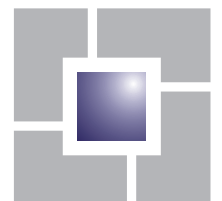


North Worcestershire Golf Club

Technical Note



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transport planning consultants

- 1.0 The scope and general content of this Note has been agreed with Birmingham City Council (BCC).
- 2.0 DTA were appointed by Bloor Homes in April 2014 to provide transport planning advice regarding residential development of the North Worcestershire Golf Club (NWGC).
- 3.0 As part of this, a series of traffic counts were commissioned in July 2014 and these are summarised in DTA Technical Note 16094-01 (August 2014) "Residential Development – Traffic Surveys". This is attached as **Appendix A**. As part of the scoping process with BCC, two additional junctions are to be counted and are to be available as part of future impact assessment. These are the Tessall Lane/Rubery Lane roundabout and the Rubery Lane/Park Way traffic signals.
- 4.0 The Note summarised those sections of the site frontage on which site accesses could be delivered either within site land or highway land. The number, type and scale of accesses will be informed by the detailed evolution of the site layout, but the August 2014 appraisal work provided confidence that a permeable site road layout can be achieved which could distribute traffic efficiently onto the adjacent highway network.
- 5.0 Preliminary movement patterns to and from the site have been prepared utilising 2011 journey- to-work census data for the two Office of National Statistics census Middle Super Output areas, each of which form part of the site.
- 6.0 Summarising the source data illustrates the sustainable credentials of the site, with just under 25% of all work journeys being made by public transport (8% train and 17% bus), together with a further 10% on foot or by bike. The cycling element in isolation provides particular opportunity for mode share enhancement with a disproportionately low contribution. With the total census sample size being in excess of 6,000 employees, the results can be treated with confidence.
- 7.0 In terms of peak period vehicular traffic impact, preliminary assessments based upon industry standard trip generation database, TRICS, suggest car trip generation to and

from the site in the order of 300-500 two-way movements during an hour. Typically only 1% or less of these movements would be HGVs.

- 8.0 In terms of site access provision, it is currently envisaged that there would be three site accesses. On average therefore, peak hour site movements would be in the order of 130-150 at each junction if each are used evenly, perhaps rising to 200 or so, if one access is predominant by design. Based upon this level of movement and giving due regard to the existing flows (400-700 two-way vehicles per peak hour) on the site frontages (Frankley Beeches Road and Tessall Lane) it is concluded that vehicular access to the site is readily deliverable.
- 9.0 As traffic reaches the existing highway network it will distribute over a variety of routes. The 2011 journey-to-work census data again allows a preliminary view. This suggests that just over 50% of peak hour site vehicular traffic might head towards the A38 north-east towards Birmingham, with just over 30% south or south-west towards the A38. The balance may be split roughly evenly north-west towards the M5 J3 or north. In practice, this approach ignores more typically local trips such as to education, retail, personal business and leisure. These give rise to typically shorter journeys, which application of journey-to-work data alone overlooks. The proportions of trip movements on the A38 and beyond set out out above are therefore liable to be a "worst case".
- 10.0 For example, there is a large primary school located 800m to the west of the site, another to the east; a major supermarket 600m to the east and a local community centre and medical centre less than 400m to the west of the site. None of these trips need to access the A38 or the wider highway network.
- 11.0 Notwithstanding this, using the distribution pattern from the journey-to-work data in terms of off-site impact, the additional site traffic would add around 8% during peak periods to the A38/Frankley Beeches Road junction flow; and approximately 4.5% to the A38/Tessall Lane junction flow.
- 12.0 The A38 is a major arterial route which accommodates high levels of demand during the peak hour periods. The junction of A38/Frankley Beeches Road is a four arm

traffic signal junction with flaring on most approaches. Surveyed conditions in the peak hour periods suggests the junction operates well during the AM peak with some queuing, particularly on the northern southbound approach, in the PM peak. Observation of local highway network operation will be required to enable a validation process to be undertaken. In practice further modelling will be required to assess wider interactions with junctions downstream to the south. Specifically however in terms of this development, the demand would be concentrated on non-critical movements in capacity terms.

- 13.0 Preliminary review of the A38/Tessall Lane junction allows similar conclusions to be drawn.
- 14.0 The Transport Assessment for the site will provide a detailed and thorough appraisal of each of the off-site impacts, which will confirm whether localised highway works mitigation is required. It is more likely that mitigation would be targeted towards increasing the currently disappointing level of cycling movements, whilst enhancing the already well used public transport services.

