ADL Traffic Engineering Ltd
9 Coldbath Square, London, EC1R 5HL
Tel: 020 7278 8844 Fax: 020 7278 8810 Email: cad@adltraffic.co.uk

TRANSPORT ASSESSMENT
VOLUME 5
PROPOSED McDONALD'S DRIVE THRU
LARCHWOOD AVENUE
HAVANT

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

ADL/AJM/2256/30B

November 2011

REPORT CONTROL

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Primary Author	Catherine Chapman	Initialled:	CC

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1.0 INTRODUCTION

1.1 Purpose of Report

1.1.1 A planning application (ref: APP/11/00993) was submitted to Havant Borough Council on 2 August 2011 for a proposed 462sqm gfa drive thru, McDonald's Restaurant with drive thru facilities at Larchwood Avenue, Havant.

1.1.2 The planning application was supported by Transport Assessments prepared by ADL Traffic Engineering:

- Volume 1 (ref: ADL/AJM/2256/05B) April 2011;
- Volume 2 (ref: ADL/AJM/2256/05B) April 2011;
- Volume 3 (ref: ADL/AJM/2256/30A) September 2011 (to specifically address the issues raised by the Highways Agency);
- Volume 4 (ref: ADL/AJM/2256/27A) October 2011 (to specifically address the issues raised by the Hampshire Highway Authority (HAA));

and a Travel Plan (ref. ADL/AJM/2256/11A) April 2011

1.1.3 Subsequent to the submission of Volume 3 the Highways Agency issued their TR110 on 3 October 2011 stating that they had no objection to the application.

1.1.4 ADL met with Mr G Wright, Hampshire Highway Authority (HHA) on Thursday 17 November 2011, to discuss the TA Volume 4. A Note of Meeting (which was agreed with Mr Wright by email) is included in Appendix 1.0.

1.1.5 This report provides ADL's response and addresses the issues raised by HHA.

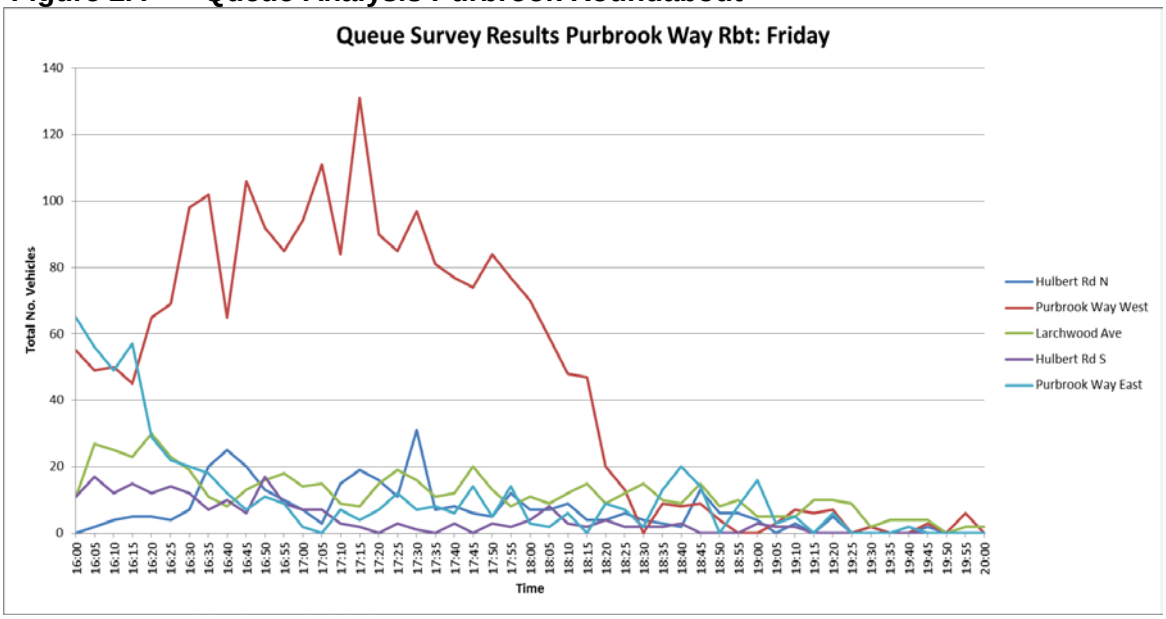
2.0 IMPACT ASSESSMENT

2.1 Queue Analysis Purbrook Roundabout

2.1.1 The analysis is Section 4.1 ADL TA Vol 1 has demonstrated that queues at the Purbrook Roundabout on a Friday are higher than on a Saturday, therefore this analysis has focused on the impact on a Friday.

