
Appendix A – Traffic Data Collection Report



Norfolk County Council

GREAT YARMOUTH THIRD RIVER CROSSING TRAFFIC MODELLING

Traffic Data Collection Report Addendum





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FINAL VERSION PUBLIC

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Norfolk County Council

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Traffic Data Collection Report Addendum

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1 INTRODUCTION

1.1 BACKGROUND

- 1.1.1. As part of a wider commission providing design, engineering and consultancy support services, Mouchel (now part of WSP) was appointed by Norfolk County Council (NCC), “The Applicant” to develop a suite of traffic models of Great Yarmouth and the surrounding area in 2016. These models would, through traffic forecasts and other assessments of performance, contribute to informing design, option assessment and the Value for Money (VfM) appraisal of the proposed Great Yarmouth Third River Crossing.
- 1.1.2. The VfM case formed part of an Outline Business Case (OBC), which was submitted to the Department of Transport (DfT) in March 2017 and was subsequently approved.
- 1.1.3. For the 2016 suite of models, the following traffic data was used:
- Count data from permanent counters from Highways England’s WebTRIS database at four locations along the A47 (Plate 1-1);
 - Count data from 62 Automatic Traffic Counts (ATCs) and 69 Manual Classified [junction turning] Counts (MCCs) (Plate 1-2);
 - Automatic Number Plate Recognition (ANPR) at 36 locations;
 - Roadside Interview (RSI) surveys were undertaken, capturing the details of movements through sites on nine on main roads in Great Yarmouth (Plate 1-3);
 - Queue length surveys were recorded at 20 locations; and
 - Journey times were extracted, in both directions, for eight routes in Great Yarmouth (Plate 1-4).
- 1.1.4. Detailed information on the traffic data that was collected for the 2016 models can be found in the *Traffic Data Collection Report (1076653-MOU-GEN-XX-TN-TP-0001)*, which formed part of the Outline Business Case submission. This document is an addendum to that 2016 report.



