

Proposed Residential Development

Stansty Road, Wrexham

PT/15246/TN01 - 03 December 2015

Introduction / Background

1. SCP have been instructed by Gower Homes to provide specialist transport planning and engineering advice in relation to a proposed residential development of 24 dwellings on land adjacent to the Total Fitness site off Stansty Road in Wrexham. A planning application has been submitted and given the reference P/2015/0812.
2. The location of the development site is shown on the plan presented in **Appendix A** and currently comprises a surplus car park outside the land leased and controlled by Total Fitness, which has been unused since 2008.
3. An application on the site was submitted in 2008 for a two storey office block with a gross floor area (GFA) of 944 sq. m (LPA ref: P/2008/1152). The application was refused for the following sole reason:-

'The proposed development would be unacceptable and undesirable having regard to extra traffic generated by the use, and the need for this traffic to enter the existing highway in close proximity to the Stansty Road / New Road junction and the adjoining substandard road network. This junction is already operating above its capacity limits at times, and the development would exacerbate current difficulties of maintaining through traffic interests, and is likely to cause further danger to road users due to the high volume of traffic using the junction. To allow development would be contrary to Policy GDP19d0 of the Wrexham Unitary Development Plan.'

4. The applicant Appealed the decision which was allowed in 2009 with the Inspector concluding the following in relation to the traffic impact of the development:-

'the level of peak hour vehicular traffic likely to be generated would be low and not discernible against normal daily fluctuations. Given the way that the junction operates in practice, as described in paragraph 5 above, on balance, I consider that vehicular traffic likely to be generated by the proposal would not materially impact on the free flow of traffic in the vicinity of the junction'.

5. In relation to road safety the Inspector also concluded that:-

‘given that the level of peak hour vehicular traffic likely to be generated would not be discernable against normal daily fluctuations, on balance, I am satisfied that the proposal would not materially increase the risk of accidents in the vicinity of the junction’.

6. The scale of the development currently proposed (24 dwellings) is not of a level which needs to be supported by a detailed Transport Statement / Assessment. However, this Technical Note has been produced to provide the Local Planning and Highway Authority with details on the traffic impact of the development, access arrangements and car parking issues.

Highway Impact

7. When considering the impact of the proposed development on the local highway network, it is first necessary to consider the level of traffic which could be generated by the permitted office use of the site. As part of the Appeal associated with the office development (LPA ref: P/2008/1152), the Council submitted evidence which suggested that the office would generate the following peak hour vehicle movements:-

Table 1 – Trip Generation – Permitted Office Development

AM Peak Hour (0800 to 0900)		PM Peak Hour (1700 to 1800)	
Arrivals	Departures	Arrivals	Departures
28	5	4	24

8. In order to estimate the level of traffic generated by a proposed residential development of 24 units, the TRICS Database has been interrogated for surveys of developments of a similar scale and nature to that proposed. The selection criteria for the TRICS search are summarised below:-
- Land use Residential/ Privately Owned Houses
 - London and NI / Ireland sites excluded;
 - Multimodal surveys
 - Developments of 12-48 dwellings; and
 - Suburban area and edge of town area.
9. The TRICS outputs are presented in **Appendix B** with the trip rates and trip generation estimates summarised in the table below:-

Table 2 – Trip Generation – Proposed Residential Development

Unit	Weekday AM Peak Hour (08:00-09:00)		Weekday PM Peak Hour (17:00 to 18:00)	
	Arrivals	Departures	Arrivals	Departures
Trip Rate Per Dwelling	0.246	0.452	0.368	0.217
Trip Generation (24 Dwellings)	6	11	9	5

10. The table below provides a summary of the net trip generation which is the difference between the potential level of traffic generated which could be generated by the permitted office use and the proposed residential development.

