

Goderich Street Intersection Upgrades

Phase 2 – Goderich Street/Lindsay Street and Esplanade/Charles Street intersections
January 2022



About the project

Between 2019-2020, the Department of State Growth worked with the City of Launceston to develop the Invermay Traffic Masterplan (Masterplan). The Masterplan identifies a number of transport infrastructure projects in Invermay which would assist in addressing the short, medium and long-term transport challenges of the area, and the congestion issues outlined in the Tasmanian Government's Launceston and Tamar Valley Traffic Vision. One of the projects from the Masterplan is upgrades to Goderich Street.

The Goderich Street Intersection Upgrades project has been developed over two phases:

- Phase 1 was completed in October 2020 and delivered upgrades to the Forster Street/Goderich Street intersection, Forster Street between Goderich Street and Invermay Road, and the Gleadow Street/Goderich Street intersection.
- Phase 2 involved a trial of left turns only at the intersections of Goderich Street/Lindsay Street and Esplanade/Charles Street. The trial aimed to decrease congestion by reducing queuing onto the Charles Street Bridge and support drivers' use of Forster, Doyne, Gleadow, William or Cimitiere streets.

The trial was held between October 2020 and January 2021. Feedback received during the trial's consultation period indicated the majority of respondents (58 per cent) noticed reduced congestion during the trial. A traffic survey completed during the trial also indicated a reduction in travel times and congestion for both northbound and southbound vehicles along Goderich Street.

Based upon the trial's success, the Department is proceeding with permanently removing right turns into Lindsay Street from Goderich Street and right turns at the Esplanade/Charles Street intersection.

The project is a part of the Tasmanian Government's \$40 million contribution to improve the Invermay road network.

Consultation

Consultation on the three-month trial was completed from Monday, 18 January 2021 to Sunday, 31 January 2021 in the form of an anonymous online survey, which received 1 073 responses. Survey respondents chose which stakeholder group represented them. The groups to choose from were:

- Local resident
- Local business
- Other road user

The survey was advertised via the Department's RoadTas Facebook page, the City of Launceston's Facebook page and the project's webpage on the Department's Transport website. A letterbox drop to residences and businesses in the vicinity of the project area also promoted the survey.

Feedback summary

Figure 1 shows which stakeholder group the survey respondents indicated best represented them. Notably, a high percentage of survey respondents self-identified as a local resident.

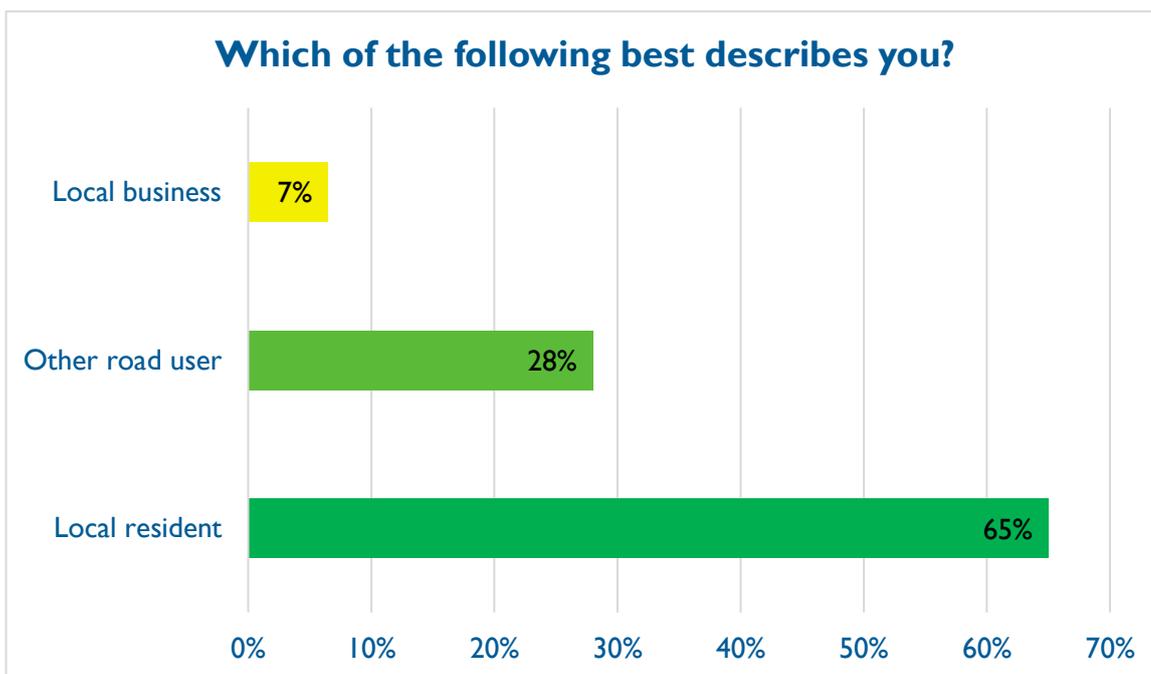


Figure 1: Overall responses to "Which of the following best describes you?"