SKP/16094-02 Rev A
24th March 2015



Appendix A

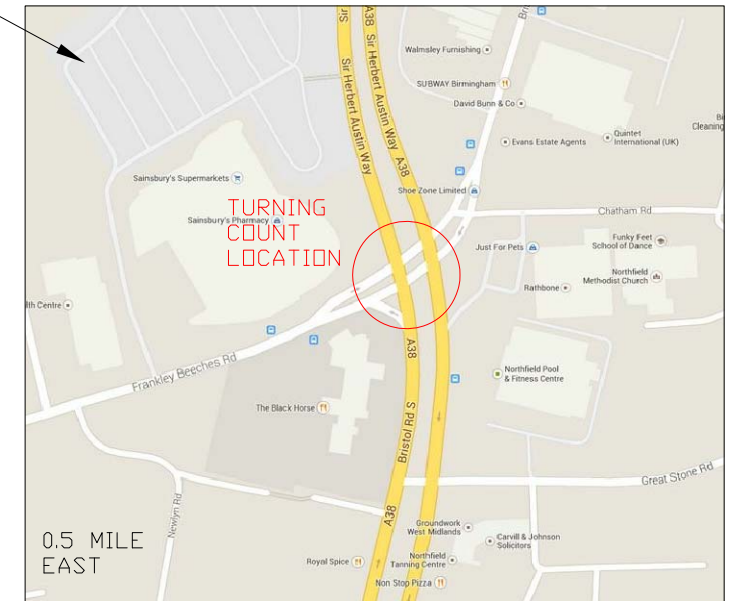
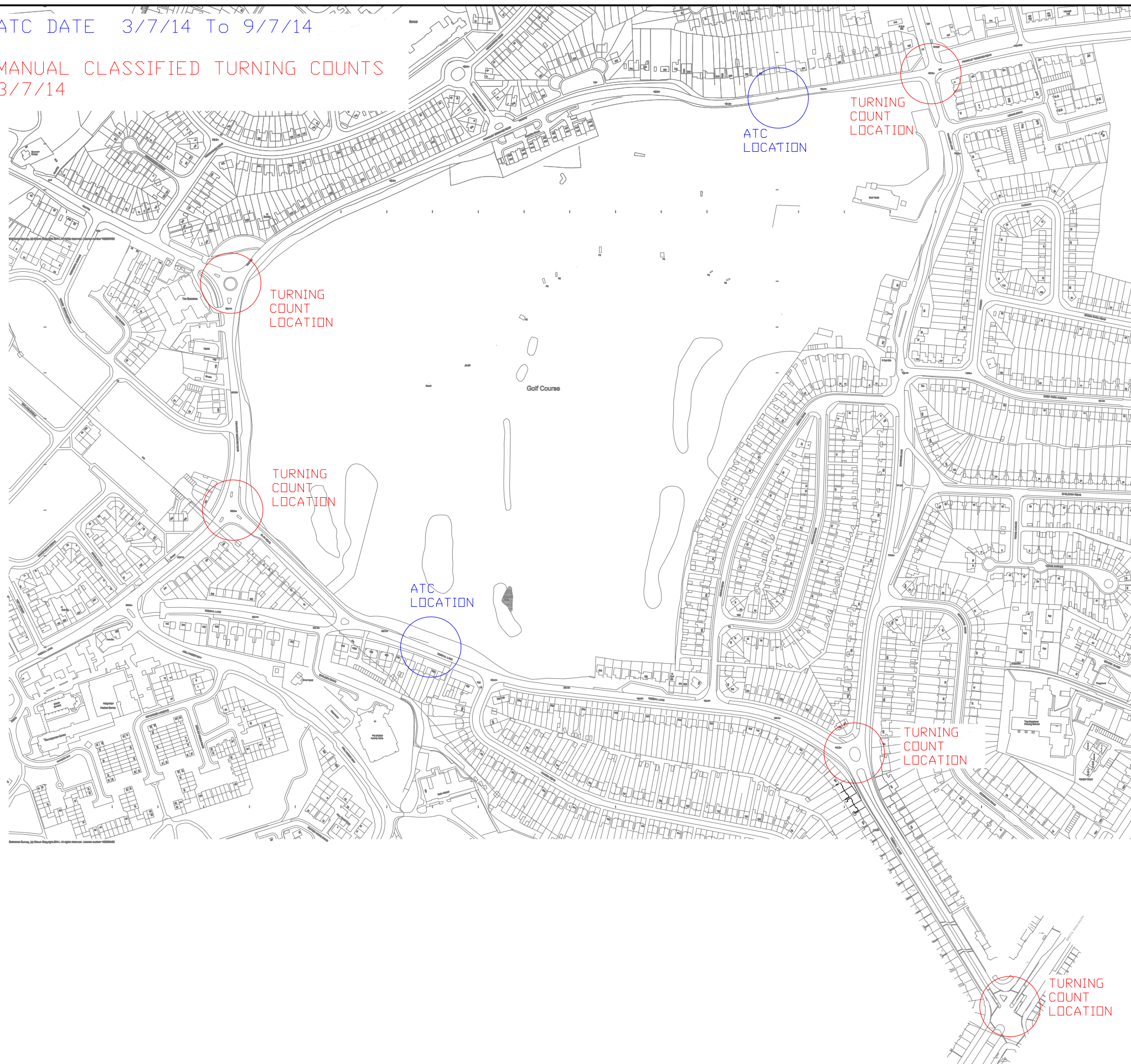
1. DTA have commissioned a series of traffic counts to assist in the promotion of residential development on the land occupied by North Worcestershire Golf Club.
2. Junction turning counts were undertaken on Thursday 3rd July at the following:
 - a) Frankley Beeches Road/Hoggs Lane traffic signals;
 - b) Frankley Beeches Road/Egghill Lane roundabout;
 - c) Frankley Beeches Road/Elan Lane traffic signals;
 - d) Frankley Beeches Road/A38 traffic signals;
 - e) Tessall Lane/A38 traffic signals;
 - f) Tessall Lane/Hanging Lane roundabout.
3. These counts were undertaken between 0730-0930 and 1630-1830 with records presented in 15 minute segments. The counts separately identify cars/light vehicles and Heavy Goods Vehicles/Buses. Queue lengths on each lane approach to each junction are recorded at 5 minute intervals.
4. In addition, two automatic traffic counters were installed for seven days (3/7/14 – 9/7/14). These counters record traffic volumes and traffic speeds throughout the seven day period. These were located on Frankley Beeches Road and on Tessall Lane. The counters provide a record of every vehicle throughout the week and enable a clear profile of local traffic movements to be compiled. The count locations are illustrated on **Figure 1**.
5. The output from automatic traffic counters show that:
 - i) Daily weekday flows on Frankley Beeches Road total c15,000 two-way vehicles per day.
 - ii) Average traffic speeds on Frankley Beeches Road are 30.3 mph eastbound and 32.2 mph westbound. Eighty fifth percentile speeds are 36.1 mph and 36.2 mph respectively. Compliance with the speed limit is therefore reasonable.