2.1.2 The surveyed queues on each arm of the roundabout for the Friday survey period (16:00-20:00 hours) are shown in Figure 2A below. Purbrook Way West is subject to higher levels of queuing (16:30-18:30 hours) but this is not consistent with the situation on the other arms of the roundabout. The peak queue lengths on Purbrook Way, represents an intense but relatively short period of activity. The off peak queues on all arms are much lower.

Figure 2A Queue Analysis Purbrook Roundabout



2.1.3 The hourly additional traffic and diverted trips returning on Larchwood Avenue generated by the McDonald's on a Friday on each arm of the roundabout are set out below. This traffic impact per 5 minute interval gives the likely impact on the queue length at the roundabout.

Arm	Hourly Additional Trips Circulating Rbt	Impact/5-min interval on queues
• Hulbert Rd N	+4	+1
• Purbrook Way W	+9	+1
• Larchwood Ave	+66	+6
• Purbrook Way W	+12	+1

2.1.4 This level of traffic impact is not considered material in traffic engineering terms.

2.2 ARCADY Calibration

2.2.1 The ARCADY model has not been calibrated against the queue survey results because:

- Queue lengths vary little between a wide range of capacities. A measured queue will match model outputs for a wide range of RFC values;
- To validate the model against the queue lengths would mean significantly changing the roundabout geometry input into the model. For example, reducing the flare length on Purbrook Way West from 25m to 15m;
- The model represents the roundabout during peak periods as being at or over capacity and therefore the ARCADY results do not accurately portray the impact of additional traffic.

2.3 Turnover/Traffic Generation

2.3.1 McDonald's Restaurants Ltd operate 1,200 fast service restaurants throughout the UK. Using the experience obtained from operating these restaurants, the potential sales (viability) of proposed restaurants is predicted based on comparable restaurant performance.

2.3.2 Comparable restaurants are selected on the basis of the following data:

- Restaurant format and location type (e.g. local travel route, retail park);
- Catchment size in terms of residential population (modelled core residential catchment within 3km radius, 5km in less densely populated areas);
- Shopper and market population;

- Number and proximity of surrounding McDonald's restaurants;
- Number and proximity of surrounding competitor restaurants;
- Traffic flow information.

2.3.3 Fareham and St Leonards have been selected as comparable to Havant due to their location near similar retailers. The data for Fareham, St Leonards and Havant is summarised in Tables 2A and 2B below and plans showing the surrounding restaurants are included in Appendix 2.0.

Table 2A McDonald's Trade Data Inputs: Traffic Flows and Restaurants

Restaurant	16 Hr AADT Traffic Flows (2-way)	Additional McDonald's With 5km [*1]	Competitor Restaurants With 5km	Total Restaurants Within 5km
Fareham	24,900	1	1	3
St Leonards	19,400	1	4	6
Havant	22,527	3	6	10

Note: [*1] In-stores and drive thrus

Table 2B McDonald's Trade Data Inputs: Population and Market Penetration

Restaurant	McDonald's DT's Within 5km	Population 5km	Shopper Population	Market Penetration
Fareham	1	124,767	73,706	1:124,767
St Leonards	1	91,647	96,660	1:91,647
Havant	2 [*1]	120,280	22,664	1:60,140

Note: [*1] Includes proposed restaurant

2.3.4 McDonald's model makes adjustments to allow for differing factors likely to affect sales performance. In this case we have been advised that, the key factors are number of McDonald's restaurants and all three population types shown in Table 2B.