Figure 2 shows survey respondents' answers to *Have you noticed reduced congestion on the Charles Street Bridge since the trial started?* Fifty-eight per cent of respondents noticed reduced congestion during the trial, which is also demonstrated in the trial's traffic survey.

Figure 3 shows that when sorted into each stakeholder group, responses from "Local business" were less satisfied than the other stakeholder groups.

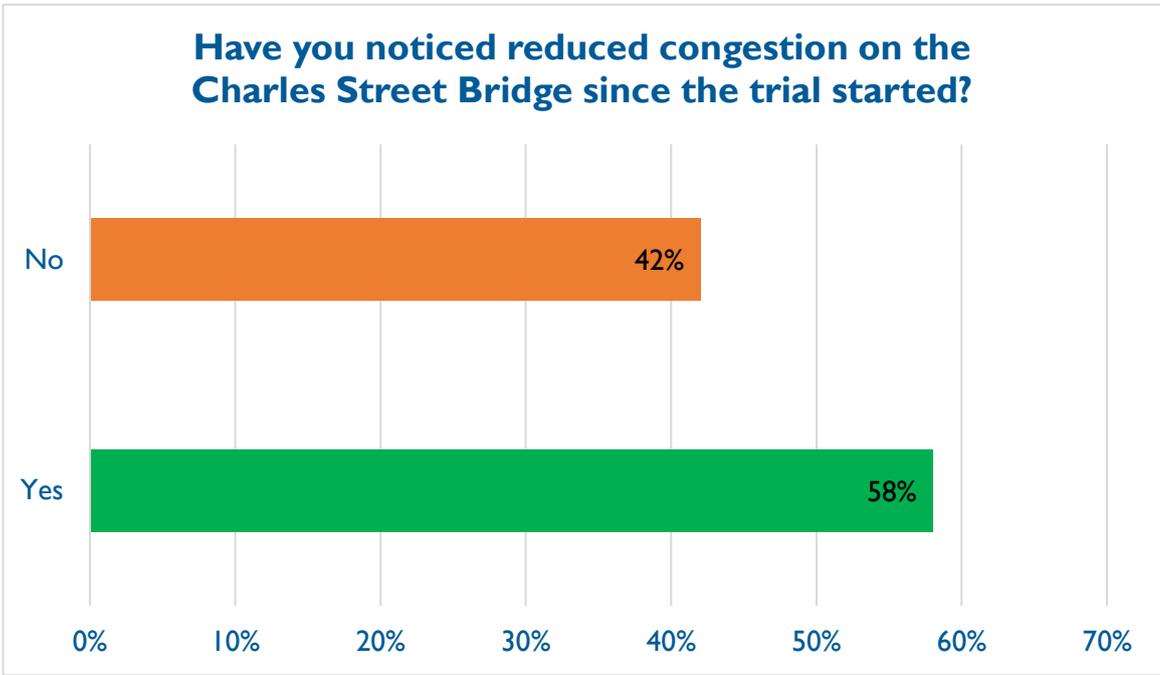


Figure 2: Overall responses to "Have you noticed reduced congestion on the Charles Street Bridge since the trial started?"

