ADL Traffic Engineering Ltd
ADL House, Oaklands Business Park, Yate, Bristol BS37 5NA
Tel: 01454 332100 Fax: 01454 327983 Email: cad@adltraffic.co.uk

SUPPLEMENTARY NOTE 1A
PROPOSED McDONALD'S RESTAURANT
BROAD STREET
LEEK

McDonald's Restaurants Ltd
11 – 59 High Road
East Finchley
London
N2 8AW

ADL/RG/2863/07A

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REPORT CONTROL

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1.0 INTRODUCTION

1.1 This report has been prepared to address the comments supplied by Staffordshire County Council upon receipt of ADL's Transport Assessment (ref: ADL/RG/2863/22A, December 2015).

1.2 Staffordshire County Council (SCC) as Highway Authority provided comments to ADL regarding the TA and have been addressed within this report.

1.3 This report seeks to address the comments provided and includes detailed surveys of Broad Street and analysis of the Broad Street/Edward Street/Compton traffic signals.

2.0 TRAFFIC SURVEYS

2.1 Survey Specification

2.1.1 ADL booked RDS surveys to undertake surveys of two junctions:

- Broad Street/Edward Street/Compton traffic signals
- Broad Street/Sneyd Street priority junction

2.1.2 These were recorded by CCTV and subsequently enumerated to provide counts of the following peak hours, which were determined by a pilot survey comprising an ATC on Broad Street:

- Thursday 10th March 17:00 – 18:00
- Friday 11th March 12:00 – 13:00
- Friday 11th March 15:00 – 16:00
- Friday 11th March 17:00 – 18:00
- Saturday 12th March 13:00 – 14:00

2.1.3 The surveys recorded traffic movements and queuing at both junctions noted above.

2.2 Survey Results

2.2.1 Table 2A provides the summary of all traffic using the two junctions.

Table 2A Summary of Results

Day	Time	Sneyd Street/Broad Street	Broad Street/Edward Street/Compton
Thursday	17:00-18:00	1369	1953
Friday	12:00-13:00	1180	1706
	15:00-16:00	1326	1805
	17:00-18:00	1295	1885
Saturday	13:00-14:00	1278	1801

2.2.2 As can be seen, the peak traffic period is Thursday evening with, followed by Friday evening. For the purposes of capacity analysis, the Thursday PM peak hour will be combined with the Friday PM peak hour traffic generation. On Saturday, whilst the traffic flows are slightly lower, the McDonald's traffic generation is higher, so the Saturday lunchtime peak has also been assessed.

3.0 EXISTING RESTAURANTS

3.1 Background

3.1.1 Within the TA, ADL utilised surveys undertaken at two local McDonald's restaurants:

- Fenton: Victoria Road, Stoke on Trent, ST4 2HX
- Tunstall: 634 High Street, Tunstall, Stoke on Trent, ST6 5PH

3.1.2 SCC have asked for details of stores in "comparable relative locations" to Leek town centre. It was considered by SCC that the Fenton restaurant had other parking opportunities nearby, either at the nearby Aldi or Wickes stores nearby. At Tunstall it was considered that the residential hinterland could provide additional parking which would not be reflected in the surveys undertaken.

3.2 Parking

3.2.1 Table 3A shows the number of spaces at both restaurants at the time they were surveyed, as well as the average and maximum parking demand at each.

Table 3A

Site	Spaces	Average Parking		Max. Parking	
		Friday	Saturday	Friday	Saturday
Fenton	36 + 2 accessible	20	28	31	36
Tunstall	30 + 2 accessible	19	20	23	29

3.2.2 As shown, neither car park was ever at capacity, suggesting that there would be no need for customers to park off site.

3.2.3 ADL have also looked at another local store, the recently opened McDonald's at Leek New Road, Stoke on Trent. This has a larger car park available to customers with 46 standard, plus 2 accessible bays. When considered on the same trading basis as the proposals at Leek, the parking demand would be as follows:

- Friday: Average 21 spaces
  Maximum 28 spaces
- Saturday: Average 20 spaces
  Maximum 34 spaces

3.2.4 Table 3B shows the potential parking demand as set out in the Transport Assessment and based on the Leek New Road store.

