Technical Note – ANPR Survey Analysis: Holt

Project:	Holt / Bradford-on-Avon Traffic Study	**To:**	Steve Corbin / Spencer Drinkwater / Allan Creedy
Subject:	Holt ANPR survey analysis	**From:**	Atkins
Date:	August 2014	**cc:**	

Executive Summary

Atkins Ltd has been commissioned by Wiltshire Council to undertake a traffic study examining patterns of vehicular movements within, and around, Holt. An Automatic Number Plate Recognition (ANPR) survey was conducted in June 2013 to provide the underlying data.

The accompanying note provides a high level analysis of the ANPR data collected for the traffic survey around Holt. The primary outputs include to:

- Establish overall traffic volumes and vehicle types (including HGVs);
- Understand through traffic in Holt (including HGVs); and
- Understand the origins of observed vehicles in Holt (including HGVs).

Definitions

The following key terminology is used throughout this note:

'AM' or 'morning' is the time period defined as 7am to 10am.
'IP' or Inter-Peak is the time period defined as 10am to 4pm.
'PM' or 'evening' is the time period defined as 4pm to 7pm.

'Matched observations' (referred to in section 3 and 4) are vehicles that were captured more than once at any of the sites, on the same day. This may include:

- Holt through movements between site 6 and 2;
- In-Out movements having stopped within the cordon;
- Out-In movements; and
- Multiple movements around the area (and through the cordon).

'Un-matched vehicles' (referred to in section 3 and 4) are vehicles that were seen only once at any of the sites on the same day.

'Through Matched Movements' (referred to in section 5) Unlike the 'matched observations' as above, which account for all matches, the 'Through Matched Movements', are only those matches for vehicles identified as making logical route choices involving a movement through Holt (and within a specified 15 minute timeframe) i.e. vehicles travelling along the B3107 northeast bound from site 6 to 2, or southwest bound from site 2 to 6.

'Unique Matched Vehicles' (referred to in section 6) are defined as those vehicles that are matched to a post code origin by virtue of their registration plate details. This is based on individual vehicles only, and will therefore be fewer in number than the 'matched observations', as one vehicle can make many movements. A 'through matched vehicle' refers to those unique matched vehicles identified as making a through movement.

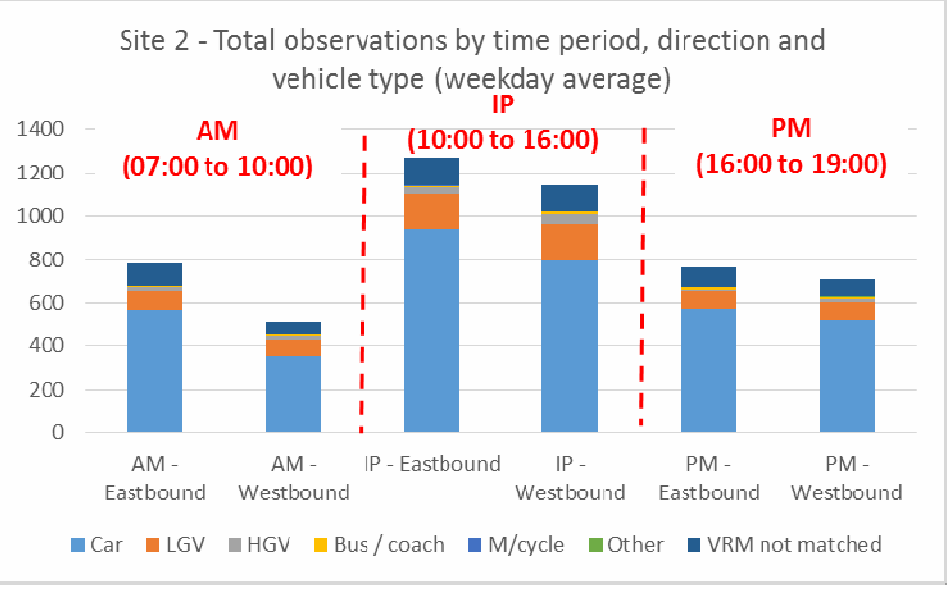
'VRM' is a Vehicle Registration Mark (more commonly referred to as a number plate)

