Discussion Paper Offering Analyses and Interpretations of Automatic Traffic Count (ATC) Data Collected at Location ATC01 – B1008, Main Road, Ford End Between 12/11/2024 and 18/11/2024 (inclusive)

Summary of November 2024 Survey

- Vehicle count in 2024 up 35.9% from 2021, 9.5% from 2019 and 26.9% from 2015.
- Compared to 2021 the percentage of cars, taxis, 4WDs has increased from 84.7% to 86.1%.
- The proportion of goods vehicles and HGVs has dropped, but the actual numbers have increased.
- Extrapolating to an annual count, 4.3 million vehicles travel pass the survey location (compared to 3.2 million in 2021), and of these 0.5 million are goods vehicles and 74,000 are HGVs.
- More vehicles travel NW towards Great Dunmow than SE towards Chelmsford (51.5% compared to 48.5%).
- More goods vehicles and HGVs travel NW than SE (14.2% compared to 11.9%).
- The average number of vehicles per hour between the hours of 10.00am and 4.00pm has increased significantly from previous counts.
- There has been a significant reduction in the percentage of vehicles which are exceeding the speed limit.
- Extrapolation implies that currently each year over 1.8 million drivers exceed the 30mph limit, 390,000 drive over 35mph and almost 60,000 travel at over 40mph.
- It is possible that the simultaneous deployment of the speed indicator device (SID) may have suppressed the recorded speeds for vehicles travelling in the NW direction.

1. This paper reviews data collected in November 2024 and in particular compares it with those obtained at the same site in April 2021. The data collection formats were identical and therefore direct comparisons have been possible. However, no account has been taken of any effects of Covid restrictions in place in April 2021, although some are implicit from the percentage changes noted in the table in paragraph 4 below[1].

2. The ATC data spreadsheets used include a derived ADDT (annual average daily traffic) figure, but currently it is not clear how this figure is calculated. For the November 2024 data the figure shown (13,009) implies that, for whatever reason, 1,068 (9%) vehicles were not counted by the data collection device used. It is also unclear whether the derived difference is intended to be allocated evenly across all vehicle types. In the circumstances, all analyses in this paper are based on the actual number of recorded vehicles.

3. The November 2024 data collection recorded 83,587 vehicles (43,068 travelling NW towards Great Dunmow; 40,519 travelling SE towards Great Waltham/Chelmsford). These data provide an overall daily average of 11,941 vehicles (6,153 travelling NW and 5,788 travelling SE). For April 2021 the equivalent data were: 61,504 (31,592 NW and 29,912 SE), averaging 8,786 daily (4,513 NE and 4,273 SE). This represents an overall increase of 35.9% (36.3 % NE and 35.5% SE). That there are physically more vehicles travelling NW than SE indicates

[1] At the time of the April 2021 survey Covid-19 for England included: *Meeting others You must not socialise indoors except with your household or support bubble. You can meet outdoors, including in gardens, in groups of six people or two households; Education Early years settings, schools and colleges are open for all students. […]; Work and business You should work from home if you can; Retail and personal care All retail open. […]; Bars, Pubs and Restaurants Open outdoors for groups of six people or two households. […] Closed indoors.* Unpicking the effects of the restrictions at that time would be extremely difficult.

that factors such as the known issue in relation to signposting at Sheepcotes roundabout may be at work.

4. The table below compares the changes between the surveys taken at the same location[2]:

Survey Date	7-day Vehicle Count	% difference to November 2015	% difference to June/July 2019	% difference to April 2021
November 2015	66,396	-	-	-
June/July 2019	76,333	15.0%	-	-
April 2021	61,504	-7.3%	-19.4%	-
November 2024	83,587	26.9%	9.5%	35.9%

5. Ten different vehicle types are recorded: motorcycles; cars, taxis and 4WD; cars plus trailer; 2-axle truck/bus; 3-axle truck/bus; 4/axle truck; 3-axle articulated; 4-axle articulated; 5-axle articulated; 6+ axle articulated. In the following analyses the categories 2-axle truck/bus; 3-axle truck/bus; 4/axle truck are grouped together as goods vehicles, and the categories 3-axle articulated; 4-axle articulated; 5-axle articulated; 6+ axle articulated are grouped together as HGVs (heavy goods vehicles).