Table 3 – Net Trip Generation – Proposed Residential Development

AM Peak Hour (0800 to 0900)			PM Peak Hour (1700 to 1800)		
Arrivals	Departures	Two Way	Arrivals	Departures	Two Way
-22	6	-16	5	-19	-14

11. As can be seen from the above, the proposed residential development of 24 dwellings will result in a reduction of 16 two-way trips in the AM peak hour and 14 two-way trips in the PM peak hour, when compared to that which could be generated by the permitted office development. Having regard to this and the findings of the Inspector at the 2009 Appeal, there are considered to be no material highway capacity or road safety reasons to resist the current proposals.

Proposed Access Arrangements

12. Access to the development will utilise the existing access onto Stansty Road, with an access road through the development site being provided to the Total Fitness car park. As part of the previously approved office development, an improvement scheme was proposed and approved which involved carriageway widening to provide a two lane exit. The highway officer has requested that this improvement scheme is provided as part of this development, along with the provision of a separate pedestrian / cycle link out of the northern section of the site onto Stansty Road.

13. The improvement scheme at the access is designed to mitigate the impact of the office development and provide benefit for vehicles exiting the site and turning left. However, having regard to the scale of the development now proposed and associated traffic generation, which is significantly lower than that of the approved office development, there is no justification for the development to provide these works.
14. As detailed in Table 2 above, the proposed development will generate a maximum of 11 departures, which occurs during the AM peak period. Volumetrically this equates to a maximum of 1 vehicle every 6 minutes which will not have a material impact on the operation of the access and further demonstrates that there is no justification for the development to provide any improvement works.
15. In relation to the request for the pedestrian / cycle link out of the northern section of the site, given that a perfectly adequate and acceptable access is already proposed onto Stansty Road there is considered to be no justification to provide an additional link. The provision of the link will not materially reduce walk / cycle distances given that the entire length of the cul-de-sac is only 50-60m in length.
16. Swept path analysis of the proposed site access has been undertaken, as presented in **Appendix C**, and demonstrates that with minor amendments to the site access which are currently being undertaken an 11.5m long refuse vehicle can safely enter and turn within the site in forward gear.

Car Parking

17. As detailed earlier, the development site currently comprises a surplus park outside the land leased by Total Fitness and has been unused since 2008. During pre-application discussions the planning authority asked that information is provided on the total number of parking spaces within the Total Fitness site (including the application site but not including any lost for the consented office scheme), how many would remain if the development went ahead and adequacy of the remaining car park to accommodate the demand from Total Fitness.
18. Information on the existing and proposed car parking numbers is provided below:-
 - The total number of spaces within the existing car park stands at 269.
 - Total Fitness, as part of the current lease agreement, is permitted to use 124 spaces. The remaining 145 are outside of the lease agreement / under the control of the existing land owner and could therefore be withdrawn from general use at any time.

- The proposed residential development will reduce the total number of parking spaces by approximately 128, resulting in 141 spaces being left within the car park.
 - The previously approved office development (LPA ref: P/2008/1152) resulted in the loss of 34 parking spaces from the car park, which would have resulted in a total of 235 spaces being provided on the site. The office would have also generated additional demand within the car park.
19. Given that Total Fitness have wilfully entered into a lease permitting them to use 124 spaces, this level of parking must be considered sufficient for their operational requirements. Notwithstanding this, the adequacy of the remaining car park (141space) to accommodate the demand from Total Fitness has been assessed, firstly against Wrexham County Borough Council's (WCBC's) maximum parking standards and, secondly through the use of surveys to determine actual parking demand generated by Total Fitness.
20. WCBC's maximum car parking standards are set out in their Local Planning Guidance Note 16 (adopted November 2011). The relevant parking standards for D2 Assembly and Leisure use are detailed as follows:-

Type of Development	Parking Standard	Cycle Parking Standard
D2 Assembly and Leisure Includes: Cinemas, concert halls, leisure centres and sports centres	1 car space per 15m ² gross floor space	1 cycle space per 150 m ² gross floor space

21. The Total Fitness unit has a gross floor area (GFA) of approximately 3,690 sq. m. Applying WCBC's parking standards to the existing GFA equates to a maximum of 150 parking spaces being permitted for this scale of development.
22. The 141 spaces within the car park therefore falls only slightly below WCBC's maximum standards. However, as detailed earlier, given that Total Fitness has entered into a lease agreement relating to the 124 spaces they must consider this level of parking to be sufficient for their operational requirements. In addition, the site is sustainably located and well within acceptable walk and cycle distance of large residential areas and public transport facilities.
23. A part of the Transport Statement (TS) submitted in support of the now permitted office development (LPA ref: P/2008/1152), a survey of the existing car park usage was undertaken, with relevant extracts of the TS presented in **Appendix D**.