2.3.5 The above demonstrates Havant will have significantly more competition for trade than the Fareham and St Leonards restaurants and resulting sales are expected to be lower. Consequently, this is why McDonald's have provided ADL with the pro-rata factors in ADL TA Vol 2 Section 7.2.

2.4 Drive Thru Queue

2.4.1 The drive thru queue at Fareham and St Leonards was recorded in 5-minute intervals during the survey period. The data has been used to provide a more detailed assessment and calculate the proposed drive thru queue in 5-minute intervals. The results are included in Appendix 3.0. The maximum queue would be:

- Friday 8 vehicles
- Saturday 9 vehicles

2.4.2 The drive thru lane has capacity to accommodate 11 vehicles and therefore has adequate capacity to accommodate the predicted level of demand.

2.4.3 Notwithstanding the above, there is space for 21 vehicles to queue before the queue even reaches the McDonald's Access/Larchwood Avenue (West) Junction.

2.5 Trips By Type

2.5.1 Hampshire County Council Contributions Policy (2007) states that:

> ***"The basic measurement of transport impact will be quantified by the net increase in the number of multi modal trips that a development is expected to generate."***

2.5.2 The Department of Transport definition of a trip as outlined in National Transport Statistics is a:

> ***"One way course of travel with a single main purpose"***

2.5.3 It was previously agreed with Hampshire County Highway Authority (see ADL TA Vol 1, Appendix 1.2 Note 8) that:

> ***"ADL will calculate the number of multi modal trips generated by the McDonald's including; new, shared with ASDA and shared with other purposes. A transport contribution would only be calculated based on trips which are <u>solely to McDonald's</u> and are completely new to the network."***

2.5.4 The level of transport contribution which has been calculated based on the proportion of additional trips which are sole purpose trips to McDonald's is in accordance with HCC policy and has been agreed with HCC Highways.

2.6 Committed Development

2.6.1 The impact of the McDonald's has been assessed in Section 2.1 of this report and would have no material impact.

2.6.2 The first principles analysis in Section 9.6 ADL TA Vol 2 added the committed development traffic and the McDonald's traffic to the observed queues. Therefore:

- Either;
  - a potential reduction should have been made to the observed queues on Purbrook Way West to account for the permitted highway works
- Or:
  - no committed flows should have been added

The analysis presented made no adjustment (i.e. the committed development traffic was added but the queues were not adjusted for the highway improvements) in order to provide a robust assessment.

APPENDIX 1.0

NOTE OF MEETING 17/11/2011

A D L T r a f f i c E n g i n e e r i n g L t d
9 Coldbath Square, London, EC1R 5HL
Tel: 020 7278 8844 Fax: 020 7278 8810 Email: cad@adltraffic.co.uk

N O T E O F M E E T I N G

Subject:	McDonald's, Larchwood Avenue, Havant		
Location:	Hampshire County Council Offices Winchester		
Date:	17 November 2011	Time:	11:00 am
ADL Ref:	ADL/CC/2256		
In Attendance:			
	Allan Mendelsohn	-	ADL Traffic Engineering
	Catherine Chapman	-	ADL Traffic Engineering
	Graham Wright	-	Hampshire County Council

1.0 Highways Agency

AJM confirmed to GW that the Highways Agency had withdrawn their objection to the application.

2.0 Queue Analysis: Purbrook Roundabout

GW said that the peak level of queuing at the Purbrook Roundabout may represent relatively short period of intense queues and that this should be set in context of the off peak queuing situation. The TA assesses the impact of the McDonald's during the peak period and this should be compared to the impact during the off peak periods.

Action:

ADL to provide a brief assessment of the peak and off peak queues at the Purbrook Roundabout and the impact of the McDonald's.

3.0 ARCADY Analysis

GW said that an explanation needed to be provided as to why the ARCADY model could not be calibrated.

Action:

ADL to provide rationale as to why the ARCADY model cannot be calibrated against the queue surveys.

APPENDIX 1.0
NOTE OF MEETING
17.11.2011

4.0 Turnover/Traffic Generation

GW advised that in order to arrive at a basis for calculating the contribution, the traffic generation needed to be evidence lead.