Table 3B Parking comparison

	Fenton & Tunstall (as per TA)		Leek New Road	
	Friday	**Saturday**	**Friday**	**Saturday**
Minimum	16	16	19	18
Maximum	21	29	28	34
Average	19	23	21	20

3.2.5 Whilst this restaurant also has other parking nearby at the Aldi store in the same development, the larger car park means that drivers will not need to seek to park elsewhere when intending to visit the restaurant. As a result, with a far higher ceiling on spaces than at either of the surveyed sites, driver behaviour is altered when compared to the surveyed stores due to the availability of parking spaces.

3.2.6 Table 3C shows the proportion of customers who eat their meal in their vehicle, in the restaurant car parks, comparing Fenton and Tunstall against Leek New Road:

Table 3C Customer Parking Behaviour

Activity	**Fenton & Tunstall (as per TA)**		**Leek New Road**	
	Friday	**Saturday**	**Friday**	**Saturday**
Drive in, park, walk into restaurant, eat meal in car	3%	4%	8%	7%
Drive in, use drive thru, eat meal in car	7%	10%	12%	15%
Total	**10%**	**14%**	**20%**	**22%**

3.2.7 As shown, the sites with smaller car parks lead to a reduction in customers using the car park, whilst inversely, the larger car park, encourages drivers to use it, i.e. latent parking demand – the more parking that is available, the more customers will use it.

3.2.8 A comparison of customers who use the drive thru' lane and leave the site immediately after confirms that this is very similar at all three restaurants, so it is the customer habit of staying on site after using the drive thru' lane which is influenced by a larger car park.

Table 3D Percentage of "drive thru and exit immediately" customers

	Fenton & Tunstall (as per TA)	Leek New Road
Friday	54%	58%
Saturday	51%	49%

3.2.9 It is the experience of McDonald's that if the car park at a restaurant is particularly busy, then customers will collect a meal via the drive thru and head off site to an alternate location to eat their meal. As Fenton and Tunstall have smaller car parks than Leek New Road, they are considered to be the better match for the proposals.

3.3 Drive Thru Queue

3.3.1 Considering the analysis in the previous section, the drive thru queues at Fenton, Tunstall and Leek New Road have been examined and provide the following results:

Table 3E Drive Thru Queue Comparison

	Fenton & Tunstall (as per TA)		Leek New Road (on comparable basis to TA)	
	Friday	Saturday	Friday	Saturday
Minimum Queue	1	0	0	0
Maximum Queue	10	11	6	1
Average Queue	5	4	3	4

3.3.2 It is noted that Leek New Road has a side-by-side drive thru' lane which was provided at the time that the restaurant was constructed. Fenton and Tunstall also have side-by-side drive thru' lanes, however, when they were surveyed, they still had a traditional "single" lane. As the proposal would have a side-by-side drive thru lane, it is considered that the Fenton and Tunstall queuing data as used in the TA represent a robust assessment.

3.4 Traffic Generation

3.4.1 We have also reviewed the traffic generation for the proposal at Leek in comparison with the restaurant at Leek New Road on the same trading basis as the proposals.

Table 3F Traffic Generation

	Fenton & Tunstall (as per TA)			Leek New Road (on comparable basis to TA)		
	In	Out	2-way	In	Out	2-way
Friday PM Peak 17:00-18:00	113	108	221	95	88	183
Saturday Peak 14:00-15:00	128	139	267	131	126	257

3.4.2 As shown, the Fenton and Tunstall data provides a higher level of traffic for the proposal.

3.5 Summary

3.5.1 It is therefore concluded that the stores at Fenton and Tunstall, as used for analysis, are realistic and robust as they:

- Have smaller car parks than Leek New Road
- Have a larger drive thru' queue than Leek New Road
- Provide higher traffic generation than Leek New Road

4.0 TRAFFIC DISTRIBUTION

4.1 Methodology

4.1.1 Within the TA, the traffic generation was split to represent the five main roads in Leek:

- From the north west: A523
- From the north east: A53
- From the south east: A523
- From the south: A520
- From the south west: A53

4.1.2 This was in turn, distributed so that 20% of traffic approached from the southwest on Broad Street and the remaining 80% would all arrive from the northeast on Broad Street, via the Broad Street / Edward Street / Compton signal junction.