6. Using the categories indicated for the November 2024 and April 2021 data are summarised as percentages in the table below:

	Overall		Travelling NW		Travelling SE	
	Nov 2024	Apr 2021	Nov 2024	Apr 2021	Nov 2024	Apr 2021
Cars, taxis and 4WD	86.1%	84.7%	85.0%	84.4%	87.2%	83.6%
Motorcycles	0.4%	0.9%	0.4%	0.9%	0.4%	0.7%
Cars plus trailer	0.4%	0.9%	0.5%	0.7%	0.4%	0.6%
Goods vehicles	11.5%	12.2%	12.6%	12.3%	10.4%	12.1%
HGVs	1.6%	1.5%	1.6%	1.7%	1.5%	1.3%

7. The data collected for weekdays only can be presented in the same format:

	Overall		Travelling NW		Travelling SE	
	Nov 2024	Apr 2021	Nov 2024	Apr 2021	Nov 2024	Apr 2021
Cars, taxis and 4WD	84.2%	83.0%	83.0%	82.5%	85.6%	83.6%
Motorcycles	0.4%	0.7%	0.4%	0.7%	0.4%	0.7%
Cars plus trailer	0.4%	0.6%	0.5%	0.6%	0.3%	0.6%
Goods vehicles	13.2%	13.9%	14.3%	14.1%	12.0%	13.6%
HGVs	1.7%	1.8%	1.7%	2.0%	1.7%	1.5%

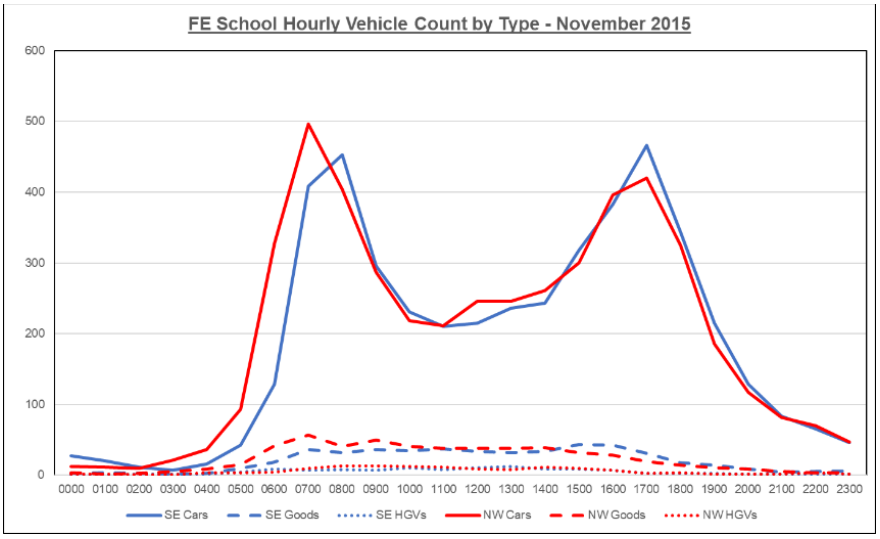
While over the 7-day recording periods the overall percentage of goods vehicles has dropped (12.2% to 11.5%), the actual number has increased from 7,503 (61,504 x 12.2%) to 9,612 (83,587 x 11.5%). A similar calculation for HGVs indicates the number has increased from 1,107 (61,504 x 1.8%) to 1,420 (83,587 x 1.7%). For cars the calculation is: 51,048 (61,504 x 83.0%) to 70,380 (83,587 x 84.2%).

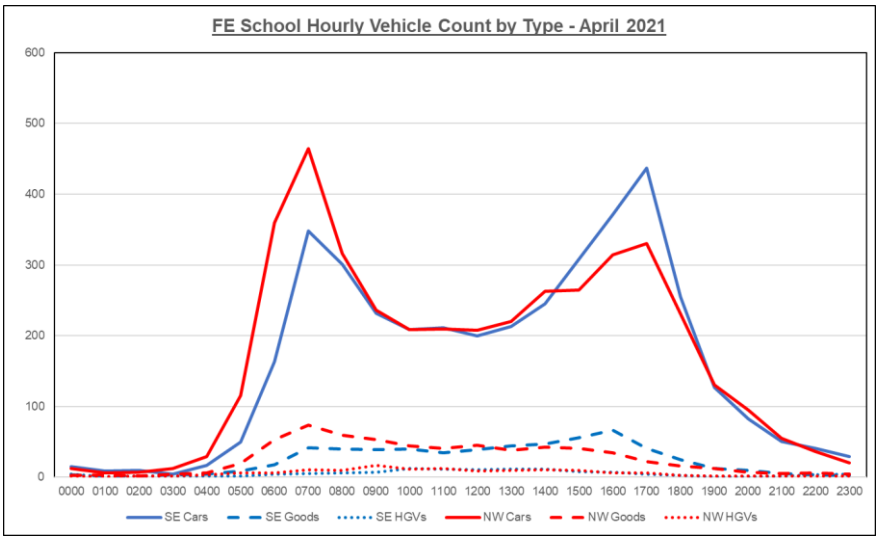
[2] The survey in June/July 2019 was conducted at a different location further south-east near the B1008's junction with Church Lane, and while the vehicle count will have been the same, because of how the data was formatted on that occasion they are used only for this particular purpose in this paper.

