SCOOT road traffic data from the junction of Broadstone Rd with Manchester Rd

Split Cycle Offset Optimisation Technique (SCOOT) dataset

- SCOOT is the software that controls traffic lights at many major junctions in Greater Manchester
- Sensors under the road detect when vehicles are present
- Variables like traffic counts, congestion levels, + others are measured/calculated
- Junction timings are adjusted in real-time to reduce congestion
- It is possible to prioritise some roads/junctions over others
- Archived data are available every 15mins going back to 2017

Some definitions:

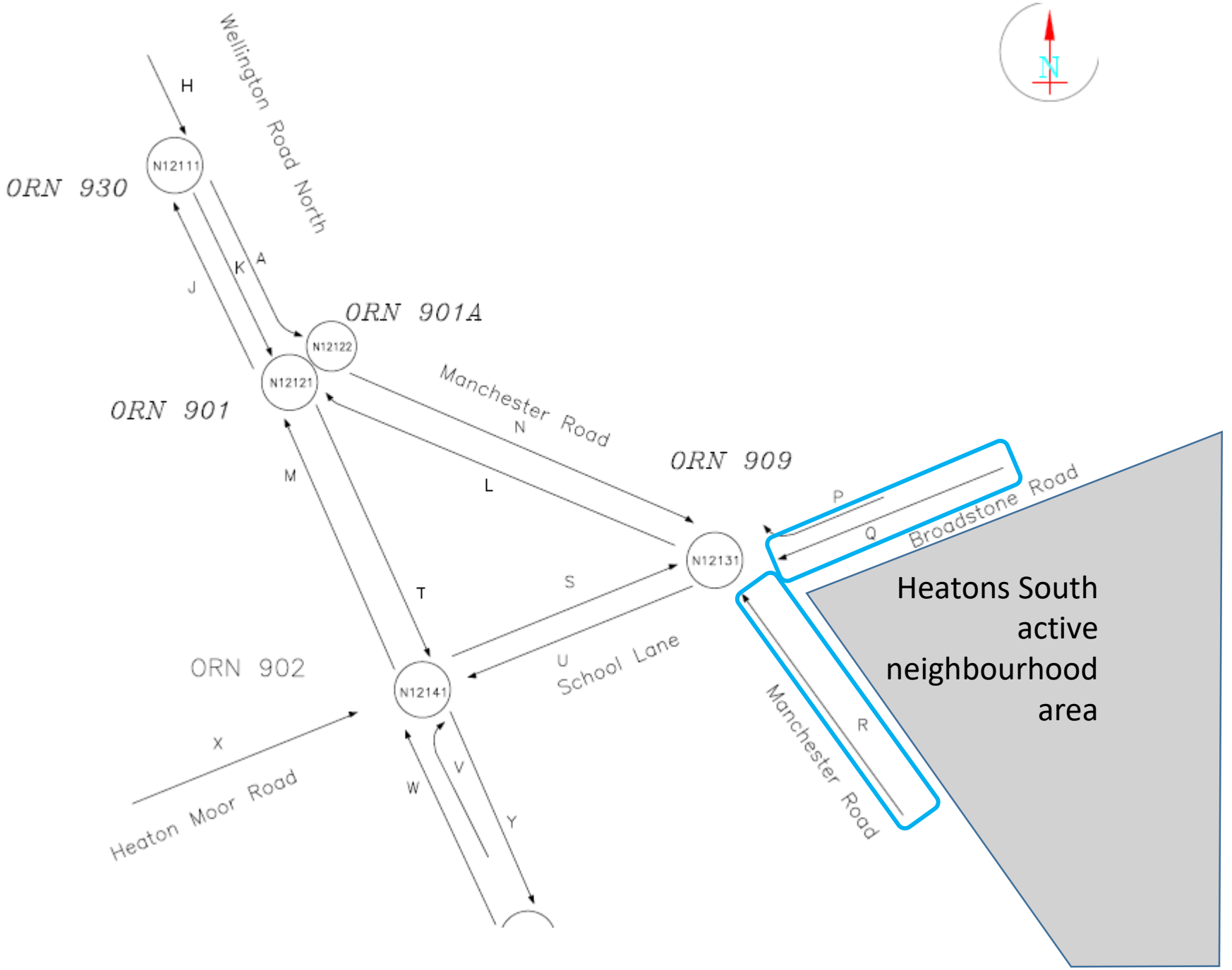
Flow: Rate of vehicles passing over detector, measured in vehicles/hr

Congestion: Identified when a sensor is occupied for all of a 4-second window (i.e. a vehicles is stopped over the sensor). Expressed as the percentage of time that congestion is identified.