4.1.3 As noted in the TA, very little traffic visiting McDonald's is expected to be an additional new trip on the network, although it is acknowledged that of the existing trips, these will not necessarily be passing the site, so would divert their journey in order to make a visit. This could lead to a new trip on Broad Street in the vicinity of the site. Within the TA, the additional trips were stated as:

- Friday: 21%
- Saturday 16%

4.1.4 As a result the traffic has been distributed as set out in Tables 4A and 4B, with the only existing trips assigned to a proportion of the traffic already passing on Broad Street.

Table 4A Traffic distribution: Friday

Origin		Approaching site from	Trip type				Total	
			Additional		Existing			
Road	%		In	Out	In	Out	In	Out
A53 SW	20%	Broad St SW	5	5	18	17	23	22
A523 NW	20%	Broad St NE	23	22	0	0	90	86
A53 NE	20%		23	22				
A523 SE	20%		23	21				
A520 S	20%		21	21				
Total			**95**	**91**	**18**	**17**	**113**	**108**

Table 4B Traffic distribution: Saturday

Origin		Approaching site from	Trip type				Total	
			Additional		Existing			
Road	%		In	Out	In	Out	In	Out
A53 SW	20%	Broad St SW	4	5	22	24	26	29
A523 NW	20%	Broad St NE	26	29	0	0	102	110
A53 NE	20%		26	27				
A523 SE	20%		25	27				
A520 S	20%		25	27				
Total			**106**	**115**	**22**	**24**	**128**	**139**

4.1.5 As shown above, only 16% of traffic on Friday and 17% of traffic on Saturday has been treated as existing, and these are the trips which would be approaching on Broad Street, from the south west and passing the site. All other trips have been treated as additional on the network. This is considered to be an extremely robust analysis and is noted in subsequent analysis as the 20/80 scenario to reflect the proportions of traffic to the site.

4.1.6 In order to address officer concerns about McDonald's traffic using Sneyd Street, a second scenario has been set up, whereby it is assumed that all traffic approaching from the A523 in the north-west, travels to the site via West Street, Salisbury Street and Sneyd Street. This results in the following traffic distribution:

Table 4C Traffic distribution: Friday

Origin		Approaching site from	Trip type				Total	
			Additional		Existing			
Road	%		In	Out	In	Out	In	Out
A53 SW	20%	Broad St SW	5	5	18	17	23	22
A523 NW	20%	Sneyd Street	23	22	0	0	23	22
A53 NE	20%	Broad St NE	23	22	0	0	67	64
A523 SE	20%		23	21				
A520 S	20%		21	21				
Total			**95**	**91**	**18**	**17**	**113**	**108**

Table 4D Traffic distribution: Saturday

Origin		Approaching site from	Trip type				Total	
			Additional		Existing			
Road	%		In	Out	In	Out	In	Out
A53 SW	20%	Broad St SW	4	5	22	24	26	29
A523 NW	20%	Sneyd Street	26	29	0	0	26	29
A53 NE	20%	Broad St NE	26	27	0	0	76	81
A523 SE	20%		25	27				
A520 S	20%		25	27				
Total			**106**	**115**	**22**	**24**	**128**	**139**

4.1.7 Whilst this scenario takes traffic away from the Edward Street / Broad Street / Compton junction, it provides a greater test for the junction of Broad Street / Sneyd Street. This scenario is subsequently referred to as the 20/20/60 scenario.

4.1.8 As per the methodology utilised in the TA, all turning movements in and out of the site are considered to be new movements, it is only the limited number of vehicles which would be passing on Broad Street in any event, that have been considered as existing vehicles.

4.2 Broad Street / Edward Street / Compton traffic signals

4.2.1 In terms of the distribution of vehicles through the Broad Street / Edward Street / Compton these have been distributed as follows:

- Development traffic has been split in proportion with the total traffic approaching the junction either from Edward Street, Broad Street (east) or Compton, in proportion with the existing flows into the junction;
- At each arm, the development traffic has been split in proportion with the turning movements;
- Traffic which would have headed towards Broad Street (west) continues to do so;
- Traffic which would have gone to Edward Street, Broad Street (east) or Compton is diverted to Broad Street (west);
- Traffic leaving the McDonald's would head back to the junction and head back in the direction it originated in.

