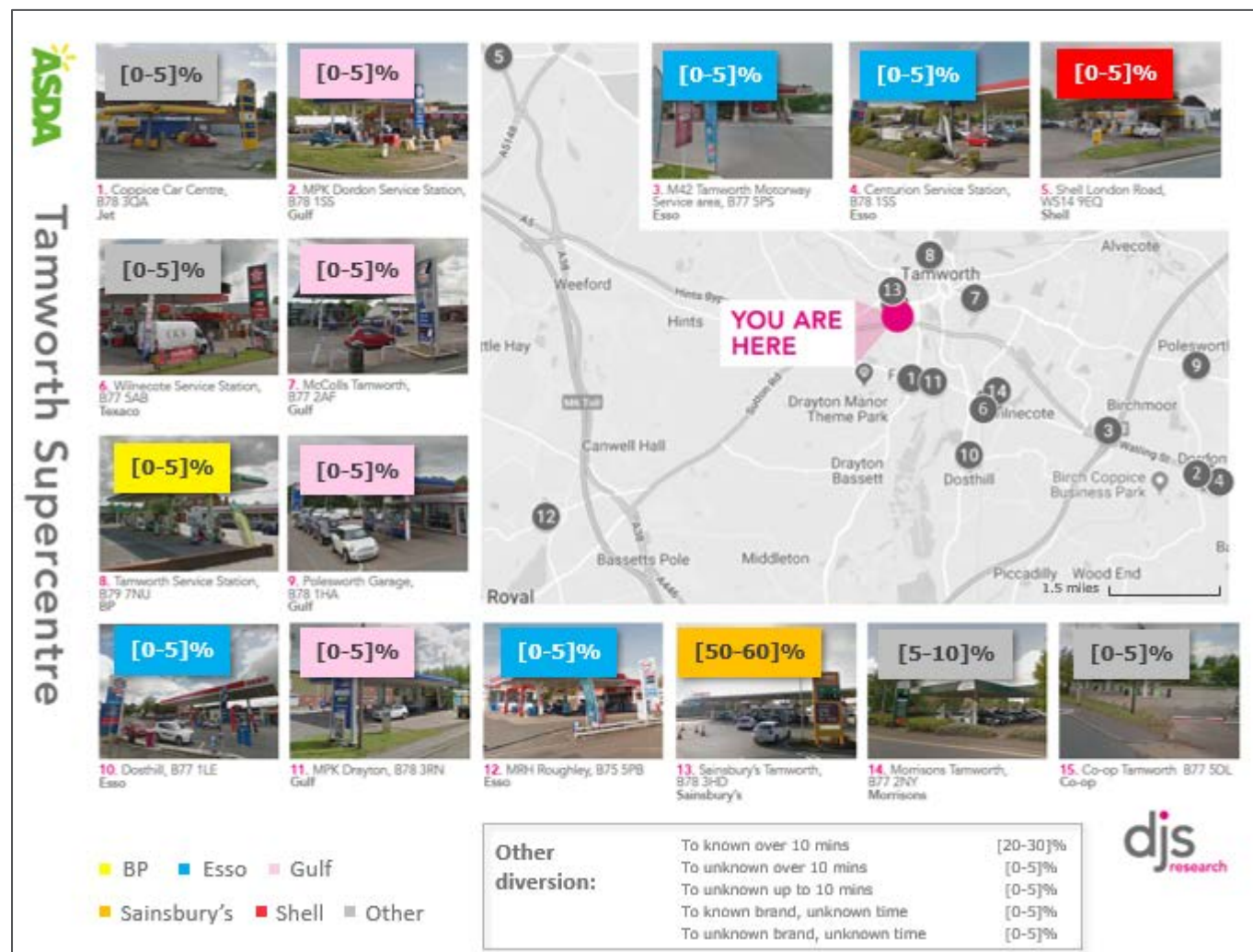
Base: All respondents, unweighted base (total 7863; Sainsbury's 3891, Asda 3972)

7. Case studies

A number of case studies have been compiled to illustrate the diversion findings (Figures 19, 20 and 21).

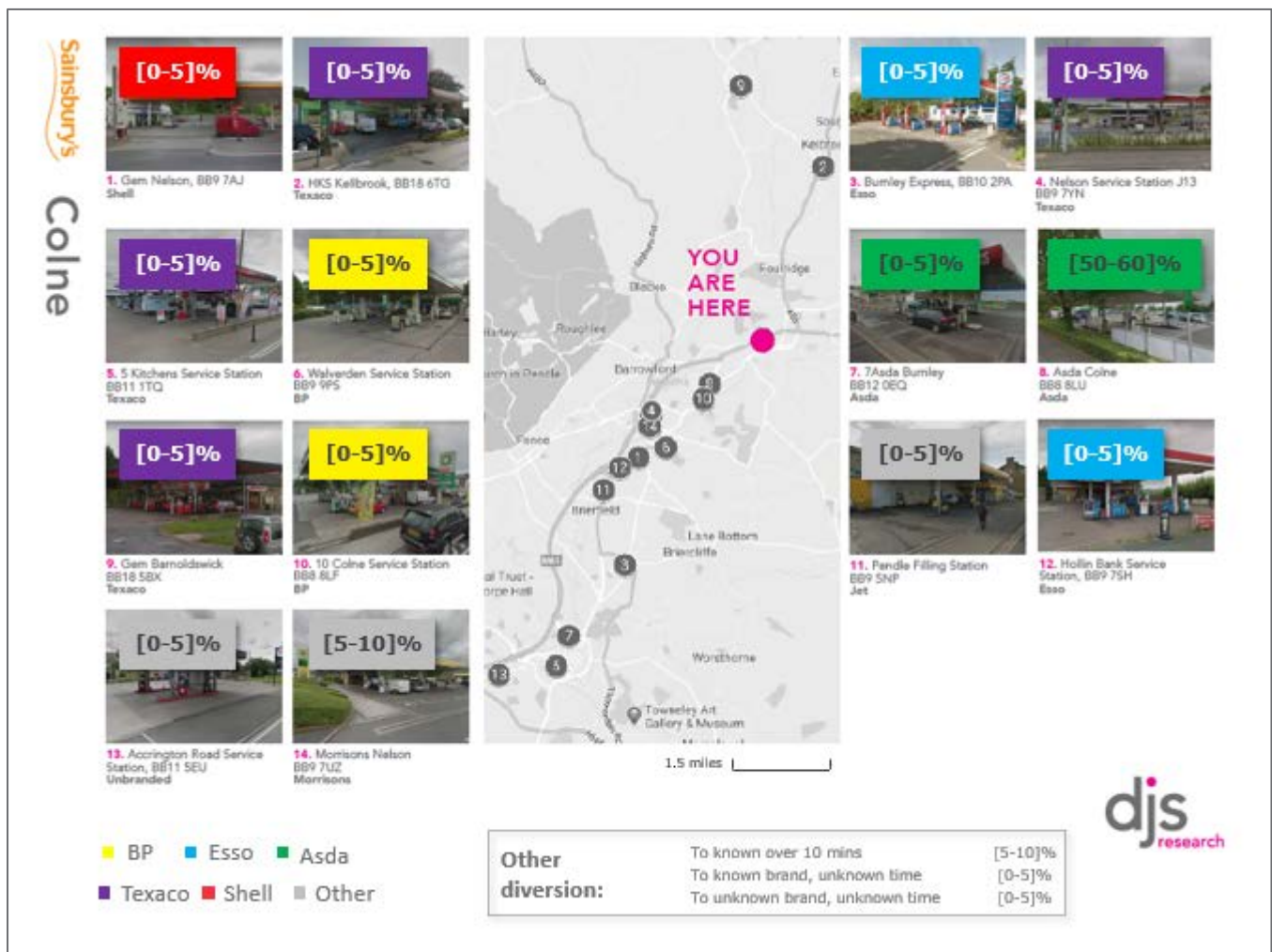
At Tamworth, three-quarters would have diverted to a known PFS within a 10 minutes' drive with the majority of these ([50-60]%) diverting to Sainsbury's, Tamworth which is the nearest PFS.

Figure 19 – Tamworth Supercentre, Asda, case study



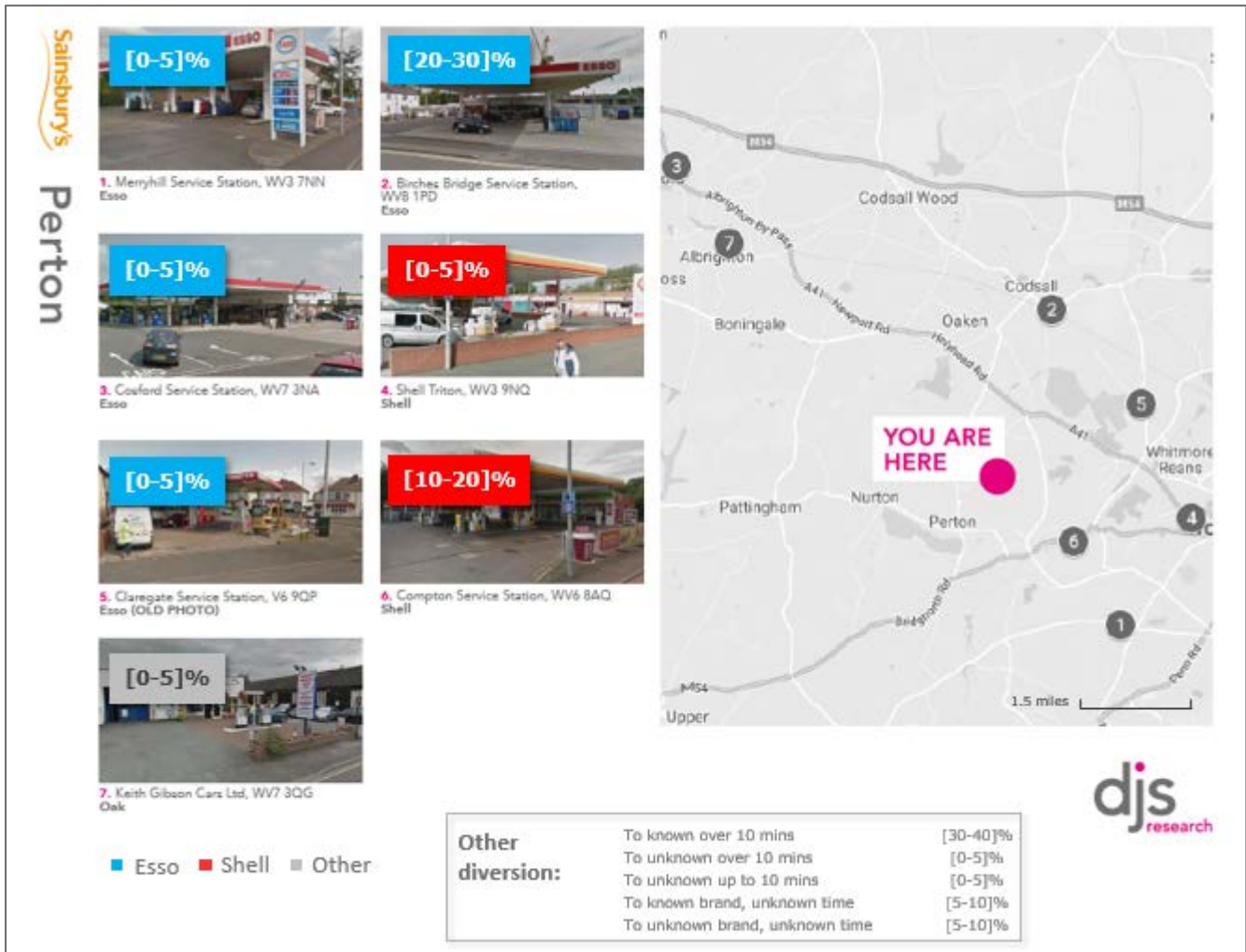
At Colne, [60-70]% stated they would divert to Asda, Colne with a further quarter ([20-30]%) diverting to another brand within 10 minutes.

