Staffordshire County Council

Appendix 3.11

Castlefields Travel Survey, 2010

Castlefields Travel Survey

1. Introduction

It is widely recognised that there are many benefits from undertaking household surveys and as such, they have been undertaken in Staffordshire since the early 1990's with the resultant data being widely used within the County to influence transport policy and planning.

The local travel toolkit was developed by a DfT working group of which Staffordshire was a member. The aim of the toolkit was to help local authorities with little experience in conducting similar surveys to efficiently obtain high quality data. Staffordshire piloted the survey and was, therefore, the first authority to implement the toolkit. We have subsequently shared our experiences with other local authorities at the two toolkit launches held by DfT.

A household travel survey of the Castlefields area of Stafford was undertaken in November 2009 to provide an understanding of the nature of existing journeys, and to plan for sustainable modes such as walking and cycling. One use for this information will be to help inform the sustainable travel elements of the Stafford Western Access Improvements Major Scheme Business Case (MSBC). The DfT Local Travel Toolkit again provided the framework for this project.

Castlefields is located within a reasonable walk and cycle distance of the town centre and at the southern end of the Stafford Western Access Improvements. The estate would benefit from additional walking and cycling infrastructure if the MSBC is successful. It is less clear whether residents located in estates further to the west will be able to utilise the additional infrastructure because of their possible route choices.

Castlefields sits adjacent to an area of proposed housing development. It is possible to estimate travel behaviour for future residents of these sites using information provided by Castlefields' residents as they will experience a similar travel time to the town centre.

2. The Survey

The survey aimed to obtain information about the mode of existing journeys made by Castlefields' residents and their associated origins and destinations to enable an estimate of the journeys that could be made by sustainable modes. Personal travel diaries were used to collect this data with the entire estate of 402 households targeted to give a greater than 25% return rate.

The survey consisted of four doubled sided A4 pages with four categorising questions, one space for any views on local transport and a single day travel

diary to be completed for Thursday 26th November 2009. This was chosen as the date for the travel diary as November is considered a neutral month in terms of school/public holidays and this date fell on a Thursday which is considered a neutral day in terms of daily travel to work, school and other commitments. The categorising questions were included to facilitate analysis of personal characteristics and travel behaviour.

2.1 Survey Questions

The survey questions were taken from the Department for Transport (DfT) Local Household Travel Survey (LTS) Toolkit as the phrasing and layout have been extensively piloted to ensure clarity. The only amendment to this was the addition of an 'account of the journey' box within the travel diary. This allowed respondents to provide a description of their journey which helped to clarify their response in some cases. The questions included in the survey are as follows:

- Are you male or female?
- How old are you?
- Do you have a full driving licence valid in Great Britain - car/moped/motorcycle
- How many cars or light vans does your household own or have the use of
- Invitation to comment on local transport
- Travel diary (26/11/09) providing space for the details of eight journeys

2.2 Single Day Travel Diary

Respondents were required to complete a travel diary for the 26th November 2009 detailing each separate journey made during the day. For each journey the following information was requested: Start postcode, start time, purpose of journey, mode(s) of transport, brief account of journey, destination details, party number, and arrival time. A question was included that asked if any journeys were made on 26 November to determine the reason for a blank travel diary.

2.3 Response Rate

A prize draw entry form was included in the survey packs to encourage a greater return rate along with a letter explaining the purpose of the survey. The first prize was £100, second prize £50 and third prize £25 which was drawn out on 4 January 2010. 131 responses were received before the deadline of 18 December 2009 which provided a response rate of 33%. 101 respondents elected to be entered into the prize draw.

3. Methodology

3.1 Timescale

The survey was undertaken according to the following timescales:

1. **Mailing of survey packs** – Thursday 19 November 2009
2. **Survey date** – Thursday 26 November 2009
3. **Deadline for returns** – Friday 18 December 2009
4. **Prize draw** – Monday 4 January 2010

3.2 Sampling

A sampling frame was not developed as the size of the study area allowed all households to be surveyed. Within a household, a random sample was required if more than one person lives there to avoid returns being biased towards the dominant members of households and the possibility of an age bias. Survey packs were addressed to 'the resident' and the addresses were obtained from the National Land and Property Gazeteer (NLPG).

