



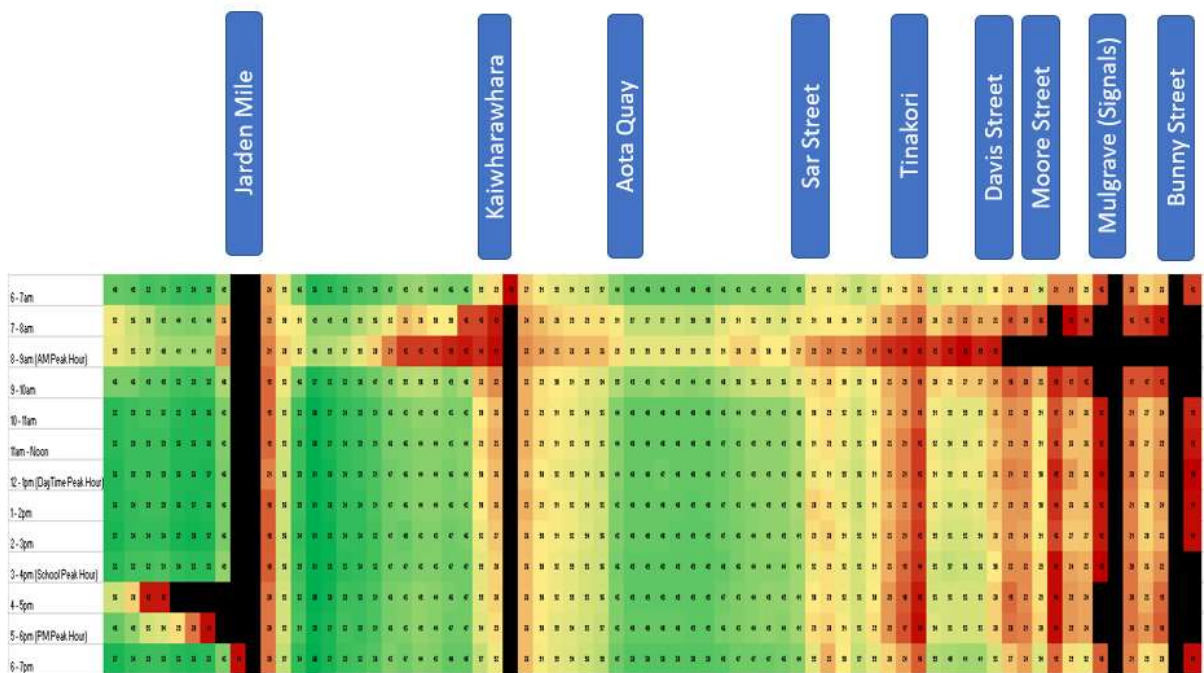
Appendix C

Analysis of Bus Operating Performance

In order to understand where delays to buses and other traffic occur along the TQHR corridor, TomTom data was sourced for 2019. The data obtained is for private vehicles, but gives a good indication of where buses experience delays, given that there are no bus priority measures currently on the TQHR corridor. Data was sorted into hour long time slots in order to help identify the locations where delays occur.

Southbound Delays

The diagram below illustrates the travel speeds in the southbound direction with the red and black colours indicating areas where traffic is slowed to less than 20km/h or stopped. Note that whilst this diagram covers the entire TQHR corridor that the SSBC concerns, it is not to scale.