Plate 1-1 - Highways England WebTRIS Count Locations

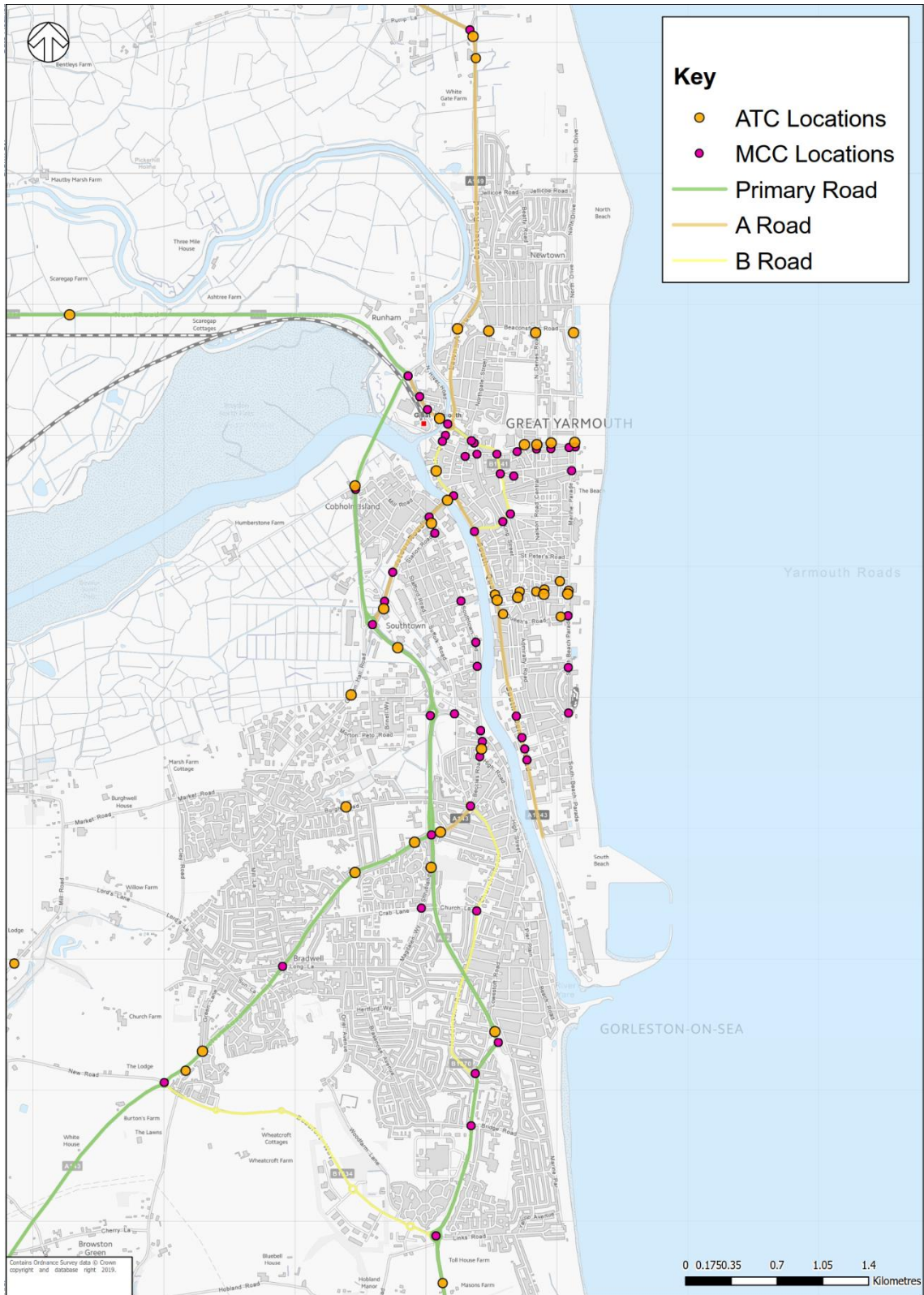


Plate 1-2 - 2016 Model ATC and MCC Count Locations

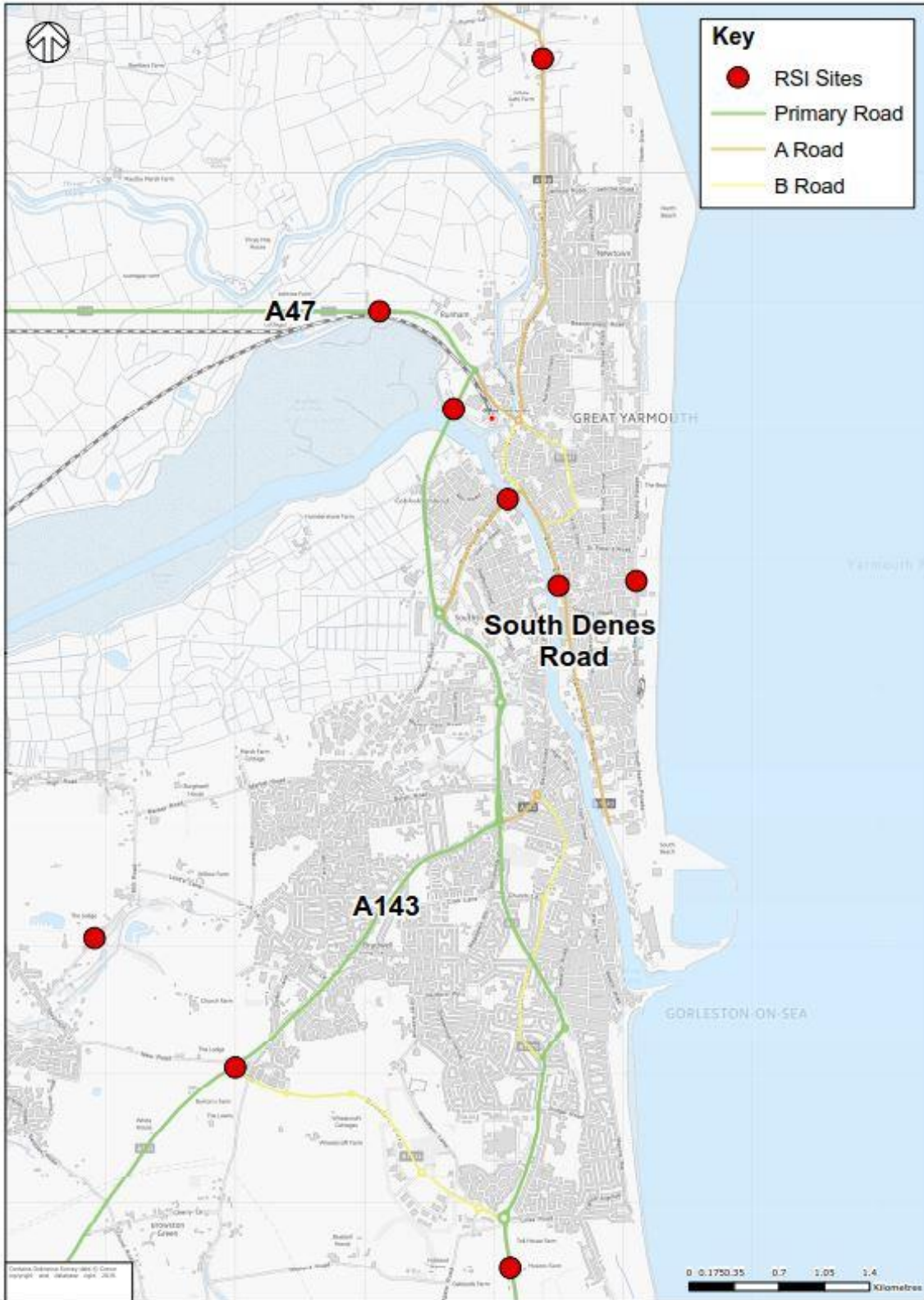


Plate 1-3 - 2016 Model RSI Locations

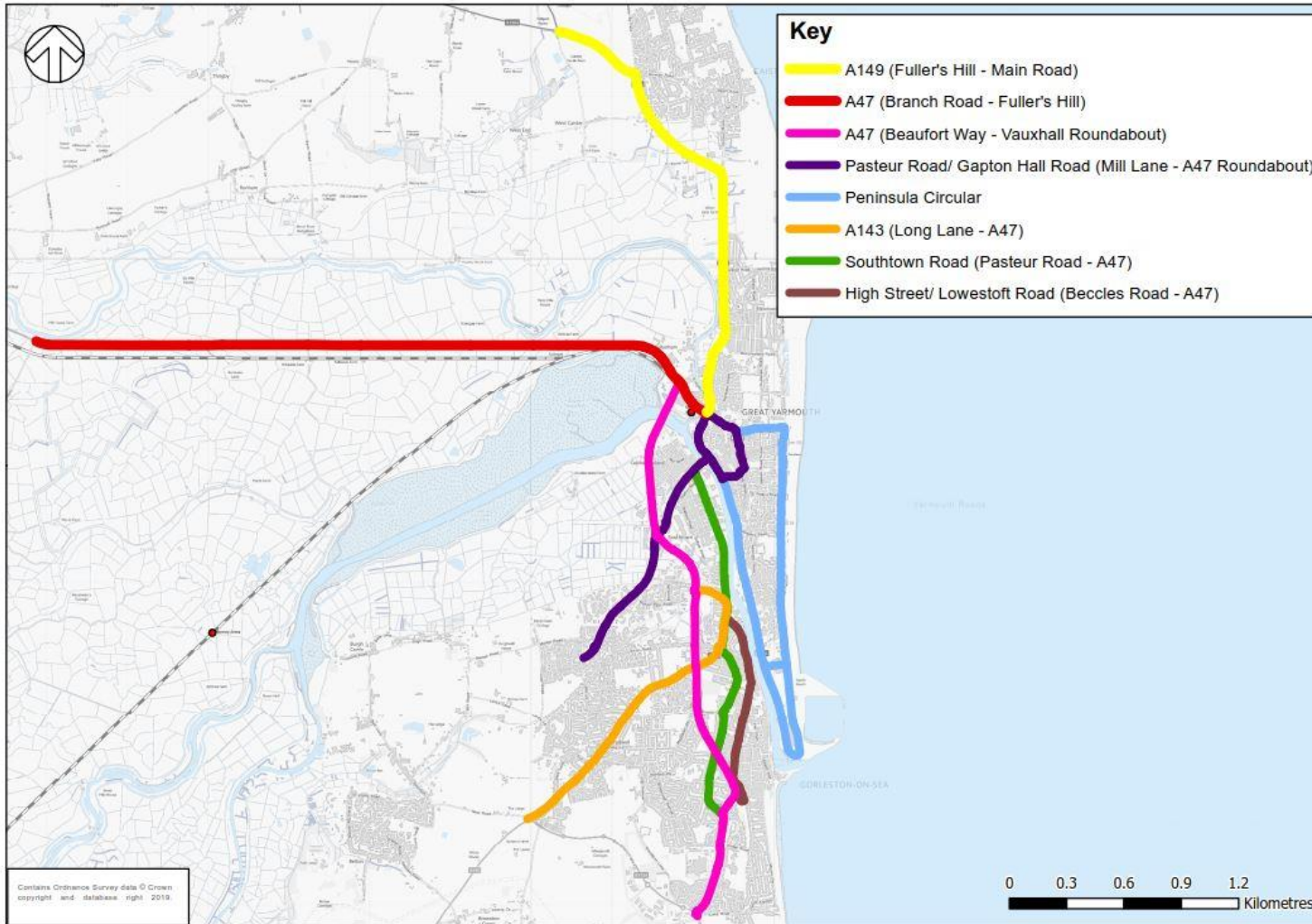


Plate 1-4 - 2016 Journey Time Routes

1.2 NEED FOR NEW DATA COLLECTION

- 1.2.1. The 2016 suite of traffic models ('Great Yarmouth Traffic Model' and 'Great Yarmouth Town Microsimulation Model') needed to be updated to a 2018 base year to inform the Transport Assessment (TA), the Economic Appraisal Report (EAR) and the Environmental Statement (ES), which are required for the Development Consent Order (DCO) submission.
- 1.2.2. These new traffic data are also required inform the baseline conditions data reporting in the TA and understand any change to conditions in Great Yarmouth from 2016 to 2018.