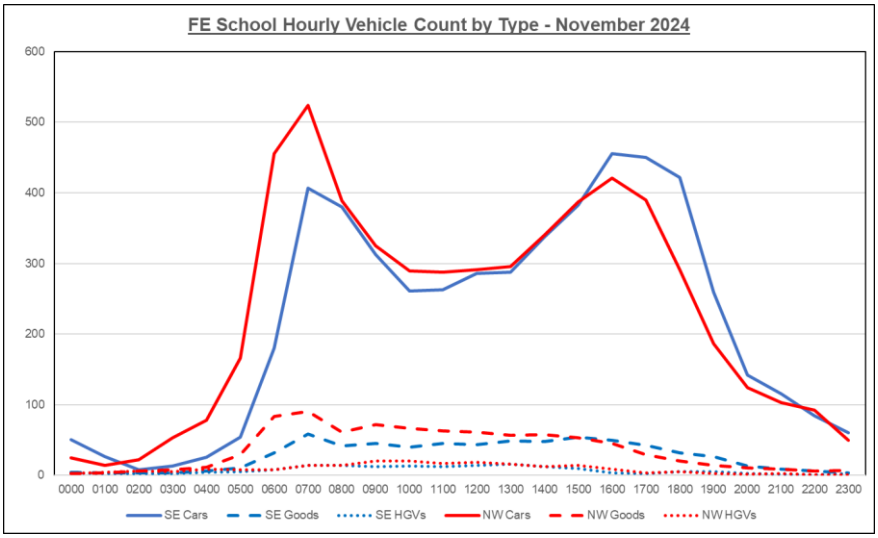
8. Extrapolation of these data to an annual basis imply the total number of vehicles travelling through Ford End at this point is now at least 4.3 million (compared to 3.2 million in 2021). Of these 0.5 million are goods vehicles and 74,000 are HGVs.

9. The significant increase in traffic volumes will have consequential effects on the amount of noise and pollution experienced by residents, and therefore not only on their general well-being but also practical issues such as an increasingly hazardous exercise in crossing the road.

10. Comparing the November 2024 data with those obtained in April 2021 and June 2015 which were prepared on the same basis it is possible to demonstrate how the movement of the overall average of vehicles per hour changes by the time of day. Generally the shape of the movements follow similar patterns for each set of data (both in general and by direction) – see the charts below.

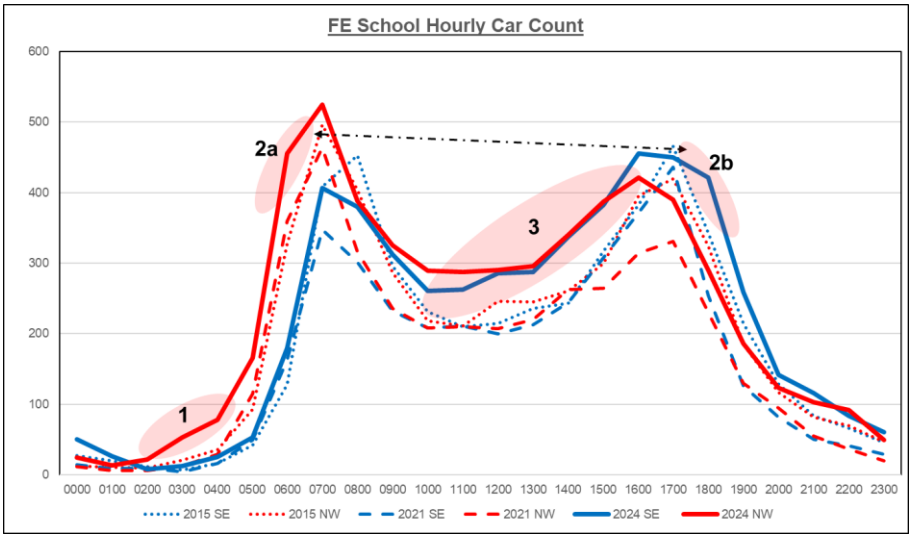






The principal observation is that there continues to be more NW bound traffic during the morning rush hour and more SE bound traffic in the evening. This perhaps implies more users travelling to and returning from work in Great Dunmow or at Stansted than in the opposite direction and/or that those who travel beyond these locations use the B1008 rather than the A120/A131 to access the M11.