SCOOT in Heaton Chapel

Q & R are the links on the corner bordering the Heatons South active neighbourhood area

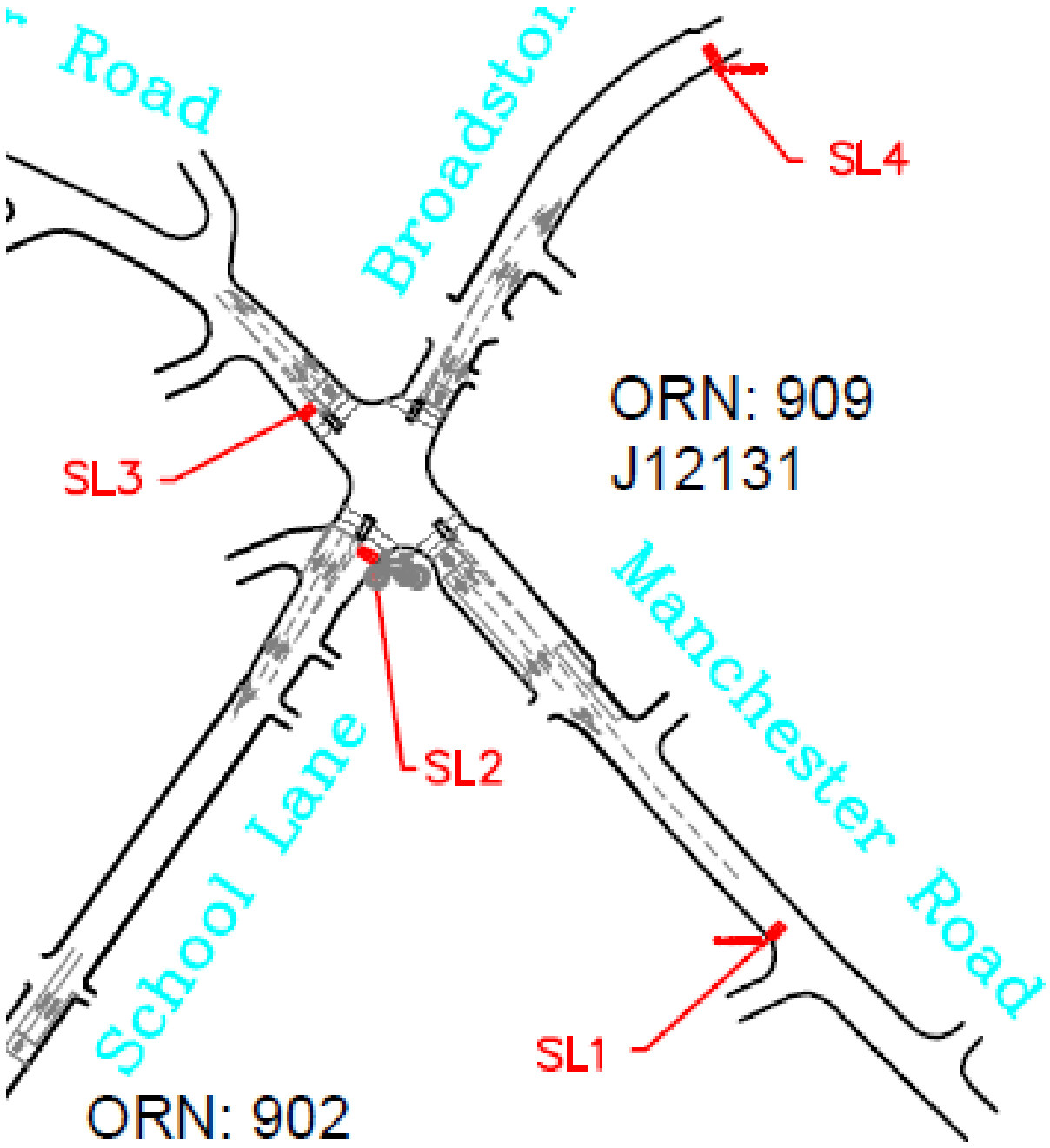
(no direct data from P)