This could be achieved either by TRICS or by an appropriate explanation of the modelling process used by McDonald's.

AJM explained that TRICS was not used for assessing the McDonald's because the TRICS data was considered out of date and that the trip rates were based on floor area.

ADL's methodology for calculating trip generation is based on surveys of comparable restaurants adjusted pro rata based on level of trade. The level of predicted trade is calculated by McDonald's (via a model) and supplied to ADL.

AJM noted that trade information is commercially sensitive and cannot be released into the public domain. McDonald's model used criteria such as catchment population, competing restaurants, passing traffic flows.

GW required to have demonstrated to him how the factors used in the model to calculate trade at Havant differed from the levels of trade occurring at St Leonards and Fareham.

CC noted that during the Friday peak the level of traffic predicted by TRICS was lower than that predicted based on the level of trade.

Action:

ADL to provide evidence either from TRICS or from the McDonald's modelling process (to support the proportional differences in trade between Fareham/St Leonards and the proposed restaurant).

5.0 Drive Thru Queue

GW said that the Highway Authority would only be concerned regarding the drive thru queue if there was an impact on the Larchwood Avenue.

AJM noted that the drive thru lane was relatively long and that there was a significant distance between the drive thru lane and the Larchwood Avenue Roundabout.

Action:

ADL to demonstrate that in a worst case scenario the drive thru queue would not impact on the Larchwood Avenue roundabout.

6.0 Trips by Type

Three types of trips have been identified within the TA from the customer interview surveys;

- Additional trips (trips with the sole purpose of visiting McDonald's). These trips may not necessarily be new trips as customers may have previously undertaken trips to existing fast food restaurants.

- Shared trips (trips which are linked with the ASDA). These trips would pass by the McDonald's Havant site.
- Diverted trips (trips which are existing on the network, McDonald's is not the sole purpose of the trip). These trips would be diverted onto Larchwood Avenue at the Purbrook Roundabout.

GW noted that the diverted trips would be new to the roundabout when they exit the site back onto Larchwood Avenue.

AJM confirmed that this has been accounted for in the traffic flow diagrams.

GW noted that the diverted trips could comprise of those trips which would be 'passing by' through the Purbrook Roundabout and those which have diverted from further afield.

AJM said that the key issue in terms of the contribution was the wording of the policy in Hampshire County Council Developer Contributions Policy 2007.

Action:

ADL to assess the wording of HCC Contributions Policy

7.0 Committed Development

GW said that whilst it was correct to include trips from development that has planning permission (Grainger) it was not appropriate to include the highway works proposed by Grainger, as it is by no means clear that these works will be constructed and available when the proposed drive thru will be opened. This could be due to a delay in commencement or to phasing and should be reflected in your assessment.

