

TPM Group Traffic surveys: Tuesday 3rd May, 2022

Summary Report: Draft 1

Preamble

The group agreed to conduct further traffic surveys on two specific issues it had been identified as particularly critical to the understanding of current traffic flow patterns in the Village, and hence to bolster its factual basis from which to consider possible future scenarios. This should help it feed into anticipated future discussion of the 'A4018' proposals from the City Council.

These are:

- Westbury Hill and Waters Lane ('WH'; 'WL' below) – the current balance of flows up and down these two routes into and out of the Village
- Chock Lane rat-running, and traffic exiting through Trym Road and Collage Road

Both sites were surveyed at three 90 minute time periods on the survey day – starting at 8.00am, 11.30am and 4.30pm, with observations taken in 5-minute blocks to facilitate later cross-comparisons between them.

The detailed methodology adopted, and its rationale, were outlined in previous briefing documents, both to the TPM group and the additional volunteer surveyors. In practice, the surveys worked well. The day was fine and dry and all surveyors adopted appropriate (if not always identical) survey positions. With only 5 surveyors per time period, these are inevitably some detailed unresolved issues in interpreting the flow patterns observed, but it is assumed here these are fairly minor in comparison to the major thrust of the findings, as below. Many surveyors also provided insightful additional notes which help context their observations and also point the way to possible future work.

The only significant, unexpected, but unavoidable disruptions were road works and associated traffic lights on Eastfield, impeding traffic planning to use that and Priory Avenue to bypass WL, and at the top of WL itself. These together probably led to more diversion than usual along Eastfield Road for west-bound traffic (the roadworks queue was visible from the top of the hill) and also, for those with prior knowledge, down Chock Lane. The previous roadworks and temporary lights at the 'White Lion' cross-roads had been removed by the survey day.

Results

1. Current patterns of flow on Waters Lane and Westbury Hill

The Group's previous discussions about a possible change of priority at the bottom-of-the-hill junction (to favour WL) made it important to understand what the current flows on each road are. Any such change might remove the queueing at the bottom of WL but introduce it on WH for both traffic directions, and would also raise the safety hazard for traffic exiting the WH car park and now crossing fast-flowing downhill traffic, sweeping round the corner from WL.

The results are very clear (Table 1).

Table 1: Westbury Hill and Waters Lane current flows

Survey time	Westbury Hill		Waters Lane		
	Up	Down	Up	Down	Down as % total
Morning	380	357	752	445	37%
Mid-day	203	248	579	444	43%
Evening	310	359	809	448	36%

NB Counting all motorized vehicles

Waters Lane clearly carries the heavier flows, in both directions, and at all three times. This is not surprising given that these have no easy by-pass east-west alternative to passing through the Village centre, compared to north-south traffic able to use Falcondale Road.

Flows on WL are predominantly, and unsurprisingly, uphill at all three times. This is an unimpeded flow here at the junction and has no rat-tunning option, equivalent to Chock Lane. Downhill traffic is at its highest as a proportion (though still well below half the total flow) at the non rush-hour survey, partly because lower volumes means a shorter delay at the WH junction, and also probably because traffic at this time of day includes proportionately fewer regular travelers, less familiar with the Chock Lane option than regular commuters. The constancy of the downhill flow irrespective of time is remarkable (and might even suggest some constant absolute volume tipping point for traffic volume to divert down Chock Lane??)

WH flows are more balanced, and there is a hint of a commuter-linked pendulum flow switch between morning and evening rush-hours, the former being very slightly tilted towards Bristol-bound traffic and the latter towards than coming from the city.

2. Chock Lane and its exits

Table 2 and 3 show the main results here, again by the same three time periods. Clearly, on Chock Lane (Table 2), while flows are much greater in the rush-hour periods, particularly the evening one, the percentage deemed 'rat-running' on our survey methodology (exiting about 5 minutes or less from being recorded in Chock Lane) is remarkably consistent, at just over 90% on each occasion. Somehow removing this element from these flows would clearly have a dramatic impact on local residents there and those servicing them (including patrons of The Mouse!).