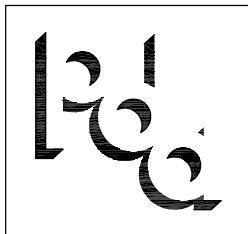
24. The surveys showed that the peak parking demand occurred at 18:30 where 157 cars were parked within the car park. However, the assessment also showed that 22 of these cars were not using the Total Fitness facility and using the car park for other purposes. The peak parking demand generated by Total Fitness members and staff is therefore 135 spaces. SCP have been informed that since the surveys were undertaken membership numbers at Total Fitness have significantly reduced, making the surveys extremely robust.
25. Should parking become an issue for Total Fitness then it is considered that they could implement appropriate management measures to avoid the misuse of the car park by non-members, thereby freeing up existing capacity. In addition, a further 29 spaces will be provided on existing areas of hard standing to the rear of the Total Fitness unit. This will bring the total number of spaces across the site to 170, which broadly aligns with the Council's parking standards and exceeds the actual demand generated by Total Fitness.
26. Having regard to the above analysis, there is considered to be no reasons on highway grounds to withhold planning permission for the scheme and the proposed development is therefore commended for approval.

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APPENDIX A



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Parry Davies Architects.

Chartered Architects.

PROJECT TITLE	LAND ADJ TOTAL FITNESS STANSTY ROAD WREXHAM	DATE	OCT 2015	SCALE	1:12500@A3	DRWN	RSG	CHK	
DRWG. TITLE	LOCATION PLAN	DRWG. NOS.	15.5554/L1	REV	—				

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APPENDIX B

Calculation Reference: AUDIT-726001-150817-0825

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : A - HOUSES PRIVATELY OWNED

MULTI-MODAL VEHICLESSelected regions and areas:

04	EAST ANGLIA	
	NF NORFOLK	1 days
05	EAST MIDLANDS	
	LN LINCOLNSHIRE	1 days
06	WEST MIDLANDS	
	ST STAFFORDSHIRE	2 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NY NORTH YORKSHIRE	2 days
08	NORTH WEST	
	LC LANCASHIRE	1 days
	MS MERSEYSIDE	1 days
09	NORTH	
	TW TYNE & WEAR	1 days
10	WALES	
	CF CARDIFF	1 days
11	SCOTLAND	
	FA FALKIRK	1 days
	PK PERTH & KINROSS	1 days

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

Filtering Stage 2 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: Number of dwellings
 Actual Range: 14 to 37 (units:)
 Range Selected by User: 12 to 48 (units:)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/07 to 22/05/14

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:

Monday	4 days
Tuesday	2 days
Wednesday	2 days
Thursday	1 days
Friday	3 days

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

Selected survey types:

Manual count	12 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 undertaken using machines.

Selected Locations:

Edge of Town Centre	3
Suburban Area (PPS6 Out of Centre)	9

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.

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.

Filtering Stage 3 selection:

Use Class:

C3

12 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:

1,001 to 5,000	1 days
5,001 to 10,000	3 days
10,001 to 15,000	2 days
15,001 to 20,000	2 days
20,001 to 25,000	1 days
25,001 to 50,000	3 days

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

Population within 5 miles:

5,001 to 25,000	1 days
25,001 to 50,000	1 days
50,001 to 75,000	1 days
75,001 to 100,000	2 days
125,001 to 250,000	1 days
250,001 to 500,000	6 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	8 days
1.1 to 1.5	3 days
1.6 to 2.0	1 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.

Travel Plan:

No

12 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.