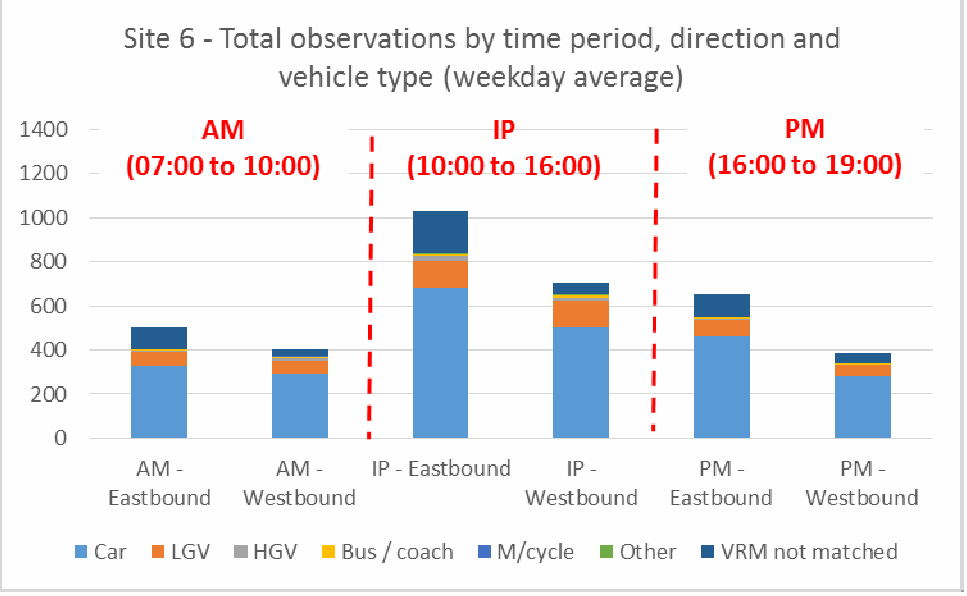
Survey context

In the context of the wider survey, for this Holt element of the survey analysis there is a particular focus on Site 6 (B3107 Bradford Road – to the west of the centre of Holt) and Site 2 (B3107 Bradford Road – to the east of the centre of Holt, near the Farmers Roundabout junction with the A350).

Overall traffic volumes and vehicle types

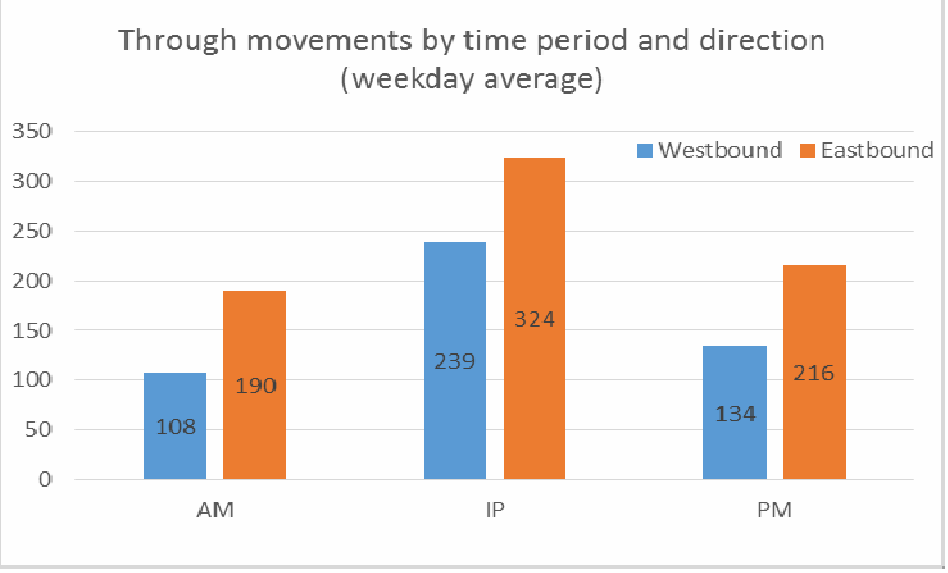
- Total traffic (all vehicles) observed at Site 2 was 5,181 for the weekday average and 4,192 for the Saturday (19% lower). The directional split of traffic recorded was approximately 54% eastbound and 46% westbound).
- This compares to total traffic recorded at Site 6 of 3,679 for the weekday average and 2,774 for the Saturday (24% lower). The directional split of traffic recorded was approximately 59% eastbound and 41% westbound).
- In relation to total traffic (weekday average) at Sites 2 and 6, 71% of vehicles were cars, 13% were LGVs and only 2% were HGVs (if untraced VRMs are excluded these figures are 81%, 14% and 3% respectively).
- Average hourly traffic flows (weekday average) observed at Site 2 were 430 vehicles per hour (veh/hr) and 500 veh/r for the AM and PM peak periods respectively – this compares to 400 veh/hr in the inter-peak period.
- Average hourly traffic flows (weekday average) observed at Site 6 were 300 veh/hr and 346 veh/hr for the AM and PM peak periods respectively – this compares to 290 veh/hr in the inter-peak period.
- In terms of HGVs specifically, average hourly traffic flows (weekday average) observed at Site 6 were 5 veh/hr and 2 veh/hr for the AM and PM peak periods respectively – this compares to 6 veh/hr in the inter-peak period.
- Observed traffic for the Saturday morning peak period was significantly lower than the rest of the day.





'Through traffic' movements

- A total of 1,210 through matched movements (between sites 2 and 6) were observed for the weekday average, with approximately 40% recorded in the westbound direction and 60% in the eastbound direction.