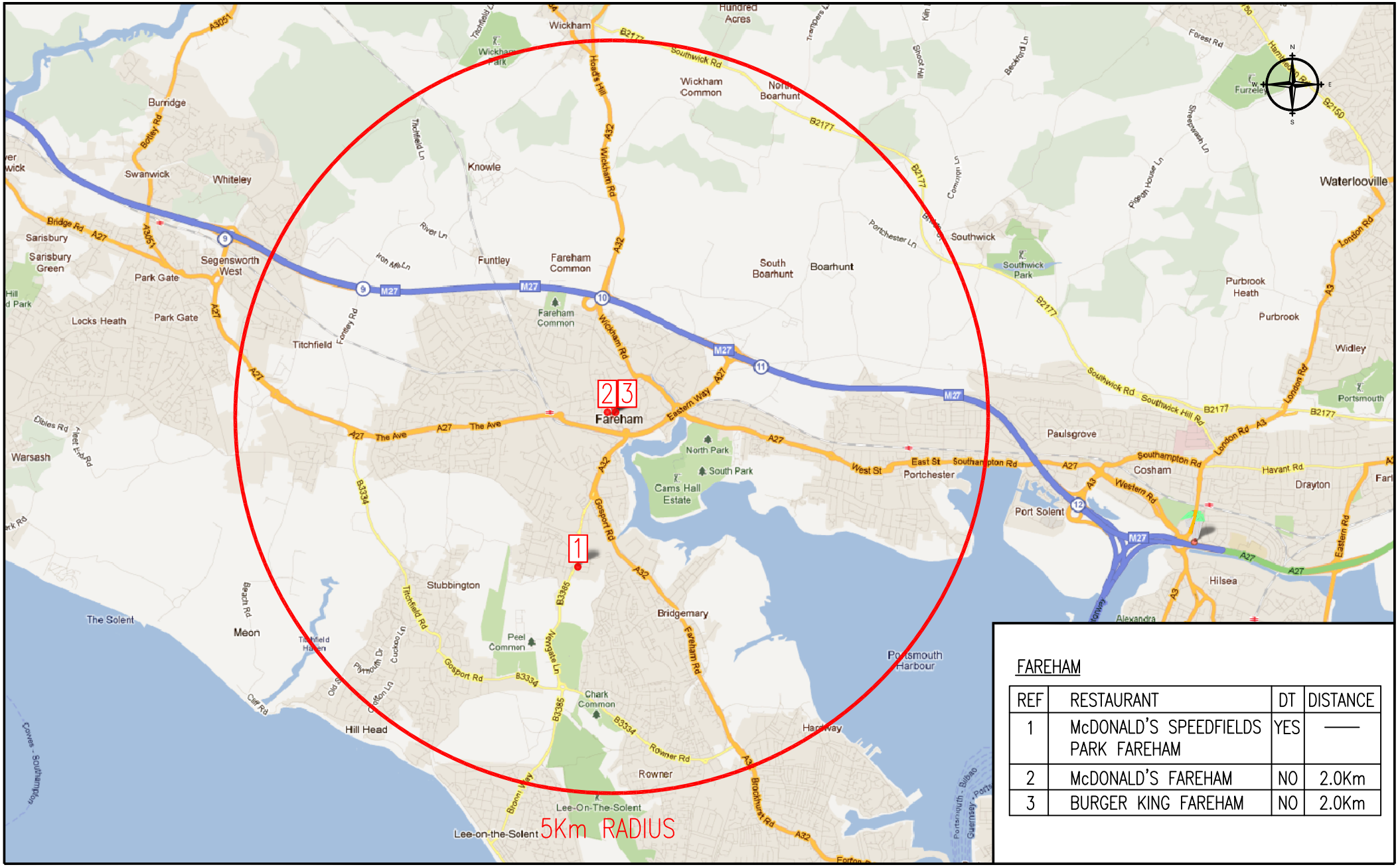
Circulation:

Those in attendance
Mr A Lomas - McDonald's Restaurants Ltd
Mr M Carpenter - Planware
Planning Officer