LIST OF SITES relevant to selection parameters

1	CF-03-A-03	DETACHED	CARDIFF
	LLANTRISANT ROAD		
	CARDIFF		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	29	
	Survey date: MONDAY	08/10/07	Survey Type: MANUAL
2	FA-03-A-01	SEMI-DETACHED/ TERRACED	FALKIRK
	MANDELA AVENUE		
	FALKIRK		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	37	
	Survey date: THURSDAY	30/05/13	Survey Type: MANUAL
3	LC-03-A-30	SEMI-DETACHED	LANCASHIRE
	WATSON ROAD		
	BLACKPOOL		
	Edge of Town Centre		
	Residential Zone		
	Total Number of dwellings:	24	
	Survey date: FRIDAY	14/06/13	Survey Type: MANUAL
4	LN-03-A-03	SEMI DETACHED	LINCOLNSHIRE
	ROOKERY LANE		
	BOULTHAM		
	LINCOLN		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	22	
	Survey date: TUESDAY	18/09/12	Survey Type: MANUAL
5	MS-03-A-03	DETACHED	MERSEYSIDE
	BEMPTON ROAD		
	OTTERSPOOL		
	LIVERPOOL		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	15	
	Survey date: FRIDAY	21/06/13	Survey Type: MANUAL
6	NF-03-A-01	SEMI DET. & BUNGALOWS	NORFOLK
	YARMOUTH ROAD		
	CAISTER-ON-SEA		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	27	
	Survey date: TUESDAY	16/10/12	Survey Type: MANUAL
7	NY-03-A-03	PRIVATE HOUSING	NORTH YORKSHIRE
	NEW ROW		
	BOROUGHBRIDGE		
	Edge of Town Centre		
	Residential Zone		
	Total Number of dwellings:	14	
	Survey date: MONDAY	15/09/08	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

8	NY-03-A-08	TERRACED HOUSES	NORTH YORKSHIRE
	NICHOLAS STREET		
	YORK		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	21	
	Survey date: MONDAY	16/09/13	Survey Type: MANUAL
9	PK-03-A-01	DETAC. & BUNGALOWS	PERTH & KINROSS
	TULLYLUMB TERRACE		
	GORNHILL		
	PERTH		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	36	
	Survey date: WEDNESDAY	11/05/11	Survey Type: MANUAL
10	ST-03-A-05	TERRACED & DETACHED	STAFFORDSHIRE
	WATERMEET GROVE		
	ETRURIA		
	STOKE-ON-TRENT		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	14	
	Survey date: WEDNESDAY	26/11/08	Survey Type: MANUAL
11	ST-03-A-06	SEMI-DET. & TERRACED	STAFFORDSHIRE
	STANFORD ROAD		
	BLAKENHALL		
	WOLVERHAMPTON		
	Edge of Town Centre		
	No Sub Category		
	Total Number of dwellings:	17	
	Survey date: FRIDAY	09/05/14	Survey Type: MANUAL
12	TW-03-A-02	SEMI-DETACHED	TYNE & WEAR
	WEST PARK ROAD		
	GATESHEAD		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	16	
	Survey date: MONDAY	07/10/13	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.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL VEHICLES**Calculation factor: 1 DWELLS****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	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									
07:00 - 08:00	12	23	0.066	12	23	0.265	12	23	0.331
08:00 - 09:00	12	23	0.246	12	23	0.452	12	23	0.698
09:00 - 10:00	12	23	0.173	12	23	0.165	12	23	0.338
10:00 - 11:00	12	23	0.129	12	23	0.132	12	23	0.261
11:00 - 12:00	12	23	0.147	12	23	0.199	12	23	0.346
12:00 - 13:00	12	23	0.199	12	23	0.199	12	23	0.398
13:00 - 14:00	12	23	0.239	12	23	0.202	12	23	0.441
14:00 - 15:00	12	23	0.188	12	23	0.294	12	23	0.482
15:00 - 16:00	12	23	0.254	12	23	0.162	12	23	0.416
16:00 - 17:00	12	23	0.331	12	23	0.232	12	23	0.563
17:00 - 18:00	12	23	0.368	12	23	0.217	12	23	0.585
18:00 - 19:00	12	23	0.261	12	23	0.176	12	23	0.437
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.601			2.695			5.296

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.