11. However, the following chart of just cars (cars, taxis and 4WDs) illustrates more clearly those times where the mix change has altered for November 2024 compared to June 2015 and April 2021:



The area highlighted as 1 shows an increase in average daily number NW bound cars between 3.00am and 5.00am, perhaps a product of the journeys early morning shift workers. The areas 2a and 2b indicates apparently correlated increases in the NW bound morning and SE bound evening volume of cars.

Perhaps the most significant change is highlighted in area 3 where there is a consistent increase in daytime traffic (between 10.00am and 4.00pm) in both directions. The reasons for this are not obvious, but perhaps could include an increase in cars used for deliveries, a knock-on effect of increased developments in Chelmsford, Great Dunmow and beyond coupled with an increased reliance on satnav technology which advises the shortest/quickest route, or the

effect of the absence of adequate signage directing traffic to/from the M11 by the A120/A131 route.

12. The data record the speed vehicles are travelling at the collection location. The November 2024 data show a significant reduction in the percentage of vehicles which are exceeding the speed limit, and especially those doing so by more than 20% (that is, travelling at over 35mph in the 30mph zone which applies at the data collection location). The data does not provide an indication of speeds by vehicle type. There could be an implied assumption that cars, taxis, 4WDs, motorcycles and smaller goods vehicles are more likely to be speeding, but this cannot be corroborated from the data. The table below provides a comparison of the data collected:

	Total		NW		SE	
	Nov 2024	Apr 2021	Nov 2024	Apr 2021	Nov 2024	Apr 2021
No. vehicles travelling in excess of 30 mph (Percentage of total)	35,253 (42.2%)	38,006 (63.0%)	15,702 (36.5%)	16,842 (55.3%)	19,551 (48.3%)	21,164 (70.8%)
No. vehicles travelling over 35 mph (Percentage of total)	7,498 (9.0%)	14,763 (24.5%)	3,772 (8.8%)	7,426 (24.4%)	3,726 (9.2%)	7,337 (24.5%)
No. vehicles travelling over 40mph (Percentage of total)	1,145 (1.4%)	4,444 (7.4%)	702 (1.6%)	3,200 (10.5%)	443 (1.1%)	1,244 (4.2%)

Extrapolation of the November 2024 data to an annual basis imply that at the location each year over 1.8 million drivers exceed the 30mph limit, 390,000 drive over 35mph and almost 60,000 travel at over 40mph.

13. A reason for the reduction in the number of speeding motorists may be the effect of there being more, generally slower-moving, traffic. That is, drivers' behaviours may have been affected by the physical constraint of not being able to travel faster because of the speed of vehicles in front, not necessarily by a change in behaviours *per se*. More generally, it is also possible that speeds in the NW direction are supressed by drivers anticipating and slowing down for the bends in the road and the junctions of the B1008 with Church Lane and Pleshey Road.

14. The Council's SID (Speed Indicator Device) was in operation for all but one of the weekdays surveyed for traffic travelling in a NW direction – that is, on Monday 18th November it was not working. While it would be perilous to draw firm conclusions from this state of affairs over such a short period of time, it is nevertheless possible to compare the average of the weekdays where the SID was in operation against the 18th November. Such an assessment shows that on 18th November there was a 20% increase in the number of vehicles travelling '30-35mph' (29.3% of the total compared to 24.3%) and a 15.7% increase for those travelling '35-40mph' (6.8% compared to 5.9%), with commensurate percentage reductions for other bandings (see table below):

	0 - 10 mph	10 - 15 mph	15 - 20 mph	20 - 25 mph	25 - 30 mph	30 - 35 mph	35 - 40 mph	40 - 45 mph	45 - 50 mph	50 - 60 mph	60 - 70 mph	70 - 80 mph	80 - 90 mph	90 - 100 mph
No SID Day	0.0%	0.1%	1.1%	7.8%	53.7%	29.3%	6.8%	1.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Average SID Weekdays	0.0%	0.1%	1.1%	9.7%	57.5%	24.3%	5.9%	1.2%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%