

Appendix F:

Limitations of our modelling

Statistics modelling limitations

Our modelling does not show that the signals program is ineffective. This is because of the limitations of our modelling, which include:

- While we did attempt to control for COVID-19, it is impossible to complete control for those effects.
 - We assumed that travel times would stay constant. In reality, they have increased, which means no change is a positive impact.
 - Our statistical model may be too simple to completely model traffic complexities, and may ignore signal reviews that make a small but real impact.
 - Data inaccuracies may increase the overall noise in the data, limiting our ability to detect small changes.
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Data model overview

The department's model is its source of truth for volume and travel time data. The department does this by bringing all its travel time and volume data sources together, and choosing the source that most accurately reflects the traffic conditions.

The department also standardises the data both spatially and temporally.

For the spatial dimension, the department maps all data to the Homogenous Traffic Volume Network. This provides a skeleton for the department to present the data spatially. It covers most (but not all) major arterial roads and freeways, splitting these roads into directional 'flows'.

For example, one flow is along Collins Street from Elizabeth Street to Russell Street. Traffic in the other direction, from Russell Street to Elizabeth Street, is considered a separate flow.

To get information about the travel time from Russell Street to Queen Street, the department would aggregate the 2 flows.

The Homogenous Traffic Volume Network does not provide more granular information below the flow level. For example, it cannot provide data for Russell Street to Swanston Street.

The department transforms the different data sources to fit these standard lengths.