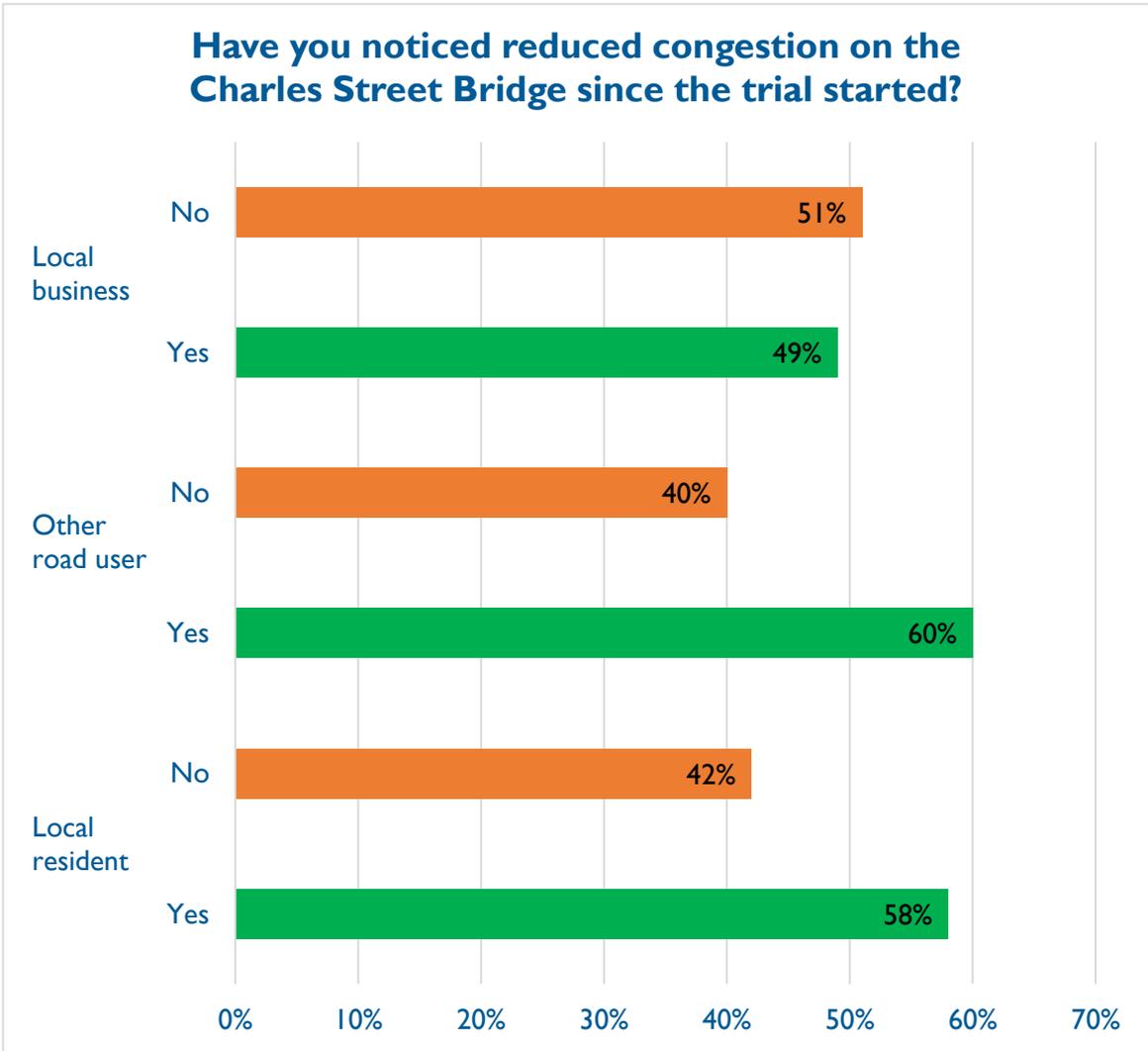


Figure 3: Responses to "Have you noticed reduced congestion on the Charles Street Bridge since the trial started?" sorted by stakeholder group

Figure 4 shows survey respondents' answers to *How effective has the trial been at reducing queuing on the Charles Street Bridge and improving traffic flow on Goderich Street?* The responses suggest the trial has been effective at reducing queuing on the Charles Street Bridge and improving traffic flow on Goderich Street.

