

Memorandum

To Quecha Horning

Copy Paul Pretorius

From John Denney

Office Christchurch Office

Date 9 March 2017

Subject Tainui Street / Mackay Street Traffic Signals

As part of the Greymouth / Māwhera CBD Renewal the following Transportation Planning upgrades were recommended.

Transport Planning



It is understood the Greymouth District Council has decided to progress the signalisation of the Tainui Street / Mackay Street intersection. As the entire transportation planning package is not being constructed as one process it is important to understand the implications of a staged approach.

The new traffic signals will be located at the southern end of the Tainui Shared Street between Mackay Street and Māwhera Quay, which will be a slow speed environment designed to discourage through traffic and be limited to vehicle movements with a destination within the streetscape. There is a higher volume of pedestrian's movements moving unimpeded in all directions.

The shared street is intended to connect the town centre to the clock tower and floodwall, which are also intended to be upgraded. This will require crossing of Māwhera Quay, which will require treatment to make it a safer road for pedestrians to cross. It is currently unclear how this will be achieved but it is likely to make Māwhera Quay a less desirable route, subsequently increasing traffic volumes on Mackay Street.

The intersection is currently a priority intersection with traffic on Mackay Street giving way. There are zebra crossings on all approaches immediately adjacent to the intersection. The photo below looking east on Mackay Street demonstrates the complexity of current layout.



Safety improvements and congestion reduction are the two major benefits of introducing traffic signals.

Safety

In the last 10 years there are 22 recorded crashes in the NZTA Crash Database. 4 of these crashes were minor injury crashes of which 3 involved pedestrians hit by vehicles that failed to give way.

Based on historical traffic counts the average annual daily traffic is approximately 6,000 vehicles per day on Tainui Street and 3000 vehicles per day on Mackay Street. A typical crash rate for an intersection of this type is 1 injury accident every 2 years.

Although this does not indicate a significant injury risk the high level of non-injury crashes suggests that this is an intimidating environment for pedestrians. The fact that all but one of the vehicle only crashes involved an injury is likely to be due to the slow speed environment created by the zebra crossings. The fact that 3 out of the 4 injury crashes involved a pedestrian is of greater concern particularly in the town centre which should be a pedestrian friendly environment.

Generally zebra crossing are located at mid-block locations where there is limited confusion regarding where vehicles are travelling so pedestrians and motorists know where to look to determine whether they can proceed.