SCOOT sensor locations

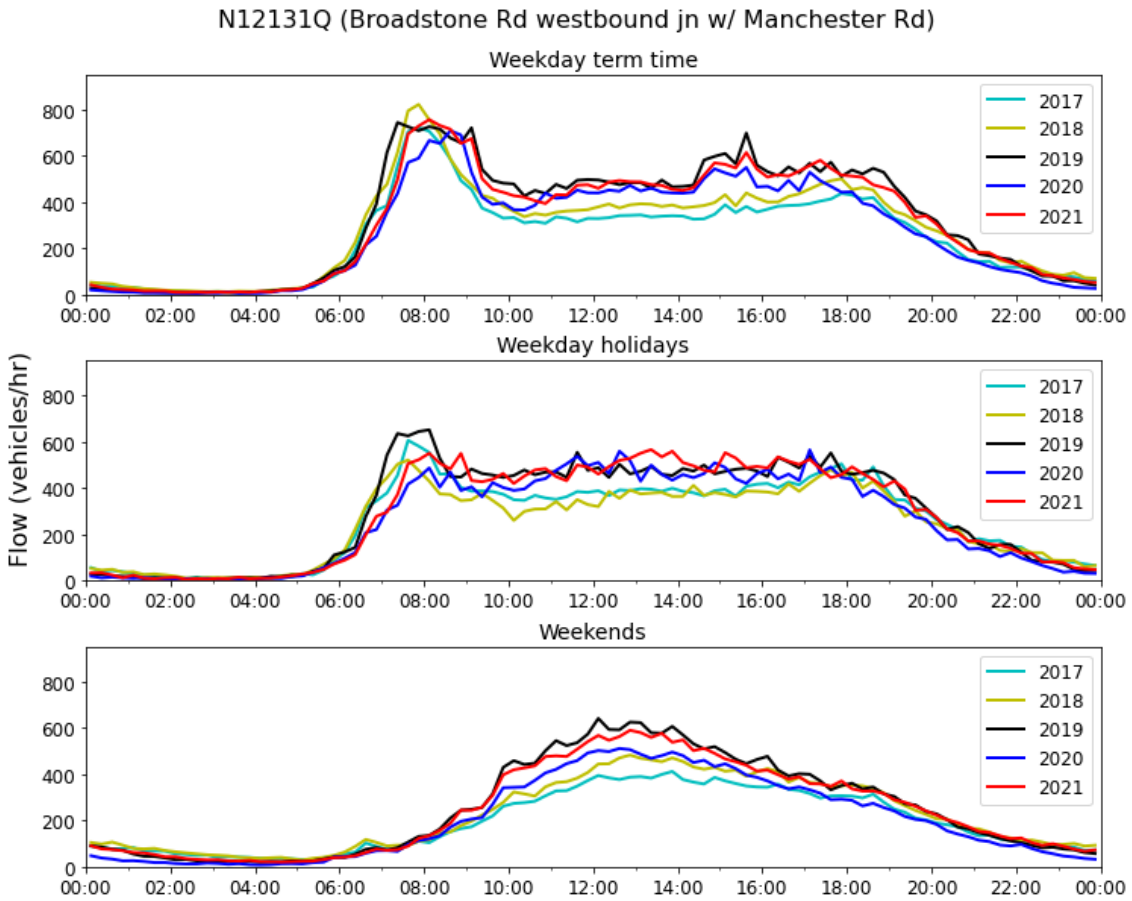
The idea is to be close enough to measure unusual traffic queues (i.e. congestion) but far away enough to not be saturated by normal traffic queues that form when the light is on red