3.3 Bias/Limitations

The Household Survey was limited to residents of the Castlefields Estate and therefore did not take into consideration those non-residents who travel to Castlefields.

3.4 Enumerator Work

Each survey was stamped with an individual serial code upon its return to the Council in order for them to be recorded efficiently. All information obtained from the residents is confidential and prize draw entries were separated from the surveys to enable this. As no follow up publications were to be sent to the residents it was not necessary for the surveys to be coded prior to their mailing.

3.5 Survey Methodology

The postage of the survey was completed on the 19th November 2009 in order for surveys to be received and read prior to the 26th November 2009. As travel diary data was requested for a particular date, no reminders such as postcards or follow up letters were posted to encourage increased survey completion.

On return of the surveys the unique serial code was inputted into the database to assist in the identification of returned surveys and to avoid duplication of answers being coded during the data entry stage.

Local branding was incorporated into all publications to further increase responses in the knowledge that the data collected would be used in the

residents' interests. A letter from Staffordshire county Council Lead Cabinet Member for Regeneration and Infrastructure, Robert Marshall, was included to explain the purpose of the survey.

4. Data Entry & Analysis

4.1 Data Entry

Data entry was completed in-house due to the high costs of outsourcing the work. The data was entered into a Microsoft Excel spreadsheet under the direction of a coding and instruction sheet to allow simple translation into the data analysis program (SPSS). To ensure accuracy, random checks were made between the surveys and the data entered in the spreadsheet at the end of the entry process.

4.2 Data Analysis

SPSS was used to analyse the data producing descriptive statistics, frequencies and by performing cross-tabulations between questions. A more detailed analysis of the travel diary was undertaken to calculate trips made by sustainable modes and those that could be made by sustainable modes.

5. Respondent Characteristics

This section details the respondent's characteristics from the Castlefields Travel Survey data and compares them to those reported in the 2001 Census of Population (Stafford Borough) and the 2008 Mid Year Estimates of Population. The Census data does have limitations as it is a number of years out of date and therefore, any deviations may be attributable to temporal demographic variations.

5.1 Individual Characteristics

Table 5.1 shows the characteristics of respondents in comparison with the 2008 Mid Year Estimates of Population..

Table 5.1: Age and Gender Comparisons

Respondent Characteristics	Castlefields Survey (2009) (%)	2008 Mid Year Estimates (Stafford) (%)
Gender		
Male	44.5	49.5
Female	55.5	50.5
Age		
17-24	0.8	12.0
25-34	11.5	12.0
35-44	23.8	18.0

45-64	41.5	35.0
65-74	15.4	12.0
75+	6.9	11.0

Source: ONS, 2008 Registrar General's Mid Year Population Estimates

5.1.1 Gender

As the survey asked the respondent to be the member of the household who was next to have a birthday, the gender proportion should correlate with Census data. However, due to the small number of households targeted any slight gender skew will appear as a greater percentage.

5.1.2 Age

The Mid Year Estimates show that the survey responses under represent 17-24 year olds and over 75 year olds. The under representation of young people could be because these residents may be less likely to complete a survey although this does contradict the survey guidance. The age distribution of survey responses is similar to the age distribution for Stafford Borough provided by the Mid Year estimates.

5.2 Household Characteristics

Table 5.2 compares the household characteristics from the Castlefields household travel survey with control data from the 2008 midyear estimates and the 2005 Staffordshire Local Travel Survey. The average number of cars per household is higher than for the 2005 Staffordshire travel Survey and the Census data. The percentage of households without access to a car is also much lower.