Parameter summary

Trip rate parameter range selected: 14 - 37 (units:)
 Survey date range: 01/01/07 - 22/05/14
 Number of weekdays (Monday-Friday): 12
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 0

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 shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL CYCLISTS**Calculation factor: 1 DWELLS****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	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									
07:00 - 08:00	12	23	0.007	12	23	0.022	12	23	0.029
08:00 - 09:00	12	23	0.004	12	23	0.029	12	23	0.033
09:00 - 10:00	12	23	0.000	12	23	0.004	12	23	0.004
10:00 - 11:00	12	23	0.004	12	23	0.015	12	23	0.019
11:00 - 12:00	12	23	0.004	12	23	0.007	12	23	0.011
12:00 - 13:00	12	23	0.011	12	23	0.000	12	23	0.011
13:00 - 14:00	12	23	0.007	12	23	0.000	12	23	0.007
14:00 - 15:00	12	23	0.011	12	23	0.007	12	23	0.018
15:00 - 16:00	12	23	0.007	12	23	0.000	12	23	0.007
16:00 - 17:00	12	23	0.029	12	23	0.007	12	23	0.036
17:00 - 18:00	12	23	0.037	12	23	0.015	12	23	0.052
18:00 - 19:00	12	23	0.011	12	23	0.004	12	23	0.015
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.132			0.110			0.242

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.

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Parameter summary

Trip rate parameter range selected: 14 - 37 (units:)
 Survey date range: 01/01/07 - 22/05/14
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 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 0

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 shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL PEDESTRIANS**Calculation factor: 1 DWELLS****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	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									
07:00 - 08:00	12	23	0.044	12	23	0.081	12	23	0.125
08:00 - 09:00	12	23	0.081	12	23	0.162	12	23	0.243
09:00 - 10:00	12	23	0.070	12	23	0.085	12	23	0.155
10:00 - 11:00	12	23	0.070	12	23	0.151	12	23	0.221
11:00 - 12:00	12	23	0.074	12	23	0.066	12	23	0.140
12:00 - 13:00	12	23	0.077	12	23	0.081	12	23	0.158
13:00 - 14:00	12	23	0.051	12	23	0.085	12	23	0.136
14:00 - 15:00	12	23	0.085	12	23	0.081	12	23	0.166
15:00 - 16:00	12	23	0.180	12	23	0.107	12	23	0.287
16:00 - 17:00	12	23	0.188	12	23	0.136	12	23	0.324
17:00 - 18:00	12	23	0.213	12	23	0.121	12	23	0.334
18:00 - 19:00	12	23	0.136	12	23	0.081	12	23	0.217
19:00 - 20:00	1	29	0.069	1	29	0.034	1	29	0.103
20:00 - 21:00	1	29	0.034	1	29	0.000	1	29	0.034
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.372			1.271			2.643

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.

Parameter summary

Trip rate parameter range selected: 14 - 37 (units:)
 Survey date range: 01/01/07 - 22/05/14
 Number of weekdays (Monday-Friday): 12
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 0

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 shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL PUBLIC TRANSPORT USERS**Calculation factor: 1 DWELLS****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	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									
07:00 - 08:00	12	23	0.000	12	23	0.007	12	23	0.007
08:00 - 09:00	12	23	0.000	12	23	0.026	12	23	0.026
09:00 - 10:00	12	23	0.004	12	23	0.007	12	23	0.011
10:00 - 11:00	12	23	0.004	12	23	0.004	12	23	0.008
11:00 - 12:00	12	23	0.007	12	23	0.007	12	23	0.014
12:00 - 13:00	12	23	0.011	12	23	0.011	12	23	0.022
13:00 - 14:00	12	23	0.004	12	23	0.004	12	23	0.008
14:00 - 15:00	12	23	0.018	12	23	0.015	12	23	0.033
15:00 - 16:00	12	23	0.015	12	23	0.007	12	23	0.022
16:00 - 17:00	12	23	0.033	12	23	0.018	12	23	0.051
17:00 - 18:00	12	23	0.022	12	23	0.007	12	23	0.029
18:00 - 19:00	12	23	0.004	12	23	0.000	12	23	0.004
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.122			0.113			0.235

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.