1.3 PURPOSE OF THIS REPORT

- 1.3.1. The purpose of this report is to provide details of the data collected and gathered in 2018. In this way this report is an addendum to the 2016 *Traffic Data Collection Report*.
- 1.3.2. This report also compares traffic data from 2016 and 2018 from a variety of sources to establish the change in traffic volumes and patterns between the two years.

1.4 REPORT STRUCTURE

- 1.4.1. This *Traffic Data Collection Report Addendum* is structured as follows:
 - Section 2 covers the new data collected in 2018;
 - Section 3 provides a comparison of 2016 and 2018 traffic counts from a variety of sources; and
 - Section 4 provides a summary of the information presented in the report.

2 NEW DATA COLLECTION

2.1 INTRODUCTION

2.1.1. WSP in agreement with NCC commissioned CTS Traffic and Transportation Ltd to collect MCCs and ATCs data for a neutral period at locations in the Great Yarmouth study area. Queue length surveys were included at a subset of MCC site locations on the same day as the MCC data collection.

2.2 AUTOMATIC TRAFFIC COUNTS

- 2.2.1. ATCs were commissioned for 20 locations in the Great Yarmouth study area. The counts were undertaken for a two-week period between 6 March 2018 and 20 March 2018.
- 2.2.2. A two-week period was chosen to provide a large enough sample to find and remove outliers while still covering a sufficient period. The choice of a two-week survey period is within the range advised in *WebTAG Unit M1.2 – Data Sources and Surveys*¹.
- 2.2.3. The locations of the ATCs were chosen using two criteria:
- Locations were chosen to include the locally important strategic connections, primary and local distributor roads into and around Great Yarmouth
 - Locations should have a nearby equivalent count from 2016
- 2.2.4. The locations selected for 2018 surveys therefore cover a subset of the surveys undertaken for the 2016 model. If the results of a comparison between 2016 and 2018 had showed signs that wide-ranging changes to traffic patterns had occurred in Great Yarmouth, then the traffic survey programme would be extended to repeat all surveys that were undertaken in 2016 model development. The analysis discussed in Section 3 of this report demonstrates that traffic patterns were stable from 2016 to 2018, so additional surveys were not required.
- 2.2.5. The locations of the ATC surveys are shown in Plate 2-1 and listed in Table 2-1.

¹https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/427119/webtag-tag-unit-m1-2-data-sources-and-surveys.pdf

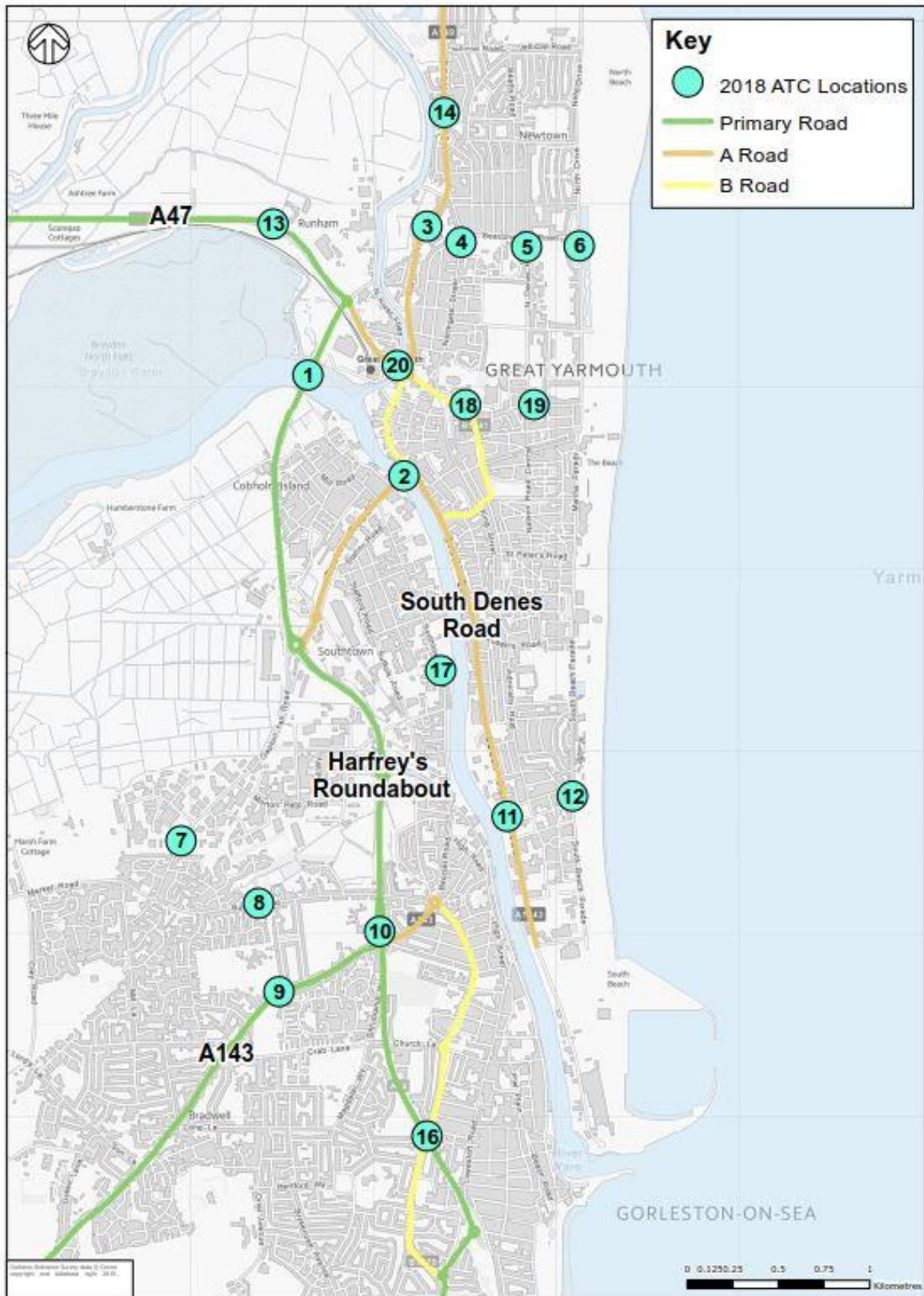


Plate 2-1 - 2018 ATC Location Map (except site 15)

Table 2-1 - 2018 ATC Locations in Great Yarmouth

| Ref. No. | Location |
|-----------------|----------------------|
| 1 | A47 - Breydon Bridge |
| 2 | Haven Bridge |
| 3 | Lawn Avenue |
| 4 | Northgate Street |
| 5 | North Denes Road |
| 6 | North Drive |
| 7 | Gapton Hall Road |
| 8 | Burgh Road |
| 9 | Beccles Road |
| 10 | A47/Beccles Road |
| 11 | South Denes Road |
| 12 | South Beach Parade |
| 13 | A47 New Road |
| 14 | Caister Road |
| 15 | A149 Caister By-Pass |
| 16 | B1370 Middleton Road |
| 17 | Southtown Road |
| 18 | B1141 Priory Plain |
| 19 | Euston Road |
| 20 | Acle New Road |

2.2.6. The results of the commissioned counts have been provided in the same format as the 2016 data, for 24 hours each day in 15-minute intervals over the two weeks.