Table 5.2: Household Characteristics

Household Characteristics	Castlefields Travel Survey (2009)		Staffordshire Travel Survey – LTS (2005)		2001 Census Data	
	Count	Percent	Count	Percent	Count	Percent
Average number of cars	1.59		1.44		1.29	
Households without access to a car/light van		3.3		13.7		18.7
Households with access to 1 car/light van		40.5		41.6		43.6
Households with access to 2 cars/light vans		50.4		35.0		30.0

Households with access to 3 or more cars/light		5.8		9.7		7.7

Source: 2001 Census for Population and 2005 Staffordshire Local household Travel Survey

5.3 Travel Diary Analyses

Table 5.3.1 shows the main purpose of all journeys made by Castlefields' residents in the course of the day. As can be seen a large proportion of journeys made were to go home to Castlefields. However, in terms of outward bound journeys, travelling to work is the main purpose.

Table 5.3.1: Journey Purpose

		Main Purpose		
		Frequency	Valid Percent	Cumulative Percent
Valid	Pick up/drop off someone	37	9.7	9.7
	Shopping	42	11.0	20.7
	School/education	9	2.4	23.1
	Go to work	60	15.7	38.8
	Personal business	25	6.6	45.4
	Work related business	7	1.8	47.2
	Leisure	42	11.0	58.3
	Other	18	4.7	63.0
	To go home	141	37.0	100.0
	TOTAL	381	100.0	100.0
Missing	No stated purpose	3	-	-

Table 5.3.2 shows the modal distribution of journeys made. The total modal frequency is greater than the total journey purpose. 70% of journeys were made by car which is the most popular mode of travel for residents. Walking and cycling are known to be seasonal modes of travel, and therefore if the survey had been conducted in the summer, the proportion of journeys made by these modes may have been greater. A total of 384 journeys were made by residents but when these trips are considered in terms of modes used, this figure rises to 413 as a number of the journeys were multi modal.

Table 5.3.2: Mode of Travel

		Frequency	Valid Percent	Cumulative Percent
Mode	Walk	57	13.8	13.8
	Bicycle	13	3.1	16.9
	Motorcycle	2	0.5	17.4
	Car (driver)	290	70.2	87.7
	Car (passenger)	26	6.3	93.9
	Bus	13	3.1	97.1
	Tram/Metro/Underground	0	0.0	97.1
	Train	12	2.9	100.0
	Taxi	0	0.0	100.0

	TOTAL	413	100.0	100.0

Table 5.3.3 shows a cross tabulation of mode and journey purpose. Car is the most popular mode for all journey purposes, whilst cycling journeys are focussed on the journey to work and leisure purposes. Walking journeys were made for all purposes but were mainly to go shopping, travel to work and to undertake personal business.

Table 5.3.3: Mode of Travel and Journey Purpose

		Mode									
		Walk	Bicycle	Motorcycle	Car (driver)	Car (passenger)	Bus	Tram/ Metro	Train	Taxi	Total
Purpose	Pick up/ Drop off	3	2	0	33	1	0	0	1	0	40
	Shopping	9	0	0	28	3	3	0	0	0	43
	School/ Education	2	0	0	6	1	0	0	1	0	10
	To go to work	8	3	0	49	3	1	0	4	0	68
	Personal Business	11	0	0	13	0	3	0	2	0	29
	Work-related business	1	0	1	6	0	0	0	0	0	8
	Leisure	3	3	0	30	7	0	0	0	0	43
	Other	2	1	0	15	0	0	0	0	0	18
	To go home	17	3	1	109	11	6	0	4	0	151
	Missing	1	1	0	1	0	0	0	0	0	3
	Total	56	12	2	289	26	13	0	12	0	413

Table: 5.3.4 shows a cross tabulation of mode of travel and age of respondent. Car is the most popular mode of travel for all age groups. No cycle journeys are made by people in the oldest two age groups and the number of walking trips is also lower for these age groups.

Table 5.3.4: Mode of Travel and Age of Respondent

		Mode									
		Walk	Bicycle	Motorcycle	Car (driver)	Car (passenger)	Bus	Tram/ Metro	Train	Taxi	Total
Age	17-24	0	0	0	2	0	0	0	0	0	2
	25-34	4	1	0	31	1	0	0	2	0	29
	35-44	16	8	0	71	8	4	0	8	0	114
	45-64	26	4	2	135	9	9	0	2	0	186
	65-74	8	0	0	30	4	0	0	0	0	42
	75+	2	0	0	18	4	0	0	0	0	24
	Missing	1	0	0	3	0	0	0	0	0	4
	Total	57	13	2	290	26	13	0	12	0	413

Table 5.3.5 shows a cross tabulation of mode of travel and gender of respondent. The majority of train journeys were made by male respondents as were the majority of cycle journeys. Walk and bus journeys were more evenly distributed between the genders with slightly more being made by males.