APPENDIX 2.0

SURROUNDING RESTAURANTS

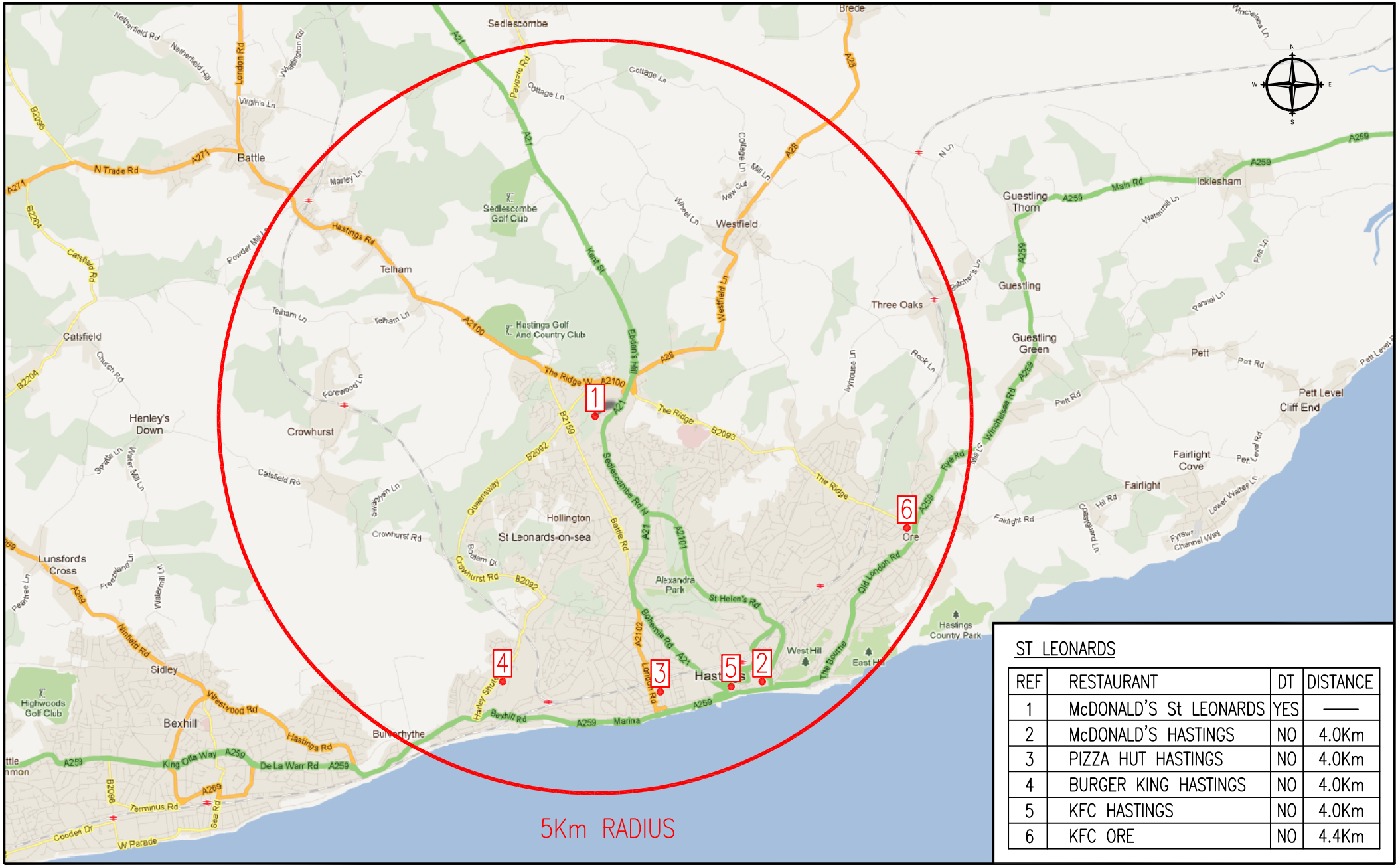
2.1 Fareham
2.2 St Leonards
2.3 Havant



FAREHAM

REF	RESTAURANT	DT	DISTANCE
1	McDONALD'S SPEEDFIELDS PARK FAREHAM	YES	——
2	McDONALD'S FAREHAM	NO	2.0Km
3	BURGER KING FAREHAM	NO	2.0Km