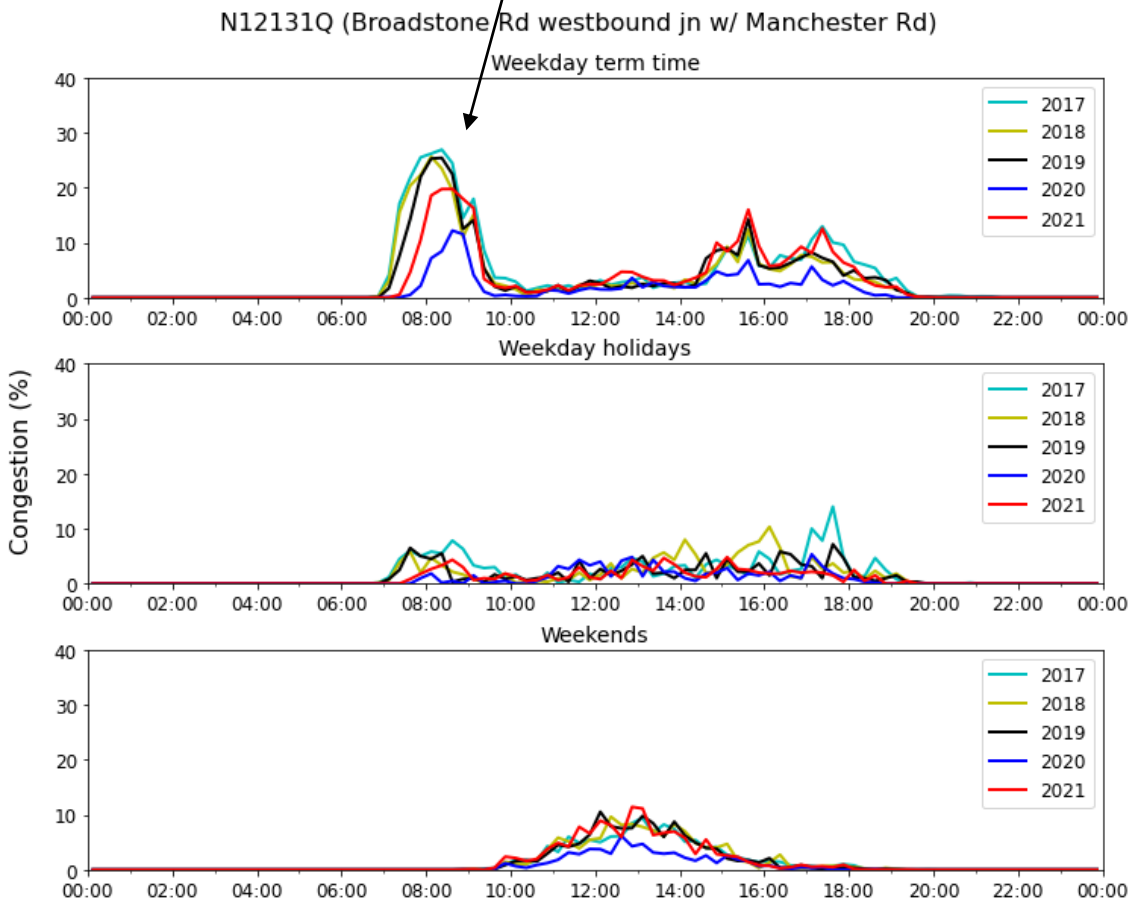
SL4 is the sensor for Link Q
SL1 is the sensor for Link R