Table 5.3.5: Mode of Travel and Gender of Respondent

		Mode									
		Walk	Bicycle	Motor-cycle	Car (driver)	Car (passenger)	Bus	Tram/ Metro	Train	Taxi	Total
Gender	Male	31	9	2	113	12	7	0	10	0	184
	Female	25	4	0	168	14	6	0	2	0	219
	Missing	1	0	0	9	0	0	0	0	0	10
	Total	56	13	2	281	26	13	0	12	0	413

5.4 Pedestrian and Cyclists Journeys

Further analysis of the travel diary was undertaken to assess the impact of the Stafford Western Access Improvements on walking and cycling trips. The proposed alignment of the scheme passes through the edge of the estate providing an alternative route choice for residents travelling to the town centre or the North of Stafford. The impact on existing trips and the potential for the additional infrastructure to encourage extra pedestrian and cyclist journeys were considered.

Trips that began or ended in Castlefields were extracted from the total trips made as they had the potential to be affected by the Stafford Western Access Improvements. A Castlefields centroid was created to enable the calculation of walk and cycle travel times to all of the non-Castlefields ends of the journeys using Accession.

Reasonable journeys are assumed to be a 25 minute travel time or 2km distance on foot and 1 hour travel time or 4.8km distance by bicycle. All of the non-Castlefields ends of journeys within these criteria were extracted.

The likely routes from the Castlefields centroid to the other ends of the journeys were considered with the new route in place to determine those journeys that are likely to benefit from the scheme. These subsets of trips were then re-associated with the individual respondents to generate an estimate of the number of people who would potentially benefit from the scheme in terms of walking and cycling.

Castlefields is located adjacent to a proposed housing development site with capacity for approximately 1800 households. It has been assumed that this new development will show the same travel behaviour as Castelfields. This allows the Castelfields Travel Survey data to be utilised to estimate numbers of pedestrians and cyclists for the new housing estate. Residents of this estate will also benefit from the Stafford Western Access Improvements which may encourage additional pedestrian and cyclist journeys. The 2001 Census of Population data provided estimates of the resident population through an average population per household of 2.36 for Stafford Borough. A baseline level of pedestrians and cyclists were derived from the Castlefields surveyed numbers pedestrians and cyclists and the estimated numbers of pedestrians and cyclists likely in the new development.

Guidance on the Appraisal of Walking and Cycling Schemes (Webtag Unit 3.14.1) provides a methodology for predicting numbers of additional cyclists

encouraged through increases in the utility value of cycling. Although a number of cyclists were surveyed, the number of journeys that would benefit from the scheme was small. This starting value allowed the estimation of cyclists on the new development and the Webtag methodology to be applied but the results should be viewed with caution. A slight increase in the number of cyclists was projected and it is reasonable to assume no change in the number of cyclists when considering the margin for error in the results.

The existing percentage of pedestrians travelling to destinations that will benefit from the Stafford Western Access Improvements is larger than the overall surveyed percentage of pedestrians which in many cases can make use of higher quality existing infrastructure. The total sample showed that 19% of people made at least one walking journey and of the subset of journeys likely to benefit from the scheme, 20% already made at least one walking trip.

6. Conclusions and Recommendations

This household survey has provided the Council with respondents' general travel behaviour and patterns to allow an understanding of current local travel and the needs of Castlefields' residents. The survey has been used to inform the major scheme business case for the Stafford western Access Improvements.

However, a number of small issues have arisen during the study; although the required response rate was met, non-respondents were not randomly spread across the sample population. It is clear from the demographic of respondents that 17-24 have been under represented and results of the survey should be used with this in mind.