DATA FILTERING

2.2.7. Average weekday profiles were required for each count location in order to derive flows for the modelled time periods. To determine which weekdays were appropriate for the average weekday calculations, analysis was undertaken to establish which, if any, weekday profiles were significantly different to the other days. Average flow profiles were plotted for each day of the week at each count

location for each direction separately so that any days with a different profile could easily be identified. An example of this analysis, for Haven Bridge southwest bound, is shown in Plate 2-2.

- 2.2.8. After considering the analysis at each location, it was decided that including data from Monday–Friday in the average weekday flow profiles would be appropriate as analysis of the average daily flow profiles indicated that a similar profile was observed on each of these days.

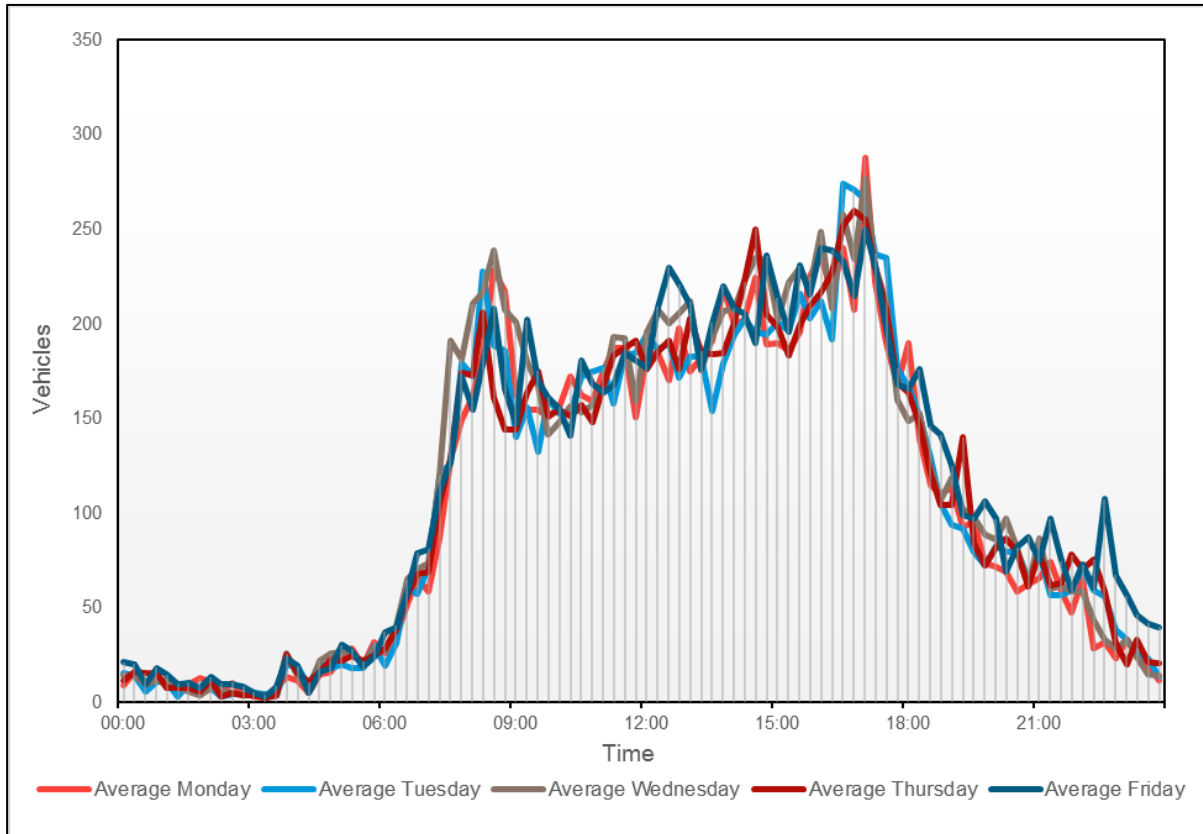


Plate 2-2 - Average Weekday Profile - Haven Bridge southwest bound

2.3 MANUAL CLASSIFIED COUNTS

- 2.3.1. Locations for the updated MCC turning count surveys were selected to provide an updated set of data to be used for calibration of the town-wide Great Yarmouth Town Microsimulation Model. Fifteen locations were chosen to cover a broad spread of junctions at intersections between locally important distributor roads in Great Yarmouth, including on Highways England’s Strategic Road Network.
- 2.3.2. The locations of the MCC surveys are shown in Plate 2-3 and listed in Table 2-2. Any junctions that had undergone improvements between 2016 and 2018, such as Fuller’s Hill, were included in the set.
- 2.3.3. The sites were surveyed for twelve hours (07:00–19:00) on Thursday, 8 March 2018 using high mast video units. Traffic movements were recorded in 15–minute intervals, by turning movement, using the same vehicle classifications as the 2016 surveys:
- Pedal Cycles;
 - Motorcycles;



- Car;
- LGV;
- OGV1;
- OGV2; and
- Public Service Vehicles (PSV).

Table 2-2 - 2018 MCC Locations in Great Yarmouth

| Ref No. | Junction |
|----------------|--|
| 1 | Fuller's Hill Roundabout |
| 2 | Vauxhall Roundabout |
| 3 | Gapton Hall Roundabout |
| 4 | Harfrey's Roundabout |
| 5 | Hall Quay |
| 6 | A149 Acle New Road / Great Yarmouth Station Access |
| 7 | Beccles Road / Burgh Road Roundabout |
| 8 | Beccles Road / William Adams Way / Southtown Road |
| 9 | Southtown Road / Pasteur Road / Bridge Road / Mill Road |
| 10 | Fuller's Hill / Priory Plain / Northgate Street / Market Place |
| 11 | Nicholas Road / Nelson Road / Euston Road |
| 12 | North Drive / Car Park Access / Euston Road / Marine Parade |
| 13 | South Quay / Yarmouth Way |
| 14 | Alexandra Road / Dene Side / King Street / Yarmouth Way |
| 15 | Alexandra Road / Trafalgar Road |

2.4 QUEUE MEASUREMENTS

- 2.4.1. As mentioned before, queue measurements have been undertaken at a subset of the MCC locations and have been selected to inform the baseline data for the Transport Assessment and to calibrate junctions in the Great Yarmouth Town Microsimulation Model.
- 2.4.2. Enumerators recorded the number of maximum vehicles in the queue, at five-minute intervals, at nine junctions between 07:00–10:00 and 15:00–19:00 at five-minute intervals on the same date that the MCCs were conducted.

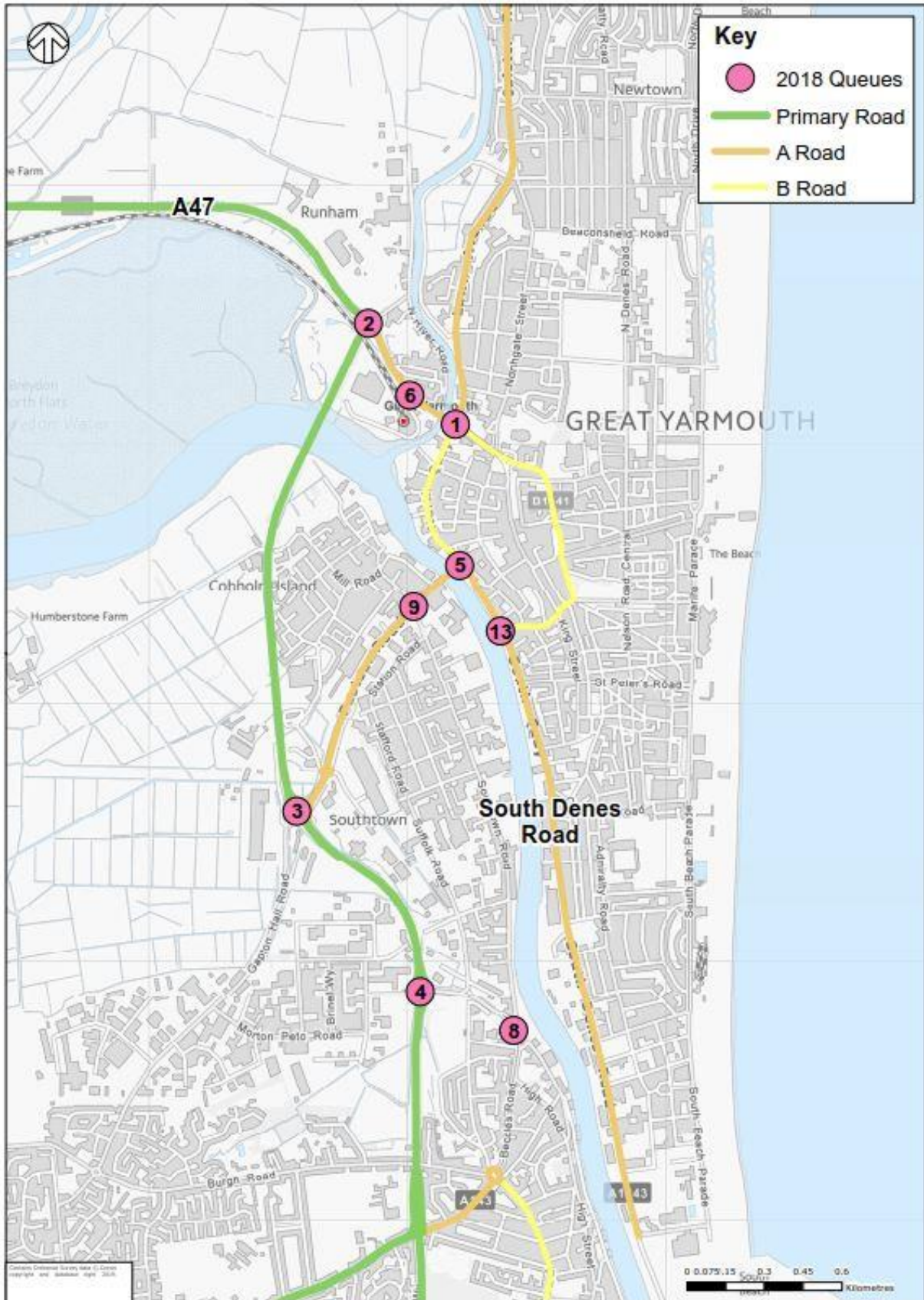


Plate 2-4 - 2018 Queue Survey Location Map

Table 2-3 - 2018 Queue Survey Locations in Great Yarmouth

| Ref No. | Junction |
|----------------|---|
| 1 | Fuller's Hill Roundabout |
| 2 | Vauxhall Roundabout |
| 3 | Gapton Hall Roundabout |
| 4 | Harfrey's Roundabout |
| 5 | Hall Quay |
| 6 | A149 Acle New Road / Great Yarmouth Station Access |
| 8 | Beccles Road / William Adams Way / Southtown Road |
| 9 | Southtown Road / Pasteur Road / Bridge Road / Mill Road |
| 13 | South Quay / Yarmouth Way |

3 DATA COMPARISON

3.1 ATC DATA

- 3.1.1. A comparison has been undertaken between the 2016 and 2018 ATC data to establish any change from 2016 to 2018.
- 3.1.2. Table 3-1 to Table 3-3 present these comparisons for the AM peak (07:00–10:00), inter-peak (IP) (10:00–15:30) and PM peak (15:30–18:00) periods for the set of ATCs sites common to both programmes, along with the total traffic flow across all sites.
- 3.1.3. Comparisons between 2016 and 2018 show an average overall reduction of about 5% in total traffic flow for each of the three peak periods.
- 3.1.4. The GEH statistic has been used to compare individual sites between the two years as it avoids some pitfalls that occur when using simple percentages to compare traffic volumes.
- 3.1.5. The GEH comparison between the 2016 and 2018 observed counts shows that, for a majority of sites, traffic flow has not changed greatly, with most comparisons returning a GEH less than 4.
- 3.1.6. One exception is the North Denes Road (NB) count where the 2018 observed flow has increased by 94% compared to the 2016 observed flow (from 265 to 515) in the PM peak period. It appears that this is due to rerouting, with traffic having switched to North Denes Road (NB) from parallel roads such as Northgate Street (NB), Lawn Avenue (NB) and North Drive (NB).

Table 3-1 - ATC Flow Comparison (2016 v 2018) AM

| Ref Number | Site | Dir | 2016 Observed flow | 2018 Observed flow | Difference | % Difference | GEH |
|------------|----------------------|-----|--------------------|--------------------|------------|--------------|-----|
| 1 | A47 - Breydon Bridge | NEB | 1,278 | 1,211 | - 67 | -5% | 1.9 |
| | | SWB | 1,444 | 1,257 | - 187 | -13% | 5.1 |
| 2 | Haven Bridge | SWB | 677 | 768 | 91 | 13% | 3.4 |
| | | NEB | 1,101 | 1,039 | - 62 | -6% | 1.9 |
| 3 | Lawn Avenue | NEB | 506 | 567 | 61 | 12% | 2.6 |
| | | SWB | 589 | 766 | 177 | 30% | 6.8 |
| 4 | Northgate Street | NB | 211 | 210 | - 1 | 0% | 0.0 |
| | | SB | 690 | 543 | - 147 | -21% | 5.9 |
| 5 | North Denes Road | NB | 177 | 203 | 26 | 15% | 1.9 |
| | | SB | 345 | 282 | - 63 | -18% | 3.5 |
| 6 | North Drive | NB | 172 | 171 | - 1 | -1% | 0.1 |
| | | SB | 540 | 454 | - 86 | -16% | 3.8 |
| 7 | Gapton Hall Road | NEB | No count | 912 | - | - | - |
| | | SWB | No count | 264 | - | - | - |
| 8 | Burgh Road | EB | 226 | 284 | 58 | 26% | 3.6 |
| | | WB | 277 | 198 | - 79 | -28% | 5.1 |
| 9 | Beccles Road | NEB | 603 | 590 | - 13 | -2% | 0.5 |
| | | SWB | 335 | 369 | 34 | 10% | 1.8 |

| Ref Number | Site | Dir | 2016 Observed flow | 2018 Observed flow | Difference | % Difference | GEH |
|--------------|----------------------|-----|--------------------|--------------------|----------------|--------------|-----|
| 10 | A47/ Beccles Road | NB | 1,992 | 1,814 | - 178 | -9% | 4.1 |
| | | SB | 1,219 | 1,165 | - 54 | -4% | 1.6 |
| 11 | South Denes Road | NB | 41 | 107 | 66 | 161% | 7.7 |
| | | SB | 107 | 181 | 74 | 69% | 6.2 |
| 12 | South Beach Parade | NB | 41 | 21 | - 20 | -49% | 3.6 |
| | | SB | 133 | 91 | - 42 | -31% | 3.9 |
| 13 | A47 New Road | NWB | 681 | 708 | 27 | 4% | 1.0 |
| | | SEB | 879 | 730 | - 149 | -17% | 5.3 |
| 14 | Caister Road | NB | No count | 562 | - | - | - |
| | | SB | No count | 1,057 | - | - | - |
| 15 | A149 Caister By-Pass | NWB | No count | 445 | - | - | - |
| | | SEB | No count | 985 | - | - | - |
| 16 | B1370 Middleton Road | NEB | No count | 392 | - | - | - |
| | | SWB | No count | 422 | - | - | - |
| 17 | Southtown Road | NB | 549 | 460 | - 89 | -16% | 4.0 |
| | | SB | 371 | 307 | - 64 | -17% | 3.5 |
| 18 | B1141 Priory Plain | NWB | 243 | 191 | - 52 | -21% | 3.5 |
| | | SEB | 690 | 601 | - 89 | -13% | 3.5 |
| 19 | Euston Road | WB | 163 | 132 | - 31 | -19% | 2.6 |
| | | EB | 108 | 85 | - 23 | -22% | 2.4 |
| 20 | Acle New Road | NWB | 1,106 | 1,035 | - 71 | -6% | 2.2 |
| | | SEB | 1,026 | 939 | - 87 | -8% | 2.8 |
| Total | | | 18,520 | 17,480 | - 1,041 | -6% | |

Table 3-2 - ATC Flow Comparison (2016 v 2018) IP

| Ref Number | Site | Dir | 2016 Observed flow | 2018 Observed flow | Difference | % Difference | GEH |
|------------|----------------------|-----|--------------------|--------------------|------------|--------------|-----|
| 1 | A47 - Breydon Bridge | NEB | 1,027 | 1,000 | - 27 | -3% | 0.8 |
| | | SWB | 1,307 | 1,040 | - 267 | -20% | 7.8 |
| 2 | Haven Bridge | SWB | 672 | 747 | 75 | 11% | 2.8 |
| | | NEB | 942 | 907 | - 35 | -4% | 1.2 |
| 3 | Lawn Avenue | NEB | 747 | 681 | - 66 | -9% | 2.5 |
| | | SWB | 642 | 587 | - 55 | -9% | 2.2 |
| 4 | Northgate Street | NB | 259 | 229 | - 30 | -12% | 1.9 |
| | | SB | 325 | 309 | - 16 | -5% | 0.9 |
| 5 | North Denes Road | NB | 176 | 185 | 9 | 5% | 0.7 |
| | | SB | 163 | 132 | - 31 | -19% | 2.5 |

| Ref Number | Site | Dir | 2016 Observed flow | 2018 Observed flow | Difference | % Difference | GEH |
|--------------|----------------------|-----|--------------------|--------------------|--------------|--------------|-----|
| 6 | North Drive | NB | 250 | 222 | - 28 | -11% | 1.8 |
| | | SB | 268 | 213 | - 55 | -20% | 3.5 |
| 7 | Gapton Hall Road | NEB | No count | 421 | - | - | - |
| | | SWB | No count | 499 | - | - | - |
| 8 | Burgh Road | EB | 178 | 181 | 3 | 2% | 0.2 |
| | | WB | 186 | 154 | - 32 | -17% | 2.4 |
| 9 | Beccles Road | NEB | 353 | 349 | - 4 | -1% | 0.2 |
| | | SWB | 356 | 361 | 5 | 1% | 0.3 |
| 10 | A47/ Beccles Road | NB | 1,173 | 1,172 | - 1 | 0% | 0.0 |
| | | SB | 1,119 | 1,120 | 1 | 0% | 0.0 |
| 11 | South Denes Road | NB | 99 | 169 | 70 | 71% | 6.1 |
| | | SB | 101 | 149 | 48 | 47% | 4.3 |
| 12 | South Beach Parade | NB | 113 | 61 | - 52 | -46% | 5.6 |
| | | SB | 107 | 59 | - 48 | -44% | 5.2 |
| 13 | A47 New Road | NWB | 647 | 615 | - 32 | -5% | 1.3 |
| | | SEB | 663 | 597 | - 66 | -10% | 2.7 |
| 14 | Caister Road | NB | No count | 724 | - | - | - |
| | | SB | No count | 724 | - | - | - |
| 15 | A149 Caister By-Pass | NWB | No count | 552 | - | - | - |
| | | SEB | No count | 617 | - | - | - |
| 16 | B1370 Middleton Road | NEB | No count | 318 | - | - | - |
| | | SWB | No count | 322 | - | - | - |
| 17 | Southtown Road | NB | 399 | 367 | - 32 | -8% | 1.7 |
| | | SB | 343 | 324 | - 19 | -6% | 1.0 |
| 18 | B1141 Priory Plain | NWB | 264 | 249 | - 15 | -6% | 1.0 |
| | | SEB | 583 | 563 | - 20 | -4% | 0.9 |
| 19 | Euston Road | WB | 186 | 158 | - 28 | -15% | 2.2 |
| | | EB | 193 | 146 | - 47 | -24% | 3.6 |
| 20 | Acle New Road | NWB | 981 | 1,026 | 45 | 5% | 1.4 |
| | | SEB | 824 | 906 | 82 | 10% | 2.8 |
| Total | | | 15,646 | 14,977 | - 669 | -4% | |

Table 3-3 - ATC Flow Comparison (2016 v 2018) PM

| Ref Number | Site | Dir | 2016 Observed flow | 2018 Observed flow | Difference | % Difference | GEH |
|------------|----------------------|-----|--------------------|--------------------|------------|--------------|-----|
| 1 | A47 - Breydon Bridge | NEB | 1,299 | 1,310 | 11 | 1% | 0.3 |
| | | SWB | 1,427 | 1,335 | - 92 | -6% | 2.5 |

| Ref Number | Site | Dir | 2016 Observed flow | 2018 Observed flow | Difference | % Difference | GEH |
|--------------|----------------------|-----|--------------------|--------------------|--------------|--------------|------|
| 2 | Haven Bridge | SWB | 786 | 992 | 206 | 26% | 6.9 |
| | | NEB | 1,000 | 976 | - 24 | -2% | 0.8 |
| 3 | Lawn Avenue | NEB | 956 | 910 | - 46 | -5% | 1.5 |
| | | SWB | 513 | 534 | 21 | 4% | 0.9 |
| 4 | Northgate Street | NB | 486 | 358 | - 128 | -26% | 6.3 |
| | | SB | 283 | 282 | - 1 | -1% | 0.1 |
| 5 | North Denes Road | NB | 265 | 515 | 250 | 94% | 12.7 |
| | | SB | 161 | 153 | - 8 | -5% | 0.6 |
| 6 | North Drive | NB | 413 | 376 | - 37 | -9% | 1.9 |
| | | SB | 219 | 199 | - 20 | -9% | 1.4 |
| 7 | Gapton Hall Road | NEB | No count | 288 | - | - | - |
| | | SWB | No count | 1,042 | - | - | - |
| 8 | Burgh Road | EB | 275 | 270 | - 5 | -2% | 0.3 |
| | | WB | 338 | 252 | - 86 | -25% | 5.0 |
| 9 | Beccles Road | NEB | 398 | 412 | 14 | 4% | 0.7 |
| | | SWB | 540 | 573 | 33 | 6% | 1.4 |
| 10 | A47/ Beccles Road | NB | 1,295 | 1,346 | 51 | 4% | 1.4 |
| | | SB | 1,905 | 1,669 | - 236 | -12% | 5.6 |
| 11 | South Denes Road | NB | 146 | 263 | 117 | 80% | 8.2 |
| | | SB | 37 | 67 | 30 | 82% | 4.2 |
| 12 | South Beach Parade | NB | 187 | 131 | - 56 | -30% | 4.5 |
| | | SB | 67 | 31 | - 36 | -53% | 5.1 |
| 13 | A47 New Road | NWB | 890 | 956 | 66 | 7% | 2.2 |
| | | SEB | 826 | 664 | - 162 | -20% | 5.9 |
| 14 | Caister Road | NB | No count | 1,020 | - | - | - |
| | | SB | No count | 646 | - | - | - |
| 15 | A149 Caister By-Pass | NWB | No count | 796 | - | - | - |
| | | SEB | No count | 546 | - | - | - |
| 16 | B1370 Middleton Road | NEB | No count | 439 | - | - | - |
| | | SWB | No count | 397 | - | - | - |
| 17 | Southtown Road | NB | 431 | 375 | - 56 | -13% | 2.8 |
| | | SB | 502 | 426 | - 76 | -15% | 3.5 |
| 18 | B1141 Priory Plain | NWB | 320 | 256 | - 64 | -20% | 3.8 |
| | | SEB | 636 | 465 | - 171 | -27% | 7.3 |
| 19 | Euston Road | WB | 174 | 147 | - 27 | -16% | 2.1 |
| | | EB | 186 | 137 | - 49 | -26% | 3.9 |
| 20 | Acle New Road | NWB | 1,241 | 1,007 | - 234 | -19% | 7.0 |
| | | SEB | 1,065 | 960 | - 105 | -10% | 3.3 |
| Total | | | 19,267 | 18,347 | - 920 | -5% | |

3.2 WEBTRIS COUNT DATA

- 3.2.1. Count data was obtained for 2012–2018 from the Highways England WebTRIS database for four permanent count sites located along the A47 through Great Yarmouth shown in Plate 1-1.
- 3.2.2. The WebTRIS database did not have count records for May 2016 at Site 2 so this month was not included in the AADT calculation. Count records for Site 4 were invalid for November 2014, December 2014, January 2015 and WebTRIS did not have count records for January - March 2016 so these months were not included in the AADT calculation. No data from 2018 was available at Site 4.
- 3.2.3. Table 3-4 summarises the two-way Annual Average Daily Traffic (AADT) total and growth in traffic for each site from 2012 to 2018, and the graph in Plate 3-1 displays the AADT profile for each of the sites between 2012 and 2018.
- 3.2.4. This data demonstrates that traffic flow levels on the A47 have remained stable, with all sites showing only small changes year on year from 2012-2018. The most recent data, from 2016 to 2018, indicates that changes in AADT flow are negligible across all sites between these years with the largest change being a 1% increase in traffic at Site 1.

Table 3-4 - AADT Totals and Growth (2012-2018) for WebTRIS Count Sites 1–4

| Location | Year | Total Two-WayTraffic | Growth from 2012 | Growth Year on Year |
|---|------|----------------------|------------------|---------------------|
| Site 1 A47 (Acle New Road) | 2012 | 18,668 | - | - |
| | 2013 | 18,613 | 0% | 0% |
| | 2014 | 19,291 | 3% | 4% |
| | 2015 | 19,736 | 6% | 2% |
| | 2016 | 20,441 | 9% | 4% |
| | 2017 | 20,759 | 11% | 2% |
| | 2018 | 20,508 | 10% | -1% |
| Site 2 A47 (near Gapton Roundabout) | 2012 | 32,875 | - | - |
| | 2013 | 32,483 | -1% | -1% |
| | 2014 | 33,142 | 1% | 2% |
| | 2015 | 33,792 | 3% | 2% |
| | 2016 | 34,105 | 4% | 1% |
| | 2017 | 33,673 | 2% | -1% |
| | 2018 | 33,016 | 0% | -2% |
| Site 3 A47 (near Harfrey's Roundabout) | 2012 | 33,178 | - | - |
| | 2013 | 33,143 | 0% | 0% |
| | 2014 | 34,450 | 4% | 4% |
| | 2015 | 34,747 | 5% | 1% |
| | 2016 | 35,386 | 7% | 2% |
| | 2017 | 35,542 | 7% | 0% |
| | 2018 | 34,883 | 5% | -2% |
| Site 4 A47 (near Gorleston) | 2012 | 26,066 | - | - |
| | 2013 | 26,080 | 0% | 0% |
| | 2014 | 27,393 | 5% | 5% |
| | 2015 | 27,870 | 7% | 2% |
| | 2016 | 27,954 | 7% | 0% |
| | 2017 | 27,811 | 7% | -1% |