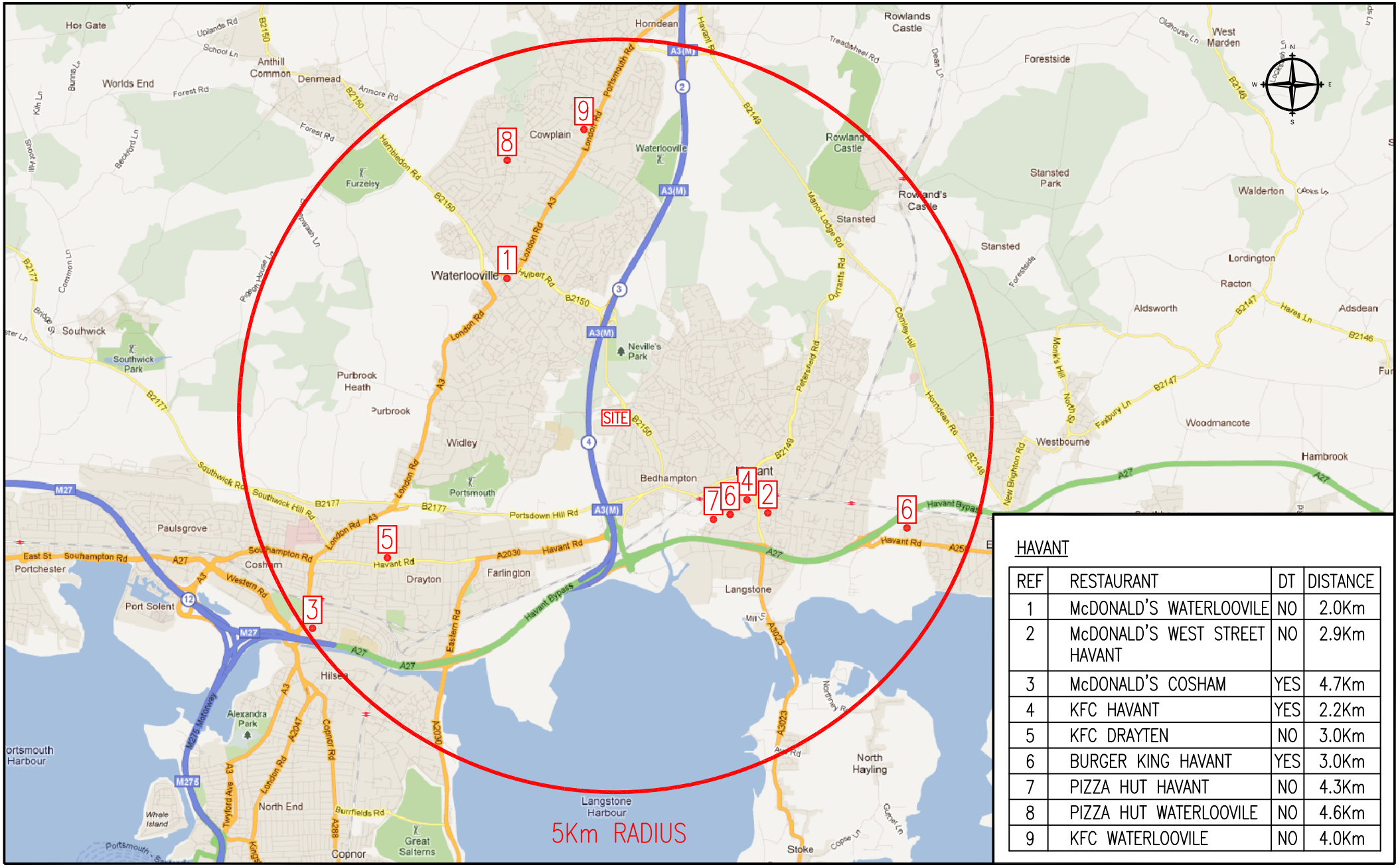
APPENDIX 2.1
SURROUNDING RESTAURANTS:
FAREHAM



ST LEONARDS

REF	RESTAURANT	DT	DISTANCE
1	McDONALD'S St LEONARDS	YES	——
2	McDONALD'S HASTINGS	NO	4.0Km
3	PIZZA HUT HASTINGS	NO	4.0Km
4	BURGER KING HASTINGS	NO	4.0Km
5	KFC HASTINGS	NO	4.0Km
6	KFC ORE	NO	4.4Km

APPENDIX 2.2
SURROUNDING RESTAURANTS:
St LEONARDS



HAVANT

REF	RESTAURANT	DT	DISTANCE
1	McDONALD'S WATERLOOVILE	NO	2.0Km
2	McDONALD'S WEST STREET HAVANT	NO	2.9Km
3	McDONALD'S COSHAM	YES	4.7Km
4	KFC HAVANT	YES	2.2Km
5	KFC DRAYTEN	NO	3.0Km
6	BURGER KING HAVANT	YES	3.0Km
7	PIZZA HUT HAVANT	NO	4.3Km
8	PIZZA HUT WATERLOOVILE	NO	4.6Km
9	KFC WATERLOOVILE	NO	4.0Km