Figure 20 – Colne, Sainsbury's, case study



At Perton, more often than not, customers would divert to a PFS further than 10 minutes away ([50-60]%).

Figure 21 – Perton, Sainsbury’s, case study



8. Summary and Conclusions

- The majority of customers travel **less than 10 minutes** to their PFS. Asda PFS customers have a slightly longer journey time on average.
- For approximately two thirds of Sainsbury's (71%) and Asda (65%) customers the **primary purpose of travel** is to visit the PFS, the shop or the supermarket.
- **Price** is the main reason for almost half (49%) of Asda customers in choosing the PFS, and **location** is the key reason for two-fifths (40%) in choosing a Sainsbury's PFS.
- A third (33%) of Sainsbury's PFS customers **also visit the supermarket**, compared to more than two-fifths (43%) of Asda PFS customers. Less than a fifth of customers visit the **PFS shop or kiosk**.
- Customer mean **spend on fuel** and **distribution of spend** is comparable between Sainsbury's and Asda PFSs, with **mean spends** at both Parties' PFSs at around £35 (Sainsbury's £35.10, Asda £35.64).
- A **higher proportion of Asda customers would divert to Sainsbury's** than vice versa, irrespective of whether the customer diverts fuel only, fuel and kiosk, or fuel and supermarket spend.
- There is a clear correlation between **fuel spend weighted diversion ratio** and **proximity** to nearest Merger Party PFS. Diversion ratios tend to be higher the closer the nearest Merger Party PFS.
- Over three-quarters of both Sainsbury's and Asda customers diverting their fuel only would **go to a site within a 10 minute drive**. Over two-thirds would do the same when diverting their **combined fuel and supermarket spend**.
- A quarter (25%) of Sainsbury's customers who **divert their supermarket spend to a separate location** from their diverted fuel spend, divert to another Sainsbury's. Almost a third (31%) of Asda customers divert to an Aldi. The diversion ratios to the Merger Party supermarket are 18% for Sainsbury's and 16% for Asda customers.
- There is a clear correlation between **fuel spend weighted diversion ratio** and **combined fuel, kiosk and supermarket diversion ratio**.
- The **diversion ratio to the Merger Party** is higher for customers diverting their fuel and supermarket spend together than it is for those diverting their fuel spend.

9. Appendix

Appendix A: Questionnaire

Questionnaire: CMA Asda/Sainsbury's petrol station research

I declare that this interview was carried out according to instructions, within the MRS Code of Conduct and that the respondent was not previously known to me.			
Interviewer name:		Signature:	
Date and time:		Interview Duration:	minutes
<u>Interview location - Asda:</u> ☐ Bridge of Dee Supercentre ☐ Tamworth Supercentre (unmanned) ☐ Frome (unmanned) ☐ Keighley (unmanned) ☐ Bristol Whiteladies Rd ☐ Coleraine NI ☐ Pontypridd Rhonnda ☐ Bromborough ☐ Chelmsford (unmanned) ☐ Barons quay Northwich (unmanned) ☐ Sinfen (unmanned) ☐ Nottingham (SOL) ☐ Grantham ☐ Charlton ☐ Asda's York ☐ Wolverhampton (unmanned)		<u>Interview location – Sainsbury's:</u> ☐ Colne ☐ Emersons Green ☐ Coleraine ☐ Stanway ☐ Dundee ☐ Osmaston ☐ Sainsbury's Bebington ☐ Washington ☐ Grantham ☐ Ashton Moss ☐ Waterloooville ☐ Crystal Peaks ☐ Bridgewater ☐ Telford ☐ Perton ☐ Monks Cross	
<u>Company:</u> ☐ Sainsbury's ☐ Asda			
Shift time (WRITE IN BELOW): Start time: Finish time:			

COMPLETE AFTER INTERVIEW

Participant name (Mr/Mrs/Miss/Ms/Other (specify)):

Telephone Number (inc STD Code, where applicable).....

Email
address.....
.....

Address.....
.....

Postcode.....
.....

Introduction

All non-customers:

Good morning/afternoon/evening. My name is (SHOW ID CARD)
from DJS Research Ltd, an independent market research company. Today we are
carrying out some research about petrol filling stations. Could you spare 5 minutes to
answer some questions about your visit to this petrol station?

IF YES, CONTINUE

IF NO, PLEASE RECORD THE FOLLOWING DETAILS ON A TALLY SHEET:

- Date
- Time of refusal
- Gender
- Age
- Type of vehicle

***INTERVIEWER NOTE: RECORD RESPONDENT'S DETAILS ON THE FRONT
PAGE FOR QUALITY CONTROL PURPOSES***

**IF PARTICIPANT ASKS WHO THE RESEARCH IS ON BEHALF OF, EXPLAIN
THAT THE COMPETITION AND MARKETS AUTHORITY (CMA) ARE:** a non-
ministerial department that works to promote competition for the benefit of consumers,
both within and outside the UK. The aim of the CMA is to make markets work well for
consumers, businesses and the economy.

Q01.
ASK ALL

What type of fuel did you just buy?