Parameter summary

Trip rate parameter range selected: 14 - 37 (units:)
 Survey date range: 01/01/07 - 22/05/14
 Number of weekdays (Monday-Friday): 12
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 0

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 shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

S|C|P

APPENDIX C



S C P Transportation Planning : Infrastructure Design 2 Mount Street, Manchester, M2 5WQ, Tel 0161 832 4400, Fax 0161 832 5111 www.scptransport.co.uk, Email info@scptransport.co.uk	Project Title	Drawing Title	Scale	By	Drawing No.
	GOWER HOMES	SWEPT PATH ANALYSIS	1:500 @ A3	BA	SCP/15246/ATR01
	STANSTEY ROAD, WREXHAM		Date 01.12.2015	Checked PT	
			Approved/ Unapproved -	Status PLANNING	Revision -

S|C|P

APPENDIX D

- 4.6 To ensure clarity during the survey the car park was split into three sections, zones A, B and C, located north to south respectively. The following table summarises the occupancy of each zone throughout the survey period, photographic evidence at periodic intervals is also included. A plan indicating the split and the relevant photographs can be found in **Appendix C**.

Table 4.6 (a) Parking Survey Count Summary

5	4	4	4	7	5	5	4	2	4	3	2	3	2	2	2
52	35	30	27	26	22	19	13	16	20	20	36	72	79	91	85
62	59	60	58	50	51	43	37	44	38	45	58	66	61	64	59
119	98	94	89	83	78	67	54	67	62	68	96	141	142	157	146
150	171	175	180	186	191	202	215	202	207	201	173	128	127	112	123
44	36	35	33	31	29	25	20	25	23	25	36	52	53	58	54
1587				1596									1612		
1588				1597					1609				1613		
									1610				1614		
1589				1598											
1590				1599					1611				1615		
				1600									1616		

- 4.7 As can be seen from the table above the maximum occupancy during the survey was 58%, which occurred at 1830hrs. The most significant increase throughout the survey period occurred at 1700hrs, in which an increase of 16% transpired, from this point the level of occupancy increased slowly to the peak occupancy. From which point the final reading indicated a decrease in occupancy to 54%. It should be noted that the level of occupancy in Zone C (nearest to the Total Fitness Centre) was higher than that of zone A, indicating an obvious trend. Furthermore the established peak parking trend occurs after the proposed D1 development would be closed (1830hrs). This data will be

compared with the likely traffic generations of the proposal to assess car park occupancy.

Parking assessment: Proposed Development

4.8

As previously indicated the parking requirements for the proposed development have been calculated utilising surveys obtained from the 2008 TRICS (b) Database. As the D1 development will be health related the following surveys were obtained through section 5 'Health', as listed in the TRICS Database. The likely uses were then assessed in terms of floor area and survey data, those between 900 and 1000m² were selected as the proposed floor area is 944m². A summary of the 3 selected sites is shown below:

Table 4.8 (a) Summary of selected Health related sites

Suburban Area	Suburban Area	Edge of Town Centre
Carlisle	Fife	Greater Manchester
05 - Health/G - GP Surgeries	05 - Health/G - GP Surgeries	05 - Health/G - GP Surgeries
GP Surgeries	GP Surgeries	GP Surgeries
995m ²	900m ²	900m ²

4.9

Trip rate information has been obtained from the above sites and an average trip rate for each hour of the operational day has been acquired. It should be noted that none of the selected surveys have any weekend data. A summary of the average trip rates and proposed traffic generation is shown in the tables below for a D1 development of 944m²: