

PROJECT 16111 GREAT NOTLEY
LOCATION ATC02 - London Rd (S), Great Notley
LOC. DESC. Adj. property 179, 70m S of Cut Hedge
START DATE Thu 21 Jan, 2016
END DATE Wed 27 Jan, 2016
SPEED LIMIT 30mph
SURVEY TYPE 7-day ATC, 15min periods, 10 veh. classes



7-DAY AUTOMATIC TRAFFIC COUNT

SUMMARY

COMBINED SOUTH- & NORTHBOUND

| | |
|--|----------------|
| Total recorded volume | 64,709 |
| Avg daily volume (based on 7 days) | 9,244.1 |
| Average daily speed (7 days) | 34.8mph |
| Average daily 85%ile (7 days) | 38.2mph |
| AADT (annual average daily traffic) | 10,704 |

| | |
|--|---------|
| Avg weekday volume (Mon-Fri, 24hrs) | 9,993.6 |
| Avg weekday speed (Mon-Fri, 24hrs) | 34.6mph |
| Avg 12hr weekday volume (Mon-Fri, 0700-1900) | 8,055.4 |
| Avg 12hr weekday speed (Mon-Fri, 0700-1900) | 32.5mph |

A 7-day automatic traffic count on London Rd (S), Great Notley, commencing Thu 21 Jan 2016, recorded a total of 64,709 vehicles. The posted speed limit of 30mph was exceeded by 72.5% of vehicles, and the seasonally adjusted, combined AADT value is 10,704 (see 'Equipment & methodology' below).

The combined summary on the left shows the total volumes, average speeds, AADT and 85%iles recorded in both directions from all the recorded data, plus the Mon-Fri peak periods. Speeding vehicles are defined as those travelling 31mph and above.

The summaries below provide directionalised details including speeding percentages and weekday daytime details.

SOUTHBOUND



| | |
|---|----------------|
| Total recorded volume | 33,371 |
| Avg daily volume (based on 7 days) | 4,767.3 |
| Average daily speed (7 days) | 35.0mph |
| Average daily 85%ile (7 days) | 38.3mph |
| % of vehicles exceeding 30mph | 75.6% |

| | |
|--|----------------|
| Avg weekday volume (Mon-Fri, 24hrs) | 5,176.0 |
| Avg weekday speed (Mon-Fri, 24hrs) | 34.8mph |
| Avg 12hr weekday volume (Mon-Fri, 0700-1900) | 4,139.2 |
| Avg 12hr weekday speed (Mon-Fri, 0700-1900) | 32.5mph |
| Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900) | 36.6mph |
| AM avg peak vol period (Mon-Fri) | 07:30 to 07:45 |
| PM avg peak vol period (Mon-Fri) | 17:45 to 18:00 |

NORTHBOUND



| | |
|---|----------------|
| Total recorded volume | 31,338 |
| Avg daily volume (based on 7 days) | 4,476.9 |
| Average daily speed (7 days) | 34.6mph |
| Average daily 85%ile (7 days) | 38.1mph |
| % of vehicles exceeding 30mph | 69.3% |

| | |
|--|----------------|
| Avg weekday volume (Mon-Fri, 24hrs) | 4,817.6 |
| Avg weekday speed (Mon-Fri, 24hrs) | 34.3mph |
| Avg 12hr weekday volume (Mon-Fri, 0700-1900) | 3,916.2 |
| Avg 12hr weekday speed (Mon-Fri, 0700-1900) | 32.4mph |
| Avg 12hr weekday 85%ile (Mon-Fri, 0700-1900) | 37.0mph |
| AM avg peak vol period (Mon-Fri) | 08:30 to 08:45 |
| PM avg peak vol period (Mon-Fri) | 16:30 to 16:45 |

SITE LOCATION

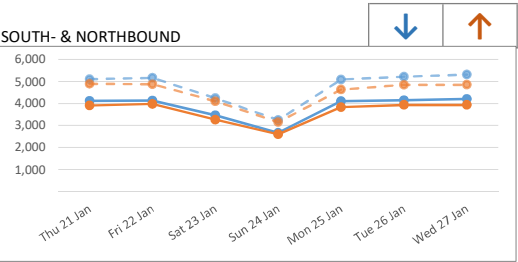


Map © OpenStreetMap contributors

| | |
|---------------------------|---------------------------------------|
| LOCATION | London Rd (S), Great Notley |
| DESC. | Adj. property 179, 70m S of Cut Hedge |
| DATES | Thu 21 Jan to Wed 27 Jan inc. |
| OSGR | 574382, 220518 |
| LAT / LNG | 51.856007, 0.530749 |
| PROJECT & SITE | 16111-02 |
| PSL | 30mph |
| BUS ROUTE | Yes |
| DIRECTION 1 | Southbound ↓ |
| DIRECTION 2 | ↑ Northbound |

16111-02 - London Rd (S), Great Notley

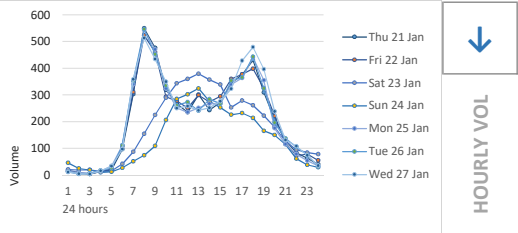
DAILY VOLUMES



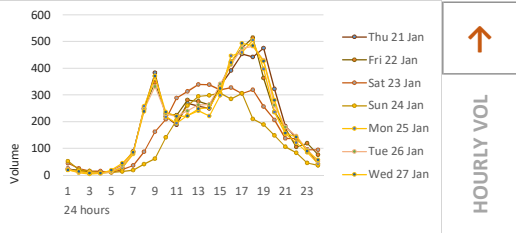
Total 24hr southbound (dashed blue) and northbound (dashed orange) traffic volumes, and solid blue and orange representing 12hr volumes (0700-1900), over 7 consecutive days from all available data.

As can be expected, the lowest 24hr volumes were recorded on the Sunday, whilst the highest was on the Wednesday.

HOURLY VOLUMES

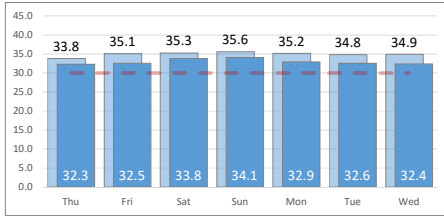


Hourly southbound traffic volumes over each 24hr period for 7 days from all available data



Hourly northbound traffic volumes over each 24hr period for 7 days from all available data

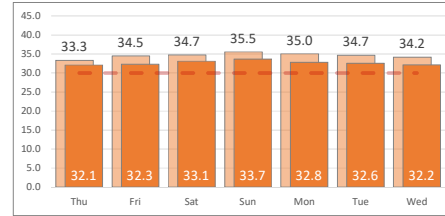
24hr & 12hr AVG SPEEDS



24hr (light) & 12hr daytime (dark blue, 0700-1900) average southbound speeds compared against the posted speed limit of 30mph



AVG SPEEDS

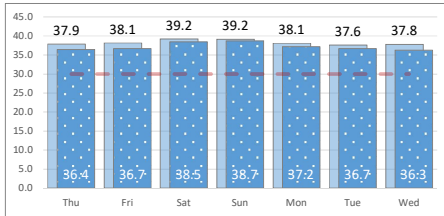


24hr (light) & 12hr daytime (dark orange) average northbound speeds compared against the posted speed limit of 30mph



AVG SPEEDS

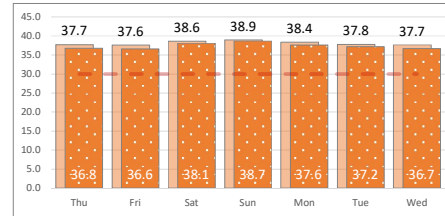
24hr & 12hr 85%ile SPEEDS



24hr (light) & 12hr daytime (dark blue, 0700-1900) average southbound 85%ile speeds compared against the posted speed limit of 30mph



AVG 85%ILES

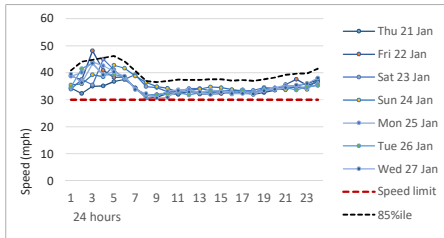


24hr (light) & 12hr daytime (dark orange, 0700-1900) average northbound 85%ile speeds compared against the posted speed limit of 30mph



AVG 85%ILES

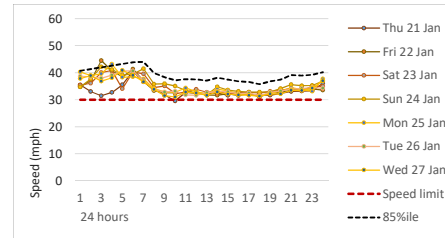
HOURLY SPEEDS



Average hourly speeds (solid thin colours) and 85%ile (dashed black) compared against 30mph posted speed limit (dashed red). The 85%ile is the speed at which 85% of all vehicles are. The peak average southbound daytime speed was 38.2mph at 07:45 on Sun 24 Jan, whilst the peak average northbound speed was 37.2mph at 07:45 on Sun 24 Jan (based on 15min averages between 0700 & 1900).

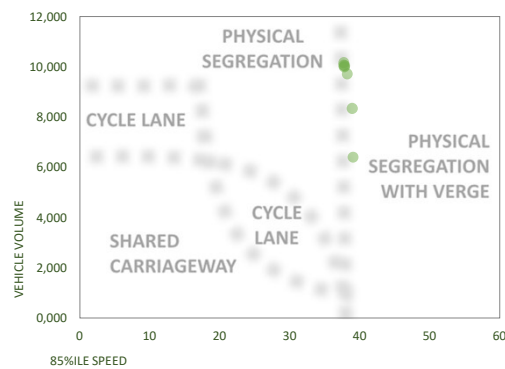


HOURLY SPEED



HOURLY SPEED

CYCLE PROVISION



The cycle provision diagram compares total daily traffic flow (vertical axis) against the average daily 85%ile speed (horizontal axis) to demonstrate cyclist and vulnerable user considerations.

The guidelines are based on the Sustrans Design Manual (Apr 2014); Understanding User Needs, part 2.

Valid 85%iles are required to plot the graph.

5-DAY AVERAGE CLASSES

SOUTHBOUND WEEKDAY AVG

| TIME | MOTOR CYCLES | CARS / LGV1 | LGV2 / MGVS | HGV RIGID | HGV ARTIC'D | TOTAL |
|----------|--------------|-------------|-------------|-----------|-------------|--------|
| 0000 | 0.2 | 11.4 | 1.8 | 0.0 | 0.0 | 13.4 |
| 0100 | 0.0 | 6.4 | 0.2 | 0.0 | 0.0 | 6.6 |
| 0200 | 0.0 | 4.0 | 1.0 | 0.0 | 0.0 | 5.0 |
| 0300 | 0.2 | 14.0 | 0.6 | 0.0 | 0.0 | 14.8 |
| 0400 | 0.6 | 23.4 | 3.0 | 0.0 | 0.0 | 27.0 |
| 0500 | 2.0 | 88.4 | 14.6 | 0.0 | 0.0 | 105.0 |
| 0600 | 2.6 | 294.6 | 34.0 | 0.8 | 0.6 | 332.6 |
| 0700 | 1.4 | 501.2 | 31.8 | 0.2 | 0.0 | 534.6 |
| 0800 | 3.8 | 429.6 | 24.0 | 0.4 | 0.6 | 458.4 |
| 0900 | 3.4 | 298.8 | 21.0 | 0.4 | 0.4 | 324.0 |
| 1000 | 0.4 | 239.4 | 21.0 | 0.2 | 0.0 | 261.0 |
| 1100 | 0.8 | 227.2 | 22.2 | 0.2 | 0.0 | 250.4 |
| 1200 | 1.2 | 244.0 | 20.8 | 0.2 | 0.6 | 266.8 |
| 1300 | 1.8 | 239.6 | 21.8 | 0.2 | 0.6 | 264.0 |
| 1400 | 0.8 | 250.6 | 22.6 | 0.4 | 0.4 | 274.8 |
| 1500 | 1.0 | 317.8 | 24.2 | 0.2 | 0.6 | 343.8 |
| 1600 | 1.2 | 352.2 | 27.6 | 0.4 | 0.2 | 381.6 |
| 1700 | 0.8 | 411.4 | 25.0 | 0.4 | 0.4 | 438.0 |
| 1800 | 0.0 | 331.4 | 10.0 | 0.4 | 0.0 | 341.8 |
| 1900 | 1.0 | 199.6 | 7.4 | 0.0 | 0.0 | 208.0 |
| 2000 | 0.0 | 121.2 | 5.4 | 0.2 | 0.0 | 126.8 |
| 2100 | 1.2 | 85.4 | 2.8 | 0.0 | 0.0 | 89.4 |
| 2200 | 0.4 | 65.2 | 3.2 | 0.2 | 0.0 | 69.0 |
| 2300 | 0.0 | 37.4 | 1.8 | 0.0 | 0.0 | 39.2 |
| 12hr TTL | 16.6 | 3843.2 | 272.0 | 3.6 | 3.8 | 4139.2 |
| 24hr TTL | 24.8 | 4794.2 | 347.8 | 4.8 | 4.4 | 5176.0 |
| | 0% | 93% | 7% | 0% | 0% | |

NORTHBOUND WEEKDAY AVG

| TIME | MOTOR CYCLES | CARS / LGV1 | LGV2 / MGVS | HGV RIGID | HGV ARTIC'D | TOTAL |
|----------|--------------|-------------|-------------|-----------|-------------|--------|
| 0000 | 0.4 | 19.8 | 1.0 | 0.0 | 0.0 | 21.2 |
| 0100 | 0.4 | 11.4 | 1.6 | 0.0 | 0.0 | 13.4 |
| 0200 | 0.0 | 6.2 | 1.6 | 0.0 | 0.0 | 7.8 |
| 0300 | 0.0 | 7.6 | 0.6 | 0.0 | 0.0 | 8.2 |
| 0400 | 0.2 | 9.0 | 5.2 | 0.0 | 0.0 | 14.4 |
| 0500 | 0.2 | 27.8 | 6.6 | 0.0 | 0.0 | 34.6 |
| 0600 | 0.4 | 76.0 | 8.4 | 0.0 | 0.0 | 84.8 |
| 0700 | 0.8 | 227.2 | 19.0 | 0.0 | 0.4 | 247.4 |
| 0800 | 1.8 | 332.4 | 26.0 | 0.0 | 0.0 | 360.2 |
| 0900 | 1.2 | 205.6 | 19.0 | 0.0 | 0.4 | 226.2 |
| 1000 | 1.0 | 189.0 | 19.0 | 0.0 | 0.2 | 209.2 |
| 1100 | 2.2 | 227.0 | 17.6 | 0.0 | 0.0 | 246.8 |
| 1200 | 1.2 | 235.0 | 20.6 | 0.0 | 0.4 | 257.2 |
| 1300 | 0.8 | 229.2 | 19.4 | 0.2 | 0.2 | 249.8 |
| 1400 | 2.0 | 300.0 | 23.4 | 0.0 | 0.4 | 325.8 |
| 1500 | 1.0 | 393.4 | 24.6 | 0.0 | 0.0 | 419.0 |
| 1600 | 3.4 | 442.2 | 25.4 | 0.2 | 0.0 | 471.2 |
| 1700 | 4.2 | 457.4 | 23.4 | 0.4 | 0.0 | 485.4 |
| 1800 | 2.4 | 401.0 | 14.2 | 0.0 | 0.4 | 418.0 |
| 1900 | 1.2 | 252.0 | 13.6 | 0.2 | 0.0 | 267.0 |
| 2000 | 0.8 | 164.0 | 4.6 | 0.0 | 0.0 | 169.4 |
| 2100 | 0.8 | 126.0 | 3.6 | 0.0 | 0.0 | 130.4 |
| 2200 | 0.4 | 94.4 | 1.8 | 0.0 | 0.0 | 96.6 |
| 2300 | 0.2 | 51.8 | 1.6 | 0.0 | 0.0 | 53.6 |
| 12hr TTL | 22.0 | 3639.4 | 251.6 | 0.8 | 2.4 | 3912.6 |
| 24hr TTL | 27.0 | 4485.4 | 301.8 | 1.0 | 2.4 | 4817.6 |
| | 1% | 93% | 6% | 0% | 0% | |

Average weekday southbound and northbound volumes by class (condensed to the AQMA scheme), including 12hr totals for 0700-1900 and overall average percentages. Calculated from all available data over 5 weekdays. See 'Equipment & Methodology' below for accuracy details.

METHODOLOGY

Equipment & methodology

Automatic traffic counts are undertaken using a pair of pneumatic tubes installed securely across the carriageway, one metre apart, recording air pulses to determine vehicle speed, class and volume. The ATC equipment generally remains in place for a consecutive seven day period, and the data analysed post-survey.

In queuing conditions, the accuracy of ATC recording equipment may reduce as follows;

- 20 – 30mph: potential reduction of 9% accuracy in volume values
- 10 – 20mph: potential reduction of 26% accuracy in volume values
- 00 – 10mph: potential reduction of 39% accuracy in volume values

These figures are based on multiple ATC results compared against accepted reference values from resilient manual counts.

Weather & environmental

Inclement conditions during winter months or outbreaks of unseasonable weather may affect survey data collection. This can result in distorted traffic flows or unusable data and should be considered prior to survey approval. Although forecast checks are made prior to the survey commencing, Essex Highways cannot be held responsible for the forecast accuracy.

Equipment damage, failure & calculations

Although checked intermittently the equipment remains unmanned for much of the duration of the survey, and can potentially be interfered with, vandalised, damaged or stolen and Essex Highways cannot be held responsible for any periods where data has not been captured.

The equipment is located in accordance with the details provided by the client and Essex Highways cannot be held responsible for the accuracy of the data or loss of equipment due to theft and vandalism.

16hr AADTs are calculated using the seasonal COBA methodology; DMRB Vol. 13, Pt 4: Traffic Flow Input To COBA, with formulae available in the (hidden) config worksheet.

Roadworks & events

Where possible, roadworks checks are made 10 days before, and 48 hours before, the survey commences. Additionally, influencing major local events are also monitored, covering the immediate vicinity of the surveys and any routes likely to affect the outcome of the survey.

Vehicle classifications

Vehicles recorded by the ATC are placed into one of ten classes (bins) based on axle spacing and pattern. This scheme is based on the AustRoad 94 algorithm and modified for UK traffic, referred to as ARX. The table on the left aligns the ARX classifications with the COBA Chapter 8 (Vol 13, Sec 1) classifications, AQMA (air quality management standard) and the Essex 9-class, as used in manual junction counts undertaken by Essex Highways.

Under adverse conditions the accuracy of ATC classifications will deteriorate and an appropriate link count should be used for validation.

Disclaimer

Although every attempt is made to achieve accuracy, neither Essex County Council nor Essex Highways may be held liable for errors of fact or interpretation.

| CLASS | ABBREV. | DESCRIPTION | LENGTH | COBA | AQMA | MANUAL |
|-------|---------|------------------------|-------------------------|------------|------------|------------|
| 1 | MC | Motorcycle | SHORT Up to 5.5m | N/A | MC | MC |
| 2 | SV | Cars, taxis, 4WD, vans | | CAR & LGV | CAR | CAR & LGV1 |
| 3 | SVT | Class 2 plus trailer | | | | |
| 4 | TB2 | 2 axle truck / bus | MEDIUM 5.5m to 14.5m | OGV1 & PSV | LGV & MGVS | LGV2 & PSV |
| 5 | TB3 | 3 axle truck / bus | | OGV1 | | MGV & PSV |
| 6 | T4 | 4 axle truck | | | HGV RIGID | HGV1 |
| 7 | ART3 | 3 axle articulated | LONG 11.5m to 19.0m | OGV2 | HGV ARTIC | HGV2 |
| 8 | ART4 | 4 axle articulated | | | | |
| 9 | ART5 | 5 axle articulated | | | | |
| 10 | ART6 | 6+ axle articulated | | | | |

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