APPENDIX 2.3
SURROUNDING RESTAURANTS:
HAVANT

APPENDIX 3.0

DRIVE THRU QUEUE ANALYSIS

DRIVE THRU QUEUE ANALYSIS

FRIDAY

Time	Surveyed		Pro Rata		Proposed
	Fareham	St Leonards	Fareham 0.55	St Leonard (0.8)	Average
16:00	7	4	4	3	4
16:05	7	2	4	2	3
16:10	5	2	3	2	2
16:15	4	2	2	2	2
16:20	5	4	3	3	3
16:25	12	2	7	2	4
16:30	10	0	6	0	3
16:35	9	1	5	1	3
16:40	10	2	6	2	4
16:45	16	6	9	5	7
16:50	13	2	7	2	4
16:55	10	3	6	2	4
17:00	3	1	2	1	1
17:05	3	4	2	3	2
17:10	9	1	5	1	3
17:15	7	2	4	2	3
17:20	11	4	6	3	5
17:25	14	7	8	6	7
17:30	10	2	6	2	4
17:35	6	4	3	3	3
17:40	13	3	7	2	5
17:45	13	2	7	2	4
17:50	11	6	6	5	5
17:55	13	7	7	6	6
18:00	16	8	9	6	8
18:05	6	6	3	5	4
18:10	15	4	8	3	6
18:15	17	2	9	2	5
18:20	15	3	8	2	5
18:25	16	10	9	8	**8**
18:30	10	9	6	7	6
18:35	14	7	8	6	7
18:40	12	5	7	4	5
18:45	7	5	4	4	4
18:50	6	5	3	4	4
18:55	5	4	3	3	3
19:00	5	6	3	5	4
19:05	7	7	4	6	5
19:10	9	5	5	4	4
19:15	6	3	3	2	3
19:20	8	8	4	6	5
19:25	3	4	2	3	2
19:30	5	1	3	1	2
19:35	3	3	2	2	2
19:40	10	6	6	5	5
19:45	10	1	6	1	3
19:50	8	2	4	2	3
19:55	9	1	5	1	3

APPENDIX 3.0
DRIVE THRU QUEUE ANALYSIS

SATURDAY

Time	Surveyed		Pro Rata		Proposed
	Fareham	St Leonards	Fareham 0.55	St Leonard (0.8)	Average
11:00	6	4	3	3	3
11:05	4	3	2	2	2
11:10	5	4	3	3	3
11:15	4	3	2	2	2
11:20	10	4	6	3	4
11:25	12	6	7	5	6
11:30	10	4	6	3	4
11:35	11	4	6	3	5
11:40	10	4	6	3	4
11:45	8	10	4	8	6
11:50	9	8	5	6	6
11:55	9	10	5	8	6
12:00	6	4	3	3	3
12:05	12	5	7	4	5
12:10	13	4	7	3	5
12:15	8	5	4	4	4
12:20	14	4	8	3	5
12:25	14	6	8	5	6
12:30	13	8	7	6	7
12:35	13	5	7	4	6
12:40	9	4	5	3	4
12:45	8	16	4	13	**9**
12:50	9	9	5	7	6
12:55	10	9	6	7	6
13:00	8	8	4	6	5
13:05	9	7	5	6	5
13:10	12	5	7	4	5
13:15	14	4	8	3	5
13:20	14	8	8	6	7
13:25	9	10	5	8	6
13:30	7	6	4	5	4
13:35	4	7	2	6	4
13:40	10	7	6	6	6
13:45	11	4	6	3	5
13:50	8	7	4	6	5
13:55	6	5	3	4	4
14:00	10	10	6	8	7
14:05	10	6	6	5	5
14:10	9	4	5	3	4
14:15	12	4	7	3	5
14:20	13	4	7	3	5
14:25	11	3	6	2	4
14:30	8	4	4	3	4
14:35	12	6	7	5	6
14:40	14	6	8	5	6
14:45	14	3	8	2	5
14:50	15	3	8	2	5
14:55	11	3	6	2	4