INTERVIEWER: PROMPT

SINGLE RESPONSE

1	Super unleaded fuel	☐	GO TO Q02
2	Unleaded fuel	☐	GO TO Q02
3	Diesel	☐	GO TO Q02
4	LPG – ASK ONLY IF SITE IS ASDA YORK	☐	THANK & CLOSE

Q02.
ASK ALL RESPONDENTS IN A PETROL STATION WITH A SUPERMARKET

Have you, or will you, shop at the <Asda/Sainsbury's> supermarket today?

INTERVIEWER: PROMPT

SINGLE RESPONSE

1	No, I am not using the supermarket today	☐
2	Yes, I have shopped at the <Asda/Sainsbury's> supermarket today	☐
3	Yes, I will shop at the <Asda/Sainsbury's> supermarket today	☐

Q03.
ASK ALL RESPONDENTS IN A PETROL STATION WITH A SHOP

Apart from fuel, have you bought any other items from the petrol station shop?

INTERVIEWER: PROMPT

SINGLE RESPONSE

1	No, I have not used the petrol station shop today	☐
2	Yes, I have bought other items	☐
3	Yes, I will buy other items	☐

Q04.**ASK ALL**

How much did you spend on fuel today?

INTERVIEWER: IF NEEDED, SUGGEST THEY LOOK AT THE TOTAL ON THEIR TILL RECEIPT

WRITE IN RESPONSE BELOW

£ _____ If >£250, GO TO Q05

85	Don't know - PROBE FOR ESTIMATE	☐
86	Refused	☐

Q05.**ASK ALL RESPONDENTS WHO GAVE RESPONSE OF >£250 AT Q04**

You have said <amount given at Q04>. Is that correct?

SINGLE RESPONSE

1	Yes	☐	GO TO Q06
2	No	☐	GO TO Q04

Q06.**ASK ALL RESPONDENTS WHO SHOPPED IN THE SUPERMARKET (SELECTED CODE 2 AT Q02)**

How much did you spend at the <Asda/Sainsbury's> supermarket today?

OPEN RESPONSE

INTERVIEWER SAY: PLEASE LOOK AT THE TOTAL ON YOUR TILL RECEIPT FOR YOUR MAIN GROCERY SHOP WITH <ASDA/SAINSBURY'S>. WE ARE NOT INCLUDING PURCHASES AT ANY CONCESSIONS <ASDA/SAINSBURY'S> MAY HAVE IN-STORE)

WRITE IN RESPONSE BELOW; ENTER AMOUNT TO THE NEAREST POUND

£ _____

85	Don't know - PLEASE PROBE FOR ESTIMATE	☐
86	Refused	☐

Q07.

ASK ALL RESPONDENTS WHO SAY THEY WILL SHOP IN THE SUPERMARKET (SELECTED CODE 3 AT Q02)

Roughly how much do you think you will spend at the <Asda/Sainsbury's> supermarket today?

OPEN RESPONSE

WRITE IN RESPONSE BELOW; ENTER AMOUNT TO THE NEAREST POUND

£ _____

85	Don't know - PLEASE PROBE FOR ESTIMATE	☐
86	Refused	☐

Q08.

ASK ALL RESPONDENTS WHO SAY THEY HAVE BOUGHT OTHER ITEMS IN THE PETROL STATION SHOP (SELECTED CODE 2 AT Q03)

How much did you spend on other items in this petrol station shop today?

INTERVIEWER: IF NEEDED, SUGGEST THEY LOOK AT THE TOTAL ON THEIR TILL RECEIPT

OPEN RESPONSE

WRITE IN RESPONSE BELOW; ENTER AMOUNT TO THE NEAREST POUND

£ _____

85	Don't know - PLEASE PROBE FOR ESTIMATE	☐
86	Refused	☐

Q09.

ASK ALL

How long did it take you to travel to this petrol station?

INTERVIEWER: RECORD IN MINUTES. IF ASKED, PLEASE RECORD TIME TAKEN FROM PREVIOUS DESTINATION (RATHER THAN START OF JOURNEY), UNLESS PREVIOUS DESTINATION WAS THE SUPERMARKET

OPEN RESPONSE

_____ MINUTES

85	Don't know - PLEASE PROBE FOR ESTIMATE	☐
----	---	--------------------------

86	Refused	☐
----	---------	--------------------------

Q010.

ASK ALL

Which of the following statements best describes your journey to <Asda/Sainsbury's> today?

INTERVIEWER: READ OUT

SINGLE RESPONSE

1	I came here specifically to use the petrol station, the shop, or the supermarket	☐
2	I am travelling somewhere else but have stopped to use the petrol station, the shop, or the supermarket	☐
80	Other (PLEASE SPECIFY; WRITE IN) _____	☐

Q011.

ASK ALL

What was the one main reason you chose to buy fuel at this petrol station, rather than at any alternative petrol station available to you?

INTERVIEWER: DO NOT READ OUT OR SHOW SCREEN.

IF SOMEONE SAYS THEY ALWAYS BUY FUEL HERE, SAY: "WHY DO YOU ALWAYS BUY FUEL HERE?" CODE AS APPROPRIATE

SINGLE RESPONSE

1	Price	☐
2	Location	☐
3	Proximity to the supermarket	☐
4	Wanted to use the petrol station shop/kiosk	☐
5	Short queues	☐
6	Other services available (eg. car wash, air/water, cash point/ATM, click and collect lockers)	☐
7	Ability to collect/redeem Nectar points – AT SAINSBURY'S SITES ONLY	☐
8	Fuel quality	☐
9	Ability to pay at pump	☐
10	Was driving past and saw it open	☐
80	Other (please specify) _____	☐

OR:

85	Don't know (SINGLE CODE)	☐
----	--------------------------	--------------------------

Q012.

ASK ALL

And why else did you choose to buy your fuel here?

INTERVIEWER: DO NOT READ OUT OR SHOW SCREEN.