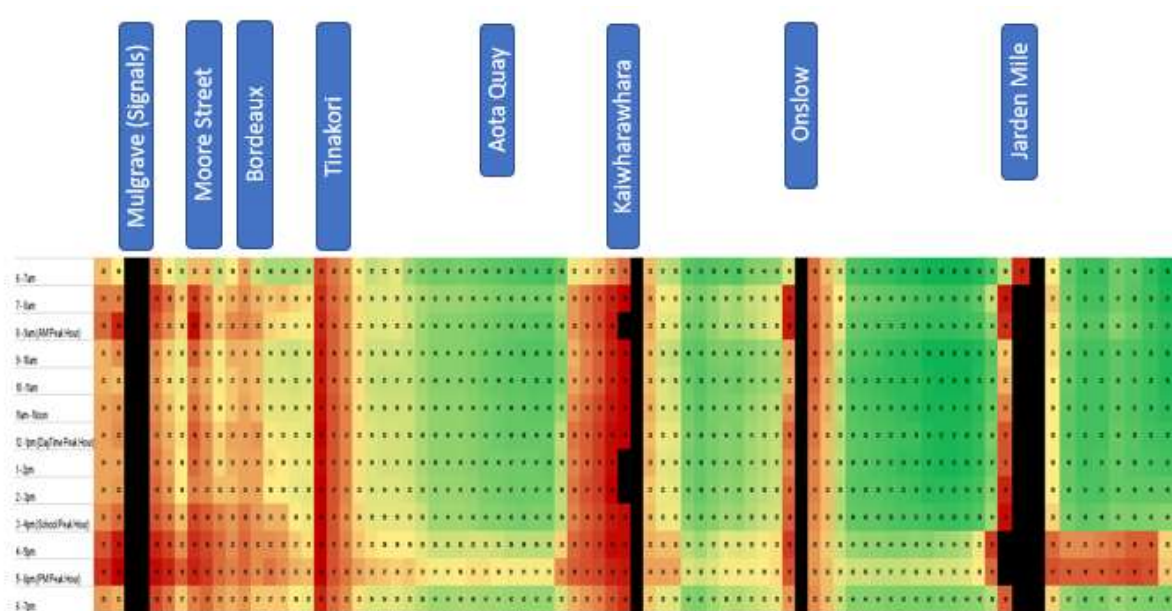
This analysis shows that there are several locations where traffic is slowed or queued at certain times of the day, notably:

- **Jarden Mile/ Ngauranga Gorge Intersection:** Delays at this intersection appear to occur in the evening peak period in the southbound direction. At other times of the day the delay is not significant.
- **Kaiwharawhara Road/ Hutt Road Intersection:** Delays occur at the intersection in the morning peak period (7am to 9am). This slower speed extends to the north indicating that a queue or slow moving traffic is present at the intersection on Hutt Road. Delays are minimal for the remainder of the day.
- **Aotea Quay Ramps:** Traffic is slowing in this location, which appears to be due to the diverging of traffic and weaving movements around the off ramp.
- **Sar Street and Tinakori Road:** Delays at Tinakori Road occur in morning peak period, which is possibly due to heavy right turn volumes at Tinakori Road with a queue which is believed to extend beyond the turn lane, causing blocking back into the southbound through lane.
- **Davis Street:** Delays at the intersection can be seen during the morning peak period, potentially caused by use of the zebra crossing.

- Moore Street: Delays at the intersection can be seen during the morning peak period, potentially as a result of the zebra crossing which is very busy during the morning peak period, as well as the close proximity of the bus stop to the crossing.
- Mulgrave Street: Delays at the intersection appear to be worse in the morning peak period than in the evening peak period.

Northbound Delays

The diagram below illustrates the travel speeds in the northbound direction with the red and black colours indicating areas where traffic is slowed to less than 20km/h or stopped on the TQHR corridor.



The main locations where delay occur are as follows:

- Jarden Mile/ Ngauranga Gorge Intersection: Delays at this intersection appear to occur in the evening peak period, though at other times of the day the delay is not significant.
- Onslow Road: There appears to be some minor delays in both the morning and evening peak periods. This is due to all movements in the northbound direction being under signal control.
- Kaiwharawhara Road/ Hutt Road Intersection: Delays occur at the intersection throughout the day and appear to be slightly worse in the evening peak hour (5 to 6pm).
- Tinakori Road: Delay appears to occur in the northbound direction all day which should not, in theory, occur at a giveaway controlled intersection. This may be an anomaly, though it is possible that traffic heading north is slowing or stopping to perform the tight left turn into the intersection or slowing or stopping to allow traffic to turn right.
- Bordeaux Bakery: Delays at the intersection occur throughout the day. This appears to be as a result of the zebra crossing and the side road friction at this section of the corridor.
- Moore Street: Delays at the intersection occur during both the morning and evening peak periods, potentially as a result of the zebra crossing.
- Mulgrave Street: Delays at the intersection occur in the evening peak period.