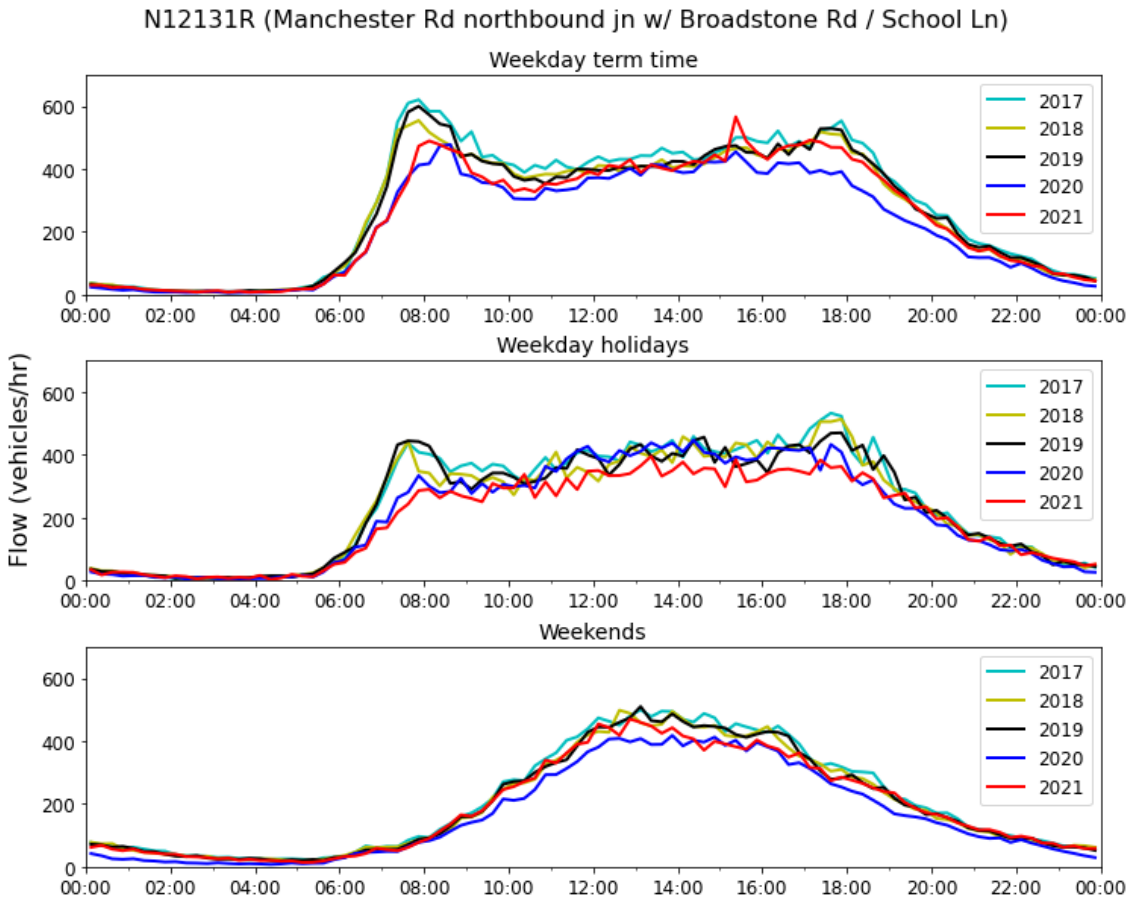
Link Q, 15 Sept – 5 Dec

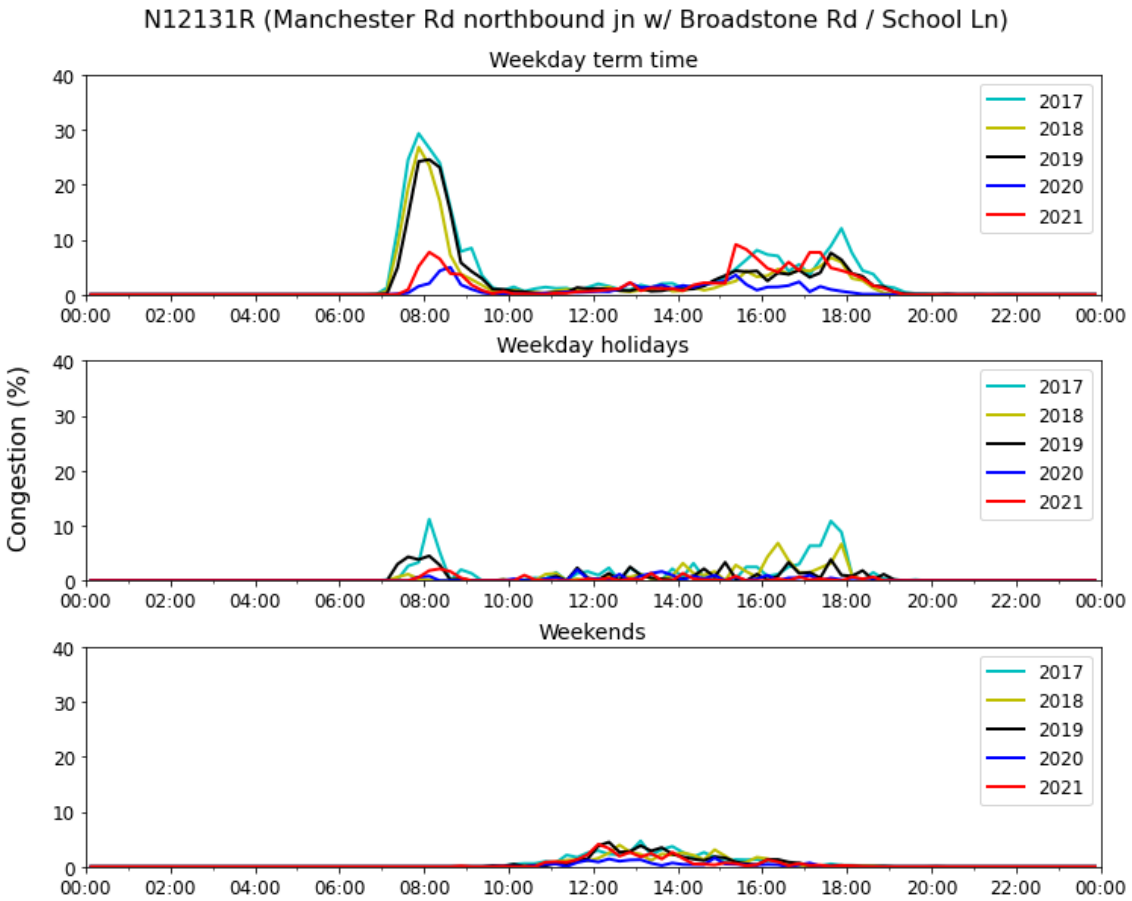
2020 & 2021 peak is 15-30mins later than previous years, but generally lower





Link R, 15 Sept – 5 Dec





Link Q, 15 Sept – 5 Dec, Weekday term-time only

	Avg flow 0000 – 2400 (vehicles/hr)	Avg flow 0700 – 0930 (vehicles/hr)	Avg flow 1600 – 1800 (vehicles/hr)	Average congestion 0000 – 2400 (%)	Average congestion 0700 – 0930 (%)	Average congestion 1600 – 1800 (%)
2017	251	563	396	3.93	18.70	8.79
2018	281	616	448	3.22	16.12	6.06
2019	331	682	538	3.23	15.05	6.29
2020	275	562	473	1.34	4.74	2.95
2021	316	632	534	3.16	11.12	7.99
2021 rank	**2nd**	**2nd**	**2nd**	**4th**	**4th**	**2nd**

Any *big* increases in traffic/congestion due to the active neighbourhood scheme would push 2021 to rank 1

=> Any increases were within the variability of previous years

Link R, 15 Sept – 5 Dec, Weekday term-time only

	Avg flow 0000 – 2400 (vehicles/hr)	Avg flow 0700 – 0930 (vehicles/hr)	Avg flow 1600 – 1800 (vehicles/hr)	Average congestion 0000 – 2400 (%)	Average congestion 0700 – 0930 (%)	Average congestion 1600 – 1800 (%)
2017	282	531	504	2.92	15.30	6.86
2018	263	479	481	1.95	11.16	4.79
2019	267	497	486	2.12	11.93	4.45
2020	222	383	400	0.57	1.64	1.29
2021	249	401	469	1.35	3.03	5.49
2021 rank	**4th**	**4th**	**4th**	**4th**	**4th**	**2nd**

Vehicle numbers and congestion were all lower than 2017 – 2019, other than evening rush hour congestion which was within the previous range

Summary

Big picture

- *On average*, vehicle numbers and congestion levels were within the previous range 2017– 2020 in both links Q and R
- *On average*, any increases due to the scheme were within the variability of previous years

Interesting features

- Morning rush hour was 15 – 30 mins later in 2020/2021 than in previous years (possible COVID impact on traffic profile)
- Link Q: ~20-35% increase in vehicle numbers (although not congestion) between 2017 – 2019. This includes weekends
- Link R: 2020 had significantly fewer vehicles and much less congestion
- Link Q: 2020 vehicle numbers within previous range, but much less congestion

Acknowledgements

Data provided by TfGM

This work was entirely unfunded