PROBE AND CODE ALL THAT APPLY

DO NOT SELECT CODE ALREADY CHOSEN AT Q11; CAN INCLUDE 'OTHER' (CODE 80) EVEN IF SELECTED AT Q11

1	Price	☐
2	Location	☐
3	Proximity to the supermarket	☐
4	Wanted to use the petrol station shop/kiosk	☐
5	Short queues	☐
6	Other services available (eg. car wash, air/water, cash point/ATM, click and collect lockers)	☐
7	Ability to collect/redeem Nectar points – ASK AT SAINSBURY'S SITES ONLY	☐
8	Fuel quality	☐
9	Ability to pay at pump	☐
10	Was driving past and saw it open	☐
80	Other (please specify)	☐

OR:

87	No other reason (SINGLE CODE)	☐
----	-------------------------------	--------------------------

Diversion

ASK ALL

INTERVIEWER READ OUT:

Now, imagine that, before starting your journey today, you learned that this petrol station [and shop] was closed for refurbishment for six months **[TO THOSE CODING 2 OR 3 AT Q2** (but the (ASDA/Sainsbury's) supermarket remained open)].

Q013.

BASE: ALL RESPONDENTS SHOPPING AT THE SUPERMARKET (THOSE WHO SELECTED CODE 2 OR 3 AT Q02)

Which of the following options best describes what you would have done?

INTERVIEWER: READ OUT

SINGLE RESPONSE

1	I would still have done my supermarket shopping here, but I would have bought fuel somewhere else	☐	GO TO Q14
2	I would have done my supermarket shopping and bought fuel at two different locations	☐	GO TO Q14
3	I would have done my supermarket shopping and bought fuel together at a different location	☐	GO TO Q18

Q014.

ASK ALL RESPONDENTS AT A SITE WITHOUT A SUPERMARKET OR NOT USING THE SUPERMARKET (THOSE WHO SELECTED CODE 1 AT Q02 OR THOSE WHO SELECT CODE 1 OR 2 AT Q13)

Which petrol station would you be most likely to use instead?

*INTERVIEWER: DO NOT PROMPT, PROBE TO IDENTIFY PETROL STATION
DO NOT SHOW PRE-CODED LIST OR MAP TO RESPONDENTS.*

WRITE IN THE DETAILS OR DESCRIPTION OF ANY PFS MENTIONED BUT NOT ON THE PRE-CODED LIST.

Code	Answer list	Scripting notes	Routing
1	Open, WRITE IN NAME OF PETROL STATION _____ _____ _____ _____	☐	IF CODED Q13=2 GO TO Q17 IF NOT USING THE SUPERMARKET (Q2=1 OR Q13=1) GO TO Q21
85	Don't know	☐	Q15

Q015.**ASK ALL WHO SAY DON'T KNOW (CODE 85) AT Q14**

Roughly how far, from here, do you think the petrol station you would have used would be?

INTERVIEWER: READ OUT

SINGLE RESPONSE

1	0-5 minutes away	☐	Q16
2	5-10 minutes away	☐	Q16
3	10-15 minutes away	☐	GO TO Q17 IF CODED Q13=2 GO TO Q21 IF NOT USING THE SUPERMARKET (Q2=1 OR Q13=1)
4	15-20 minutes away	☐	GO TO Q17 IF CODED Q13=2 GO TO Q21 IF NOT USING THE SUPERMARKET (Q2=1 OR Q13=1)
5	20-25 minutes away	☐	GO TO Q17 IF CODED Q13=2 GO TO Q21 IF NOT USING THE SUPERMARKET (Q2=1 OR Q13=1)
6	More than 25 minutes away	☐	GO TO Q17 IF CODED Q13/2 GO TO Q21 IF NOT USING THE SUPERMARKET (Q2=1 OR Q13=1)
85	Don't know	☐	GO TO Q17 IF CODED Q13/2 GO TO Q21 IF NOT USING THE SUPERMARKET (Q2=1 OR Q13=1)

Q016.**ASK ALL WHO SELECTED CODE 1 OR 2 AT Q15**

Here is a list of petrol stations in this area. Please select from the list which **one** of these petrol stations would you be most likely to have visited instead?

INTERVIEWER: SHOW LIST OF PETROL STATIONS AND SHOWCARD OF MAP

SINGLE RESPONSE, OPEN RESPONSE

1	Open, ENTER NAME OF PETROL STATION_____	☐	IF CODED Q13=2 GO TO Q1 IF NOT USING THE SUPERMARKET (Q2=1 OR Q13=1) GO TO Q21
8	None of the above	☐	IF CODED Q13=2 GO TO Q17 IF NOT USING THE SUPERMARKET (Q2/1 OR Q13/1) GO TO Q21
8	Don't know	☐	IF CODED Q13=2 GO TO Q17 IF NOT USING THE SUPERMARKET (Q2=1 OR Q13=1) GO TO Q21

Q017.

ASK ALL RESPONDENTS WHO HAVE DONE THEIR SUPERMARKET SHOP AND BOUGHT FUEL (SELECTED CODE 2 AT Q13)

And which other store would you have been most likely to use for the rest of your supermarket shopping?

INTERVIEWER: DO NOT READ OUT

SINGLE RESPONSE, OPEN RESPONSE

1	Aldi	☐	GO TO Q21
2	Asda	☐	GO TO Q21
3	Co-op	☐	GO TO Q21
4	Lidl	☐	GO TO Q21
5	Marks and Spencer	☐	GO TO Q21
6	Morrisons	☐	GO TO Q21
7	Sainsbury's	☐	GO TO Q21
8	Tesco	☐	GO TO Q21
9	Waitrose	☐	GO TO Q21
80	Other	☐	GO TO Q21
85	Don't know	☐	GO TO Q21

Q018.

ASK ALL RESPONDENTS WHO WOULD DO THEIR SUPERMARKET SHOP AND BOUGHT FUEL AT A DIFFERENT LOCATION (SELECTED CODE 3 AT Q13)

Which other supermarket with petrol station would you be most likely to use instead?