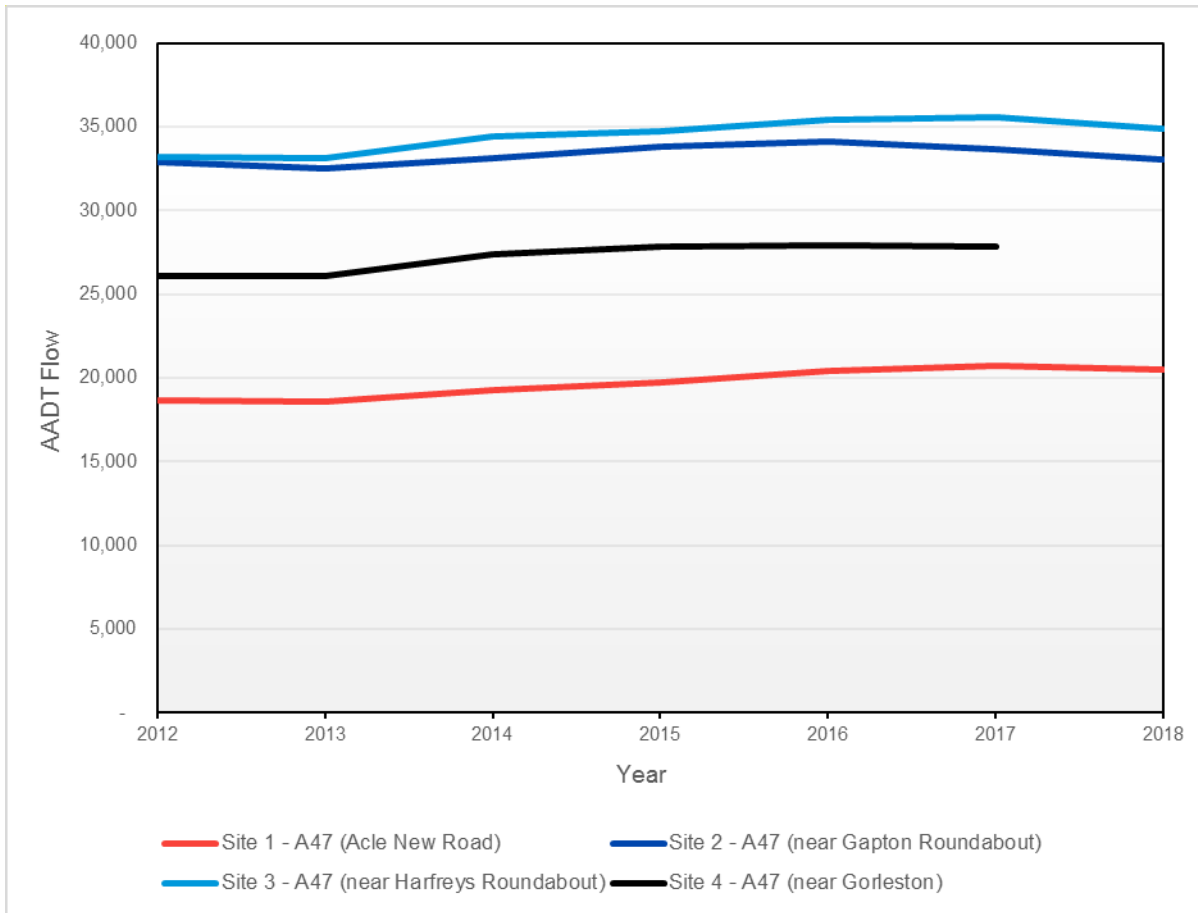


Plate 3-1 - WebTRIS AADT Profile 2012-2018

4 SUMMARY

4.1 NEW DATA COLLECTION

- 4.1.1. The 2016 suite of models needed to be updated to a 2018 base year to inform the Transport Assessment (TA), the Economic Appraisal Report (EAR) and the Environmental Statement (ES), which are required for the Development Consent Order (DCO) submission. For all of these, new traffic data was required. Additionally, the 2018 traffic data allowed us to establish the change to traffic in Great Yarmouth from 2016 to 2018 and to update the models as required.
- 4.1.2. The locations selected for 2018 surveys therefore cover a subset of the surveys undertaken for the 2016 model. If the results of a comparison between 2016 and 2018 had showed signs that wide ranging changes to traffic patterns had occurred in Great Yarmouth (see Section 3), then the traffic survey programme would be extended to repeat all surveys that were undertaken in 2016 model development. The comparison presented in Section 3 of this report demonstrates that traffic patterns were stable from 2016 to 2018, so additional surveys were not required.
- 4.1.3. The following sources of new data were commissioned for the 2018 update:
- Twenty, two-week directional ATCs were commissioned at locations that had also been counted in 2016;
 - Fifteen MCC turning count surveys were commissioned targeting junctions that provide an intersection between locally important distributor roads in Great Yarmouth or that had changed since 2016; and
 - Queue length surveys were undertaken at nine of the MCC locations.

4.2 2016–2018 TRAFFIC DATA COMPARISON

- 4.2.1. To establish the level of change in traffic in Great Yarmouth between 2016 and 2018, comparisons were made between the ATC sites with data from both the 2018 and 2016 programmes. Other sources of long-term, historical count data, namely Highways England's WebTRIS dataset, have also been used to investigate the changes in traffic volumes in the study area. The results of this analysis are summarised below:
- The surveyed ATC data comparison showed that traffic flows have not changed significantly from 2016-2018. An overall decline of around 5% was recorded but this can be attributed to seasonal variation as the 2016 surveys were conducted in November while the more recent 2018 surveys were conducted in March. The only significant change to traffic on the links analysed was on North Denes Road which saw a 94% increase in traffic northbound in the PM. This can be attributed to rerouting as all parallel routes showed a decrease in traffic.
 - The WebTRIS dataset indicated that growth in traffic using the A47 was not significant, with a total increase of 5% from 2010 to 2018. The WebTRIS counts showed that the average increase between 2016 and 2017 across all sites was 0.05%. This sample indicates that the pattern of growth on the A47 shows a small amount of change in traffic flows year on year.
- 4.2.2. The ATC comparison summarised above clearly demonstrates that traffic levels in Great Yarmouth have not changed significantly from 2016 to 2018. This is supported by long term data which indicates that change in traffic flows from 2016 to 2018 was minimal, and that this is a consistent pattern with previous years.



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