- Traffic which was headed through the junction towards Broad Street (west) in any event would continue its journey to the west.

4.2.2 This methodology has ensured that 80% of all the McDonald's traffic has been assessed passing through the Edward Street / Broad Street / Compton traffic signals, both on inbound and outbound trips from the restaurant, ensuring a highly robust analysis in the 20/80 scenario.

4.3 Sneyd Street priority junction

4.3.1 Traffic travelling to the site via Sneyd Street will be assessed as additional trips on the network for all inbound and outbound trips.

5.0 PEDESTRIANS AND BUSES

5.1 Pedestrians

5.1.1 As noted in the TA, the restaurant would be expected to generate around 35-40 pedestrian trips, two-way during the peak hours.

5.1.2 These pedestrians would use the existing footway infrastructure near to the site in order to gain access to the development by foot.

5.1.3 The access can be provided with tactile paving at the kerb edges to assist pedestrians in identifying the crossing. Additionally, if further mitigation was required for pedestrians, then the same surface treatment as utilised at the south end of Sneyd Street could be provided.

5.1.4 If pedestrian priority is a matter of key concern for the highway authority then the access could be provided via a dropped kerb arrangement, therefore affording greater priority to people travelling on foot.

5.1.5. It should also be noted that five existing vehicle crossings at the site are to be reconciled to one and that within the site, there will be a pedestrian crossing marked across the drive thru lane.

5.2 Buses

5.2.1 The westbound bus stop on Broad Street is located to the south west of the site. There is no corresponding eastbound stop near to the site frontage.

5.2.2 The highway authority has requested that the effect of stationary buses be considered.

5.2.3 The local bus timetables show that around four buses per hour on average use the westbound bus stop on Broad Street. It is therefore considered that these would have a negligible effect on traffic leaving the proposal site.

5.2.4 Notwithstanding this, if a bus was using the stop and traffic was obstructed (for around 1 minute or so while passengers boarded / alighted), then any delays incurred by McDonald's customers would occur while they were in the site waiting to exit, as opposed to while on the highway. Therefore this would have no impact on the operation of the highway network.

6.0 HIGHWAY OFFICER COMMENTS

6.1 The Highway Officer raised a number of specific issues in their comments and these are considered accordingly.

Actual traffic generation, turning vehicles, non discounted figures used for junction assessments;

This has was the case in the TA and has been re-calculated for this supplementary note. The only vehicles which have been discounted from the network are those which would have already been on Broad Street and passing the site in any event. All turning movements in and out of the site have been counted as additional traffic.

consideration of effects on the wider network of Leek Town centre;

The analysis takes into account traffic arriving from the five main routes in and out of Leek.

additional traffic on Sneyd Street;

A separate traffic generation scenario has been prepared in order to test additional levels of traffic using Sneyd Street.

details of existing restaurants in a comparable relative location to Leek proposal;

The justification of the use of the Fenton and Tunstall restaurants has been provided in this report. Additionally, they have been compared against a newer store with a larger car park and shown that the traffic, drive thru and parking characteristics are a more appropriate and robust match for the proposals in Leek.

pedestrian counts and proposals for pedestrians;

The site would expect 35-40 two-way pedestrian movements during the peak hours. The site access is narrower than the adjacent Sneyd Street junction and can be provided with dropped kerbs, and if necessary an entry treatment similar to that at Sneyd Street.

consideration of the effect of the bus stop and stationary buses on the frontage

It is considered that the low levels of service at the westbound bus stop on Broad Street would not have an adverse effect. Any delays arising as a result of the bus stop would involve McDonald's customers remaining in the site, as opposed to waiting on the highway.

geometry used in picady;

This drawing will be provided in Supplementary Note 1B

Queueing stationary traffic across the frontage from the traffic signal controlled junction and the effect on this junction;

As noted in this Supplementary Note, traffic has been assigned through the Edward Street / Broad Street / Compton signal junction and an assessment using Linsig v3 will be provided in the Supplementary Note 1B.

6.2 Supplementary Note 1B will include full Appendices and the technical junction analyses. This report has, however, addressed a number of issues raised by the highway officer, which are considered to be resolved. The analysis in this report will be preserved in Supplementary Note 1B and the updated report will supercede this document so that all items are covered in a single document.