INTERVIEWER: DO NOT PROMPT

PROBE TO IDENTIFY THE STORE/STATION

DO NOT SHOW LIST OF PETROL STATIONS AND MAP TO RESPONDENTS

SINGLE RESPONSE, OPEN RESPONSE

1	Open, ENTER NAME OF PETROL STATION	☐	GO TO Q21
---	------------------------------------	--------------------------	-----------

85	Don't know	☐	GO TO Q19

Q019.

ASK ALL RESPONDENTS WHO SAID DON'T KNOW (CODE 85) AT Q18

Roughly how far, from here, do you think the petrol station you would have used would be?

INTERVIEWER: READ OUT

SINGLE RESPONSE

1	0-5 mins away	☐	GO TO Q20
2	5-10 mins away	☐	GO TO Q20
3	10-15 mins away	☐	GO TO Q21
4	15-20 mins away	☐	GO TO Q21
5	20-25 mins away	☐	GO TO Q21
6	More than 25 mins away	☐	GO TO Q21
85	Don't know	☐	GO TO Q21

Q020.

ASK ALL SELECTING CODE 1 OR 2 AT Q19

Here is a list of stores/stations in this area. Please select from the list which one of these petrol stations would you be most likely to have visited instead?

INTERVIEWER: SHOW LIST OF STORES AND SHOWCARD OF MAP

SINGLE RESPONSE, OPEN RESPONSE

Code	Answer list	Scripting notes	Routing
1	Open, ENTER NAME OF PETROL STATION _____ _____	☐	GO TO Q21

87	None of the above	☐	GO TO Q21
85	Don't know	☐	GO TO Q21

Q021

ASK ALL SAINSBURY'S ONLY

When you bought fuel today, did you use a Nectar Card?

SINGLE RESPONSE

1	Yes	☐
2	No	☐

Q022

ASK ALL

Respondent's gender

INTERVIEWER: PLEASE RECORD GENDER, DO NOT ASK

SINGLE RESPONSE

1	Male	☐
2	Female	☐
85	Other	☐

Q023

ASK ALL

Which of the following age bands do you fall into?

INTERVIEWER: READ OUT

SINGLE RESPONSE

1	16-24	☐
2	25-34	☐
3	35-44	☐
4	45-54	☐
5	55-64	☐
6	65-74	☐
7	75+	☐
86	Refused	☐

Q024**ASK ALL**

Please can we have your postcode?

INTERVIEWER: PLEASE REASSURE RESPONDENT THIS IS FOR ANALYSIS PURPOSES ONLY.

IF RESPONDENT REFUSES, TRY TO GET AS MUCH OF POSTCODE AS POSSIBLE – REMIND THEM THAT THIS IS FOR ANALYSIS PURPOSES ONLY

SINGLE RESPONSE

1	Enter postcode WRITE IN _____	☐
85	Don't know	☐
86	Refused	☐

Q025**ASK ALL**

Vehicle type

INTERVIEWER: PLEASE CODE VEHICLE TYPE

SINGLE RESPONSE

1	Motorbike / moped	☐
2	Car (not taxi)	☐
3	Taxi	☐
4	Van/minibus	☐
5	Lorry / HGV / Bus	☐
80	Other	☐
85	Don't know	☐

Q026**ASK ALL**

As part of our quality checking process we contact a proportion of people to check you were interviewed in a friendly and professional manner. Would you be happy for DJS Research to contact you on this basis? Your data will be securely stored by DJS Research only for as long as is necessary and up to a maximum of 6 months. Your data will be used for quality checks only and will not be shared with any third parties.

PLEASE WRITE IN DETAILS IF RESPONDENT AGREES; OTHERWISE PLEASE
TICK REFUSED

1	Name WRITE IN _____	☐	
2	Email address WRITE IN _____	☐	
3	Telephone number WRITE IN _____	☐	
86	Refused (SINGLE RESPONSE)	☐	THANK AND CLOSE

Thank and close

INTERVIEWER SAY: *Thank you very much for your time. It is really appreciated by DJS Research.*

Give out thank you card.

Ensure participant details are recorded on the front page for quality control purposes.

CLOSE

Appendix B: Diversion Ratio Calculations and Weighting

Fuel Diversion Ratios

The allocation of the final diversion is based on the series of questions from Q14 through to Q22 based on both direct collected data and back-coding.

The final brand of diversion is coded as:

- P = diversion to own party (for example a respondent at an Asda PFS who will divert to another Asda)
- M = diversion to Merger Party (for example a respondent at an Asda PFS who will divert to Sainsbury's)
- T = third party diversion (where a respondent has identified a specific PFS belonging to a third party or a non-specified branded PFS)
- DK10 = unsure, vague or don't know where they would divert to, but give a distance of no more than 10 mins drive time
- DK10PLUS = unsure, vague or don't know where they would divert to, and give a distance of more than 10 mins drive time
- DKDK = unsure, vague or don't know where they would divert to, and are unable to give a drive time.

In addition, two respondents identified dual PFSs they would divert to. In these cases, the diversion was proportioned 50% to each of the named sites.

This resulted in the following breakdown:

DIVERSION	Whole sample (N = 7,863)
Own party	8.7%
Merger party	41.0%
Third party	42.3%
DK10	1.5%
DK10plus	2.0%
DKDK	4.5%

Why take the “distance willing to travel” into account?

The respondents who are unsure, vague or don't know where they would divert to, but offer a journey time, were coded differently to respondents who are unsure, vague or

don't know where they would divert to, and don't offer a journey time. This is due to the diversion behaviour being very different for respondents willing to travel further than 10 minutes than those who would not be willing to travel further than 10 minutes.

The proportions of going to a Merger Party were clearly very different for these two groups of respondents.

DIVERSION TO:	Up to 10 mins (N = 5,979)	More than 10 mins (N = 949)
Own party	4%	37%
Merger party	53%	9%
Third party	43%	54%

The base is all respondents who provided a named or identifiable PFS. Respondents who did not know the name of the PFS, but stated it would be up to 10 mins or greater than 10 mins away are excluded from the base as they did not identify an own party, merger party or third party PFS

For 8% of respondents who gave an unsure/vague/don't know response (N=629) the diversion was assigned proportionally within each PFS to match the proportion in PFS as follows:

Don't knows	Proportions assigned
DK10	Assign proportionally to the respondents who named a PFS which was within 10 mins drive time – defined by the drive time associated with that CAT code
DK10plus	Assign proportionally to the respondents who named a PFS which was greater than 10 mins drive time – defined by the drive time associated with that CAT code
DKDK	Assign proportionally to the respondents who named a PFS (both named store plus generic code e.g. 'another Asda' etc) across all drive times considered

The DR for all PFSs are considered, for ASDA (Net: weighted for PFS transaction), and for Sainsbury's (Net: weighted for PFS transaction).

The DRs are computed for transactions (each respondent is one customer) and for total spend (using the imputed and capped spend).

The DRs are shown including own party diversion and also excluding own party diversions, e.g. respondents at an Asda PFS and diverting to a different Asda are excluded from the DR (both from the numerator and the denominator).

DR formula including own party diversions:

$$\frac{\sum M + \sum DK10 * \left(\frac{\sum M_{10}}{\sum P_{10} + \sum M_{10} + \sum T_{10}} \right) + \sum DK10PLUS * \left(\frac{\sum M_{10+}}{\sum P_{10+} + \sum M_{10+} + \sum T_{10+}} \right) + \sum DKDK * \left(\frac{\sum M}{\sum P + \sum M + \sum T} \right)}{(\sum P + \sum M + \sum T + \sum DK10 + \sum DK10PLUS + \sum DKDK)}$$

DR formula excluding own party diversions:

$$\frac{\sum M + \sum DK10 * \left(\frac{\sum M_{10}}{\sum M_{10} + \sum T_{10}} \right) + \sum DK10PLUS * \left(\frac{\sum M_{10+}}{\sum M_{10+} + \sum T_{10+}} \right) + \sum DKDK * \left(\frac{\sum M}{\sum M + \sum T} \right)}{(\sum M + \sum T + \sum DK10 + \sum DK10PLUS + \sum DKDK)}$$

Kiosk Diversion

Non-fuel transactions at a kiosk or shop associated to the PFS 'follow' the fuel diversion in all cases apart from instances where the diversion PFS does not have a kiosk or associated shop.

In total, 26% of all kiosk transactions (n =242) are diverted to a PFS with no kiosk.

A kiosk spend/transaction that is diverted to a PFS without a kiosk or associated shop is excluded from the calculations. Kiosk purchases are often impulse purchases or convenience purchases, which could be diverted to a wide range of other retail outlets, e.g. a local shop, supermarket or service station. The rationale therefore is that one cannot assume that the kiosk spend would be diverted to a different/separate PFS with kiosk.

The rules relating to allocation of kiosk spend are shown below:

Scenario	Description
Kiosk transaction and known PFS WITH kiosk	Kiosk spend/transaction 'follows' the diversion of the fuel.
Kiosk transaction and known PFS WITHOUT kiosk	Kiosk spend/transaction is removed from the calculations. This is because we cannot be certain that spend at kiosk would transfer to another PFS with kiosk.
Kiosk transaction and unknown PFS	For those who did not know where they would divert to, a proportion of the kiosk spend/transaction is assigned as diverting to an unknown PFS with a kiosk and the rest to an unknown PFS without a kiosk. The assignment is in line with known proportions taking travel time into account. The second step is to proportion the spend assigned to a PFS with a kiosk in line with known OP (with kiosk), MP (with kiosk) and TP (with kiosk) proportions.

We are able to assign kiosk spend diversion and also diversions for the combined kiosk PLUS fuel spend/transaction.

Please note that thirteen PFS sample sites did not have a kiosk. In these sites, no kiosk spend is recorded and the DRs for the combined fuel and kiosk spend/transaction are identical to fuel only DRs.

Supermarket Diversion

In order to assess where the supermarket transaction/spend would divert, additional information about respondents' intentions relating to their supermarket shop was collected.

Where relevant, respondents were asked if they would continue to do their supermarket shop at the affiliated store in close proximity to the site of the PFS. Please note that three PFS did not have an affiliated supermarket in close proximity.

Respondents who shopped or planned to shop at the affiliated supermarket immediately before or after their visit to the PFS, were asked if they would continue to shop at the supermarket affiliated to the PFS, if they would shop at the same location

as the diverted fuel spend, i.e. the supermarket spend follows the fuel spend, or if they would divert the supermarket spend to another third location, and if so to which store this would be.

This line of questioning allows the supermarket transaction/spend to be classified into spend at own party, spend with merger party, spend with third party or don't know.

Two thirds of respondents (66%) who had shopped or planned to shop at the supermarket in close proximity to the PFS stated that they would have continued to shop at the affiliated supermarket, while diverting their fuel purchase to a different site. In these instances, the supermarket spend is treated as own party diversion.

In a small number of cases, the respondent stated that they would divert their supermarket shop to the site of their diverted fuel purchase, but the named diverted PFS did not have an affiliated supermarket on site. For example, the respondent named the diverted PFS as BP (in 4 cases) or Shell (in 17 cases). For the DR calculations, these cases are coded as known diversion for PFS but the intended supermarket is treated as 'don't know' and dealt with in the same way as other don't knows.