- Through movements as a proportion of all matched observations accounted for approximately 28% to 30% at Site 2 and approximately 38% to 41% at Site 6 (depending on the time period).

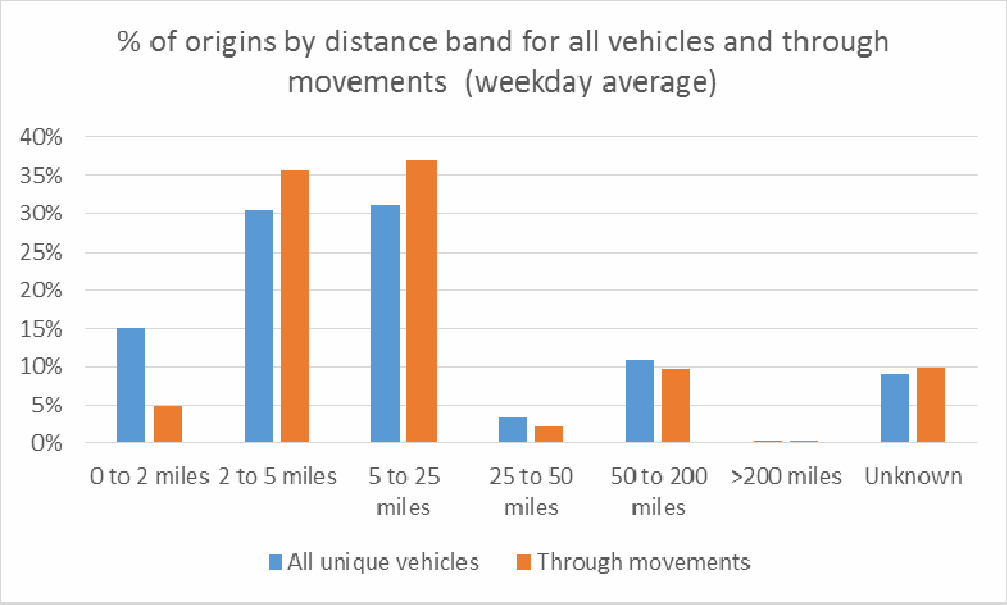
Period	Weekday Average Through Movements		
	Through Matched Movements	% of Matched Observations at Site 2	% of Matched Observations at Site 6
AM	298	29%	38%
IP	563	28%	38%
PM	350	30%	41%

Period	Saturday Through Movements Through Matched Movements	% of Matched Observations at Site 2	% of Matched Observations at Site 6
AM	151	29%	1%
IP	555	27%	1%
PM	261	31%	%

- The number of HGV through movements recorded was low. 14 through movements were recorded for the weekday average (approximately 1% of all through movements).
- Analysis of HGV routing suggests that there is a localised HGV routing pattern between Bradford-on-Avon (site 14) and Staverton (site 16) to Melksham with then a high proportion continuing eastbound on the A365 towards Devizes.
- A total of 175 LGV through movements were recorded for the weekday average (approximately 15% of all through movements).

Origins of observed vehicles

- For the weekday average, 15% of matched vehicles (Sites 2 and 6) originated from within 2 miles of Holt, 45% within 5 miles (cumulative) and 76% within 25 miles (cumulative) - equivalent figures for the Saturday are 19%, 55% and 79% respectively.
- The origins of the through matched vehicles were less local, as might be expected – only 5% of these vehicles originated within 2 miles of Holt, with a greater proportion in the 2 to 5 miles and 5 to 25 miles band. However, the proportion of vehicles originating beyond this range were very similar to all matched vehicles.
- Key vehicle origins were concentrated to the south west and north east of Holt – this includes the Trowbridge / Bradford-on-Avon and Melksham areas, which is to be expected.



- The Trowbridge postcode area (BA14) accounted for the most vehicle origins (19% of total unique vehicles for the weekday average), followed by the Melksham area code (SN12 - 16% of total unique vehicles for the weekday average).
- For through matched vehicles, the origin pattern is slightly different – Melksham accounted for the greatest proportion of vehicle origins with 16%, followed by Bradford on Avon with 13%, and then Trowbridge with 10%. This might be expected, as the B3107 through Holt is the most direct connection between Bradford on Avon and Melksham.
- The origin patterns between the weekday average and the Saturday vary slightly – the main difference being a relatively lower proportion of vehicles originating from the south east / south of Holt, around the Frome / Warminster area for the Saturday.
- In terms of HGVs and LGVs, origins there was a higher proportion of vehicles in the upper distance bands - 50% of matched HGVs (weekday average) originated from more than 50 miles away, in comparison to 28% for LGVs. The most common origin area for HGVs / LGVs was to the north east of Holt – within the upper distance bands this includes many urban industrialised areas such as Birmingham, Slough and Oxford.
- For HGVs and LGVs travelling through Holt, the Melksham postcode area accounts for the greatest proportion of vehicle origins (15% for the weekday average), followed by Trowbridge (10%), with only 5% from Bradford-on-Avon