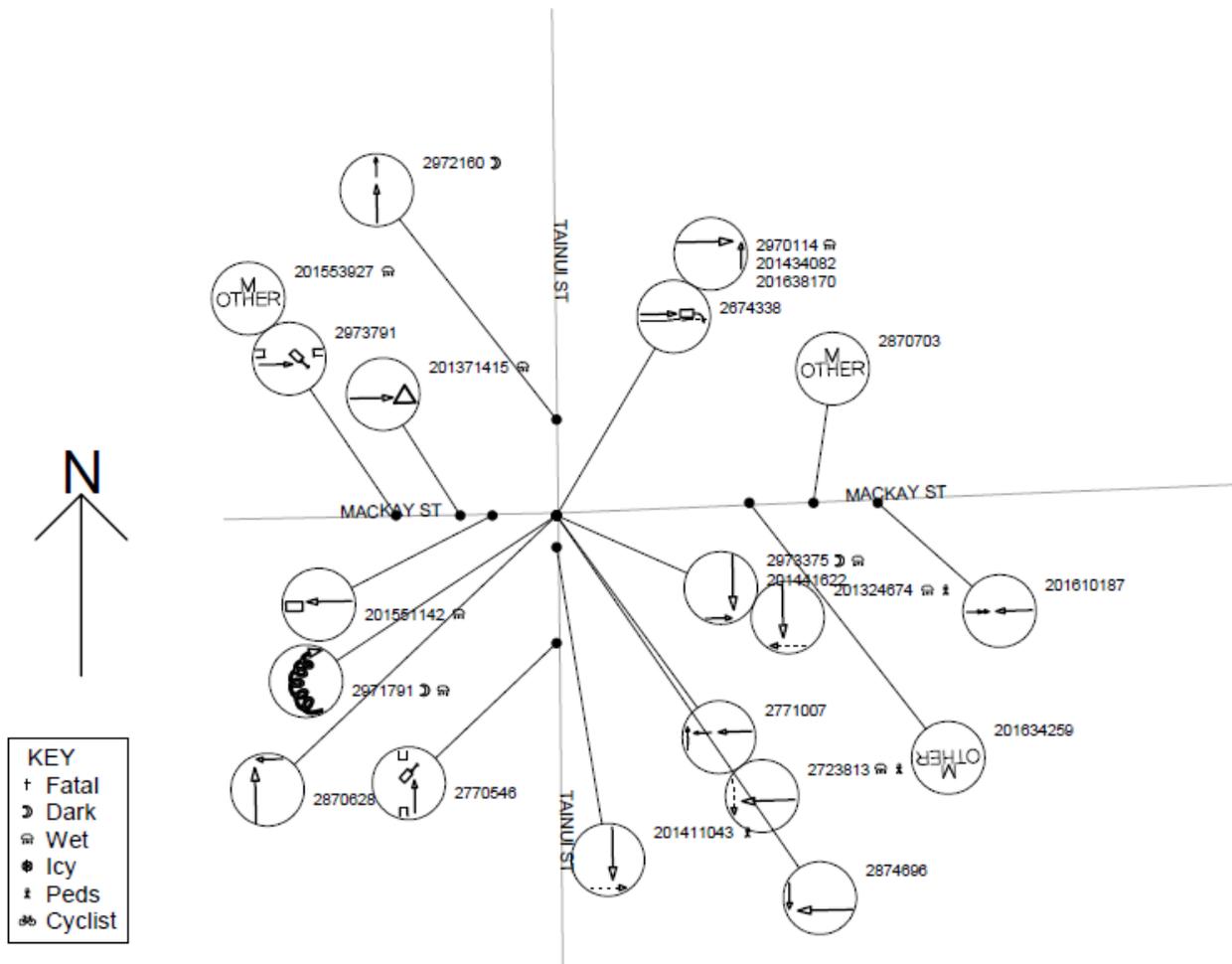
For any vehicle passing through this intersection drivers have to cross two zebra crossings whilst giving way to traffic in the middle which is potentially confusing and likely to lead to driver error. There are also situations where a driver gets stuck in the middle of the intersection whilst waiting at the second zebra crossing leading to congestion and greater confusion.

Traffic signals would remove the level of driver judgement required to negotiate the intersection and give pedestrians a much greater level of protection and feeling of security in the town centre.

The collision diagram below shows the crashes that have been recorded in the last 10 years.

**Mackay Street Tainui Street
July 2006 to June 2016 Crashes**

09 March 2017



Congestion

As a result of the Tainui Shared Street between Māwhera Quay and Mackay Street it is expected that more vehicles destined for the town centre from the east or west will use Mackay Street instead of going along Māwhera Quay and turning into Tainui Street. This will not increase the overall volume of traffic using the Tainui Street / Mackay Street intersection but will change the flow balance onto Mackay Street (which currently gives way to Tainui Street).

Of greater impact would be any alteration to Māwhera Quay that has been proposed such as traffic calming, narrowing, or speed reductions to provide enhanced connectivity to the flood wall.

This would encourage more traffic to use Mackay Street as a through route instead of Māwhera Quay significantly impacting on the capacity of the Tainui Street / Mackay intersection, which may lead to queuing, reducing the ease of access to the town centre, reducing amenity for visitors and increasing driver frustration.

Traffic signals will increase the capacity of the intersection through better vehicle movement management. Prioritisation would be given to the direction of travel determined to have more importance and vehicle detection will ensure there is no unnecessary red waiting time.