The rules relating to allocation of supermarket spend are shown below:

Scenario	Description
Still shop at the supermarket affiliated to the PFS	The diversion is own party
Switch to a different location which would be the same as the fuel spend location	Supermarket spend/transaction follows the fuel spend/transaction
Switch to a third location different to the fuel spend location	Assign own party, merger party and third based on the data collected (Q17) relating to the brand. 11 cases are identified as 'don't know' which are proportioned in relation to the overall location proportions for own party, merger party and third party sites
Switch to a different PFS location which is not a supermarket branded PFS	Supermarket spend/transaction coded as don't know

Technical details on weighting and the treatment of spend data

Spend was recorded at the start of the interview, just minutes after purchase. Respondents were encouraged to check receipts if unsure, and the actual spend was recorded to the nearest £. Some spend is therefore recorded as £0 where spend was less than 50p.

The following table provides an insight into mean, standard deviation, minimum, maximum and median values for fuel, supermarket and kiosk spends.

All spend data	Mean	Standard Deviation	Minimum	Maximum	Median
Fuel spend	£35.4	£19.0	£1	£267	£30
Supermarket spend combined (both purchased and planned purchase)	£36.9	£33.4	£0	£320	£30
Kiosk spend	£5.1	£9.3	£0	£85	£2

Fuel spend ranged from £1 to £267 with a mean spend of £35.40. Further investigation of the fuel spend revealed that 13 transactions were identified as **outlier values** (greater than three times the mean transaction value) and a cap of £100 for fuel spend was applied.

Thirty-nine percent (n=2610) of respondents at PFSs with an affiliated supermarket in close proximity had shopped or would be shopping at the affiliated supermarket immediately before or after the PFS visit. Please note that three PFSs did not have an affiliated supermarket in close proximity. Actual supermarket spend, i.e. the transaction had taken place prior to PFS visit (n=1809) and planned supermarket spend (n=801), i.e. the transaction was to take place after PFS visit, were combined to create a combined supermarket spend. The combined supermarket spends ranged from £0 to £320 with a mean £36.90. Investigation of the supermarket spend revealed that 24 transactions were identified as outlier values (using the cap derived from the supermarket exit interview survey conducted by Kantar) and a cap of £150 for combined supermarket spend was agreed.

In total, 943 respondents made or planned to make a purchase at the kiosk or shop affiliated to the PFS, representing 20% of all respondents at PFSs with an on-site kiosk. Kiosk spend ranged from £0 to £85 with a mean spend of £5.10 and a median of £2. No cap was applied to the kiosk spend.

The following table provides an insight into mean, standard deviation, minimum, maximum and median values for capped fuel, supermarket and kiosk spend data.

Capped data	Mean	Standard Deviation	Minimum	Maximum	Median
Fuel spend	£35.4	£18.5	£1	£100	£30
Supermarket spend combined (both purchased and planned purchase)	£36.3	£30.6	£0	£150	£30
Kiosk spend	£5.1	£9.3	£0	£85	£2

In addition to outlier values, there are also a small number of **missing data points**, where respondents have given a 'don't know' response for spend. Although these numbers are very small, there is a need to impute the data for respondents to ensure a completeness of data.

The following table provides an insight into the total number of missing spend data points for each category of spend.

Missing data	Respondents (% of sample)
Fuel spend	N=29 (0.37%)
Supermarket spend combined (both purchased and planned purchase)	N=40 (1.61%)
Kiosk spend	N=4 (0.45%)

A series of statistical tests¹ were conducted to compare the effects of PFS, type of vehicle, fuel choice etc. on spend.

Fuel spend varies significantly by PFS ($F(31, 8702)=9.88$ $p<0.001$) and by fuel type ($F(2, 8731)=347.2$ $p<0.001$). The N=29 missing fuel spends were imputed using a simple mean replacement by PFS and fuel type.

¹ One-way Analyses of Variance (ANOVA)

Supermarket spend varies significantly by PFS ($F(28, 2415)=3.3$ $p<0.001$) and by day of week ($F(6, 2437)=3.92$ $p=0.001$). Friday/Saturday shops were more likely to have a higher basket spend than weekday shopping. The N=40 missing supermarket spends were imputed using a simple mean replacement by PFS and day of week.

Kiosk spend varies significantly by PFS ($F(18, 859)=3.5$ $p<0.001$). The N=4 missing values were imputed using a simple mean replacement by PFS.

The individual values imputed for each of the three categories of spend were listed and examined and visual inspections confirm that no extreme or unusual values were imputed.

The final spend summary is shown in the table below.

Final spend figures – capped and imputed – whole sample	Mean	Standard Deviation	Minimum	Maximum	Median
Fuel spend	£35.37	£18.48	£1	£100	£30.00
Supermarket spend combined (both purchased and planned purchase)	£36.31	£30.41	£0	£150	£30.00
Kiosk spend	£5.13	£9.23	£0	£85	£2.00

Weighting

To determine which factors are necessary for weighting the data, the individual impacts of potential weighting factors were examined, i.e. party (Asda/Sainsbury's), individual PFS, time of day, day of week.

Focusing first on the likelihood of switching to a Merger Party PFS from within the sample of respondents who can identify a PFS that they would switch to (either in Q14 or Q16 or Q18 or Q20 – that is, either unprompted or using a list/map of potential competitors), the likelihood to switch to a Merger Party PFS is significantly different for customers at Sainsbury's (38%) vs Asda (51%) ($F(1,7191)=125.1$, $p<0.001$). A significant difference by PFS is also evident ($F(31,7161)=38.2$, $p<0.001$).

The difference by day of week is not significant ($F(6,7186)=1.6$, $p=0.126$) at the overall sample level. Time of day by hour does not reach statistical significance either ($F(11,7181)=1.35$, $p=0.190$).

Therefore, the data is weighted based on PFS as a total of weekly transactions across the 32 PFS at which interviews were conducted.