- iii) The highest hourly recorded traffic flows on Frankley Beeches Road vary between 0700-0800 and 0800-0900 eastbound and 1700-1800 and 1800-1900 westbound (each between 600 and 700 vehicles/hour).
 - iv) Daily weekday flows on Tessall Lane total c9000 two-way vehicles per day.
 - v) Average traffic speeds on Tessall Lane are 30.9 mph south-eastbound and 29.7 mph north-westbound. Eighty fifth percentile speeds are 35.6 mph and 35.1 mph respectively. Compliance with the speed limit is therefore reasonable.
 - vi) The highest hourly recorded traffic flows on Tessall Lane vary between 0800-0900 and 1700-1800 north-eastbound (between 375 and 450 vehicles/hour) and 1700-1800 south-westbound (between 425 and 500 vehicles/hour).
6. In terms of the junction counts and queues, not surprisingly, the A38 junctions represent the busiest junctions in the area. Queues on Frankly Beeches Road at its A38 junction during the morning peak period range from 15-25 vehicles. This queuing was mentioned by a number of local residents at the public consultation event and will necessitate detailed review. Recorded queues in the evening peak are of similar length.
 7. Queues on Tessall Lane at its junction with the A38 peak at 21 vehicles in the morning, and 24 vehicles in the evening, with fairly steady queues noted throughout the peak periods.
 8. In terms of the junctions closer to the site, the Hoggs Lane/Frankley Beeches Road signals and Frankley Beeches Road/Elan Road signals demonstrate variable queuing, all accommodated within the approach links, but each clearly requiring detailed review.
 9. The remaining surveyed junctions, Egghill Lane/Frankley Beeches roundabout and Tessall Lane saw little or no queuing.

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10. The surveys have allowed refinement of the previously prepared advice on access opportunity which had been based solely on geometric design parameters.
 11. The next stage will need to be undertaken in discussion with the project architect in terms of on-site constraints, but this current review concludes that at least three points of access to the site would be appropriate, and these would be deliverable, subject to review of detailed constraints within the site, as follows:
 - i) Site access arm added to the three arm Frankley Beeches Road/Egghill Lane roundabout.
 - ii) Site access junction onto Tessall Lane to the south of the site.
 - iii) Site access junction onto Frankley Beeches Road to the north-east of the site.
 12. Conceptual preferred locations for each access are shown on the attached **Figure 2**. This refinement allowing slightly firmer recommendations in terms of location reflect the observed queuing patterns on the adjacent network. The eventual type of both access ii) and access iii) designs will in part depend upon the site layout and how many dwellings are likely to be served by each access. At each location, either a simple T-junction, or a right turn lane junction, or a signalised junction, are possible outcomes pending subsequent detailed review and appraisal.

ATC DATE 3/7/14 To 9/7/14

MANUAL CLASSIFIED TURNING COUNTS
3/7/14



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JOB TITLE North Worcestershire Golf Club		CLIENT Bloor Homes	
DRAWING TITLE Traffic Count Location Plan			
SCALE NTS	DRAWN BY BP	DATE Aug2014	DRAWING No 16094-02
			REVISION



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JOB TITLE North Worcestershire Golf Club		CLIENT Bloor Homes	
DRAWING TITLE Conceptual Proposed Access Locations			
SCALE NTS	DRAWN BY BP	DATE Aug2014	DRAWING No 16094-01
			REVISION α



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