Table 2: Chock lane current flows

Survey time	Total vehicles	'Rat-runners'	
		Total	As %
Morning	214	194	915
Mid-day	141	129	91%
Evening	243	220	91%

Admittedly, our methodology almost certainly over-counts true 'rat-running', in that some traffic so labeled will probably be heading for onward destinations still within the Village (eg the Co-op car park, Westbury Academy...), for whom Chock Lane is a reasonable best choice of route.

Turning to College Road and Trym Road (Table 3), the proportion of rat-runners is understandably lower (they have alternative sources of traffic besides Chock Lane) and the differences between them are stark. The lion's share of the rat-running as measured goes though Trym Road, despite its being so ill-suited for heavy traffic flows and having a problematic exit configuration. This is true both in overall volume and as a percentage of total traffic exiting from each road. Direction of onward traffic is also very different (surveyors were asked to identify the direction 'their' vehicles turned on exiting. Unsurprisingly. from College Road, the smaler amount of rat-running was also primarily turning towards the War Memorial. It seems likely that a higher percentage of this flow will also be heading for destinations in the Village than

the Trym Road flows, where some 95% on average headed for Henbury Road and Passage Road combined (primarily the former).

Table 3: Flows exiting from Trym Road and College Road

Survey time	Trym Road			College Road		
	Total vehicles	Rat-runners		Total vehicles	Rat-runners	
		% total	% of RRs heading to War Memorial		% total	% of RRs heading to War Memorial
<i>Morning</i>	218	77%	5%	68	38%	69%
<i>Mid-day</i>	133	80%	6%	51	43%	50%
<i>Evening</i>	256	79%	4%	32	41%	62%

3. The future – some speculation

So what happens is some or all of the Chock Lane rat-running is somehow ‘encouraged’ to forsake this short-cut and transfer allegiance to WL instead? Table 4 shows the outcomes, under this scenarios and under some less extreme diversions. Obviously, these all boost the downwards WL flows to a greater or lesser degree, by almost 50% in the rush hours and almost 30% in the middle of the day for a full diversion, Without any re-prioritising of the WL/WH junction queueing is clearly going to grow under each scenario, particularly at the busiest times. On the other hand, prior knowledge of this would encourage both a proportion of that potential ‘new’ traffic, and of some existing WL users, to divert to alternatives, perhaps the ‘Doncaster Road’ northern by-pass (which would be increasingly attractive too if the proposed traffic lights come about at the Greystoke/Falcondale intersection), perhaps to switch to the Priory Avenue route, perhaps opt for more home-working for willing employers.... As noted above, too, some so-defined ‘rat-running’ is probably both local and logical, so may not want, or need, to forsake Chock Lane.

Table 4 : some future scenarios, downhill on Waters Lane

Survey time	Current downward flow	% diversion from Chock Lane rats		
		Total	66%	33%

Morning	445	639	573	509
Mid-day	444	573	529	487
Evening	448	668	593	529

But even if **all** the Chock Lane rats changed their allegiance to Waters Lane, the downward flow there would still barely balance the upwards flow on the same road in the middle of the day, and fall well short of it during morning and evening rush hours.

Where next?

Some interesting observations made by surveyors provide possibilities here:

- Passage Road traffic into the Village in the morning rush at least (it was only separately measured then) is impressive in scale. While most continued towards the War Memorial significant numbers, surprisingly still turned into Henbury Road. We could extend these observations, though tracking the Passage Road rats is a more labour-intensive task than the ones just undertaken, even within the limitations of our methodology, given the large number of ‘exit’ routes open to it which would need to be monitored simultaneously.
- Priory Road/Eastfield Road also appear significant carriers of rush-hour traffic, by-passing WH/WL and the problematic junction altogether. We could undertake traffic counts here for more data on simple numbers involved, but tracking onward movements would seem be very difficult, again given the number of alternatives.
- The Westbury Hill car park – we have already identified its entry and exits as a problem for pedestrians, and it would become be hazardous for road-users too, were the WH/WL junction priority to shift. It’s much easier to define the problem here than its solutions, but this issue could become key as to whether any changed priority was deemed safe on road-safety grounds in the first place, irrespective of current and projected flows, with knock-on effects on the viability and consequences of stemming rat-running on Chock Lane.

Acknowledgements:

Thanks to the surveyors from the TPM (Kate, Andy, Alan) and from beyond (Lorna, Valerie, Bev, Myra, Derek and Tony E.)