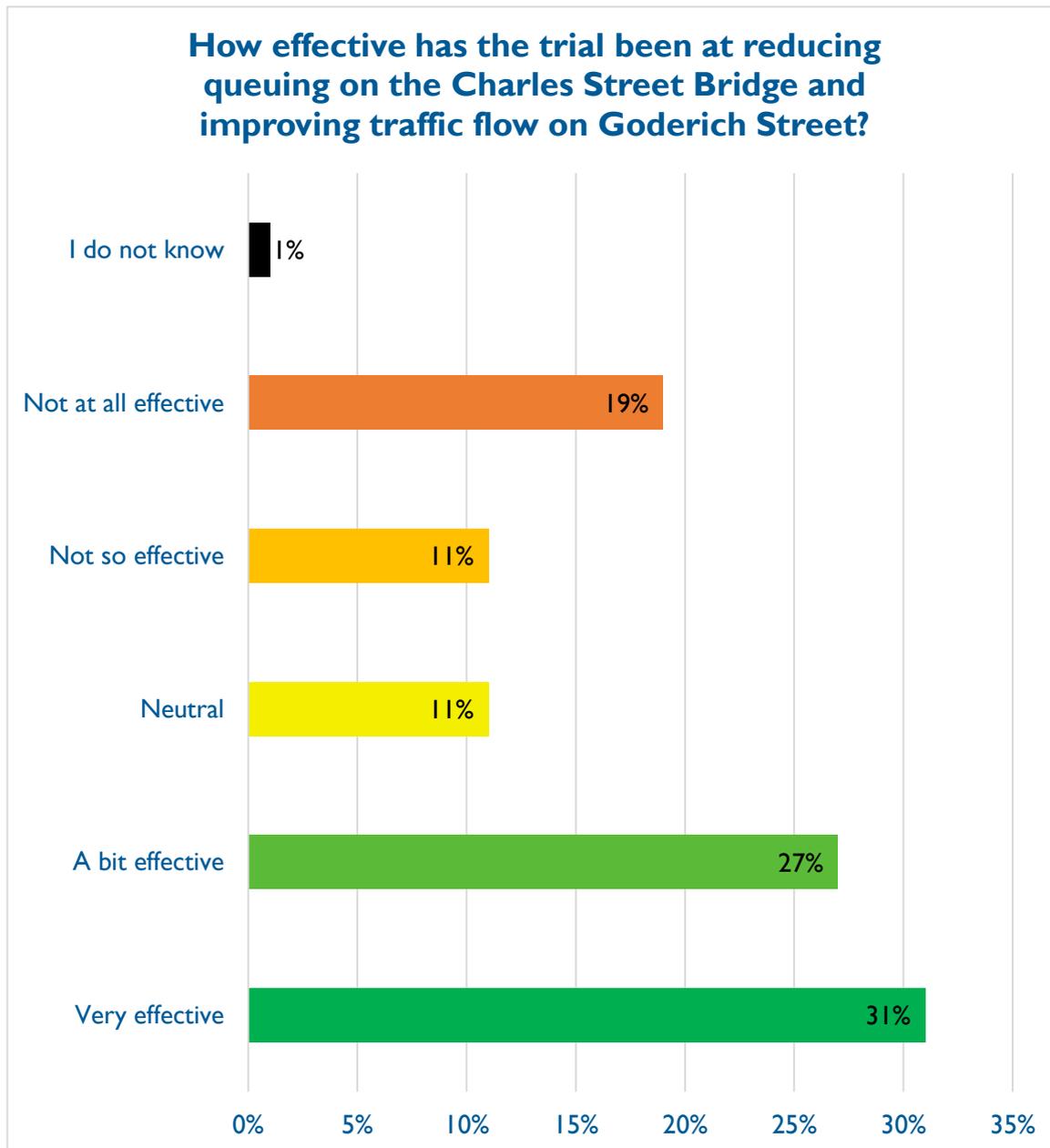


Figure 4: Overall responses to "How effective has the trial been at reducing queuing on the Charles Street Bridge and improving traffic flow on Goderich Street?"

The following shows the feedback themes that emerged from the *Please share any other comments you have below* question within the survey, along with the Department's response. Fifty-six per cent of survey respondents provided feedback to this question, which was the only optional question in the survey.

What did we hear?	Department's response
<p>Right turn from Lindsay Street to Goderich Street</p> 	
<p>Turning right from Lindsay Street onto Goderich Street (towards Charles Street Bridge) is difficult and traffic signals do not provide enough green light time. Respondents suggested the installation of a green arrow signal.</p>	<p>The purpose of the trial is to improve traffic flow and travel time of Goderich Street, improve capacity across the Charles Street Bridge and gain efficiencies in signal phasing. Efficiencies will be made as time previously attributed to right turns can now be used for green time for northbound/southbound traffic.</p> <p>By adding a dedicated right turn phase for road users to turn right at Lindsay Street, this will reduce the efficiencies won by the removal of the right turns as every phase added adds more lost time to Goderich Street northbound/southbound traffic.</p> <p>Road users wishing to leave the commercial precinct and travel across the Charles Street Bridge are recommended to travel north on Doyne Street and safely enter the highway at the new Gleadow Street intersection.</p>
<p>Second Tamar River bridge</p> 	
<p>A new bridge across the Tamar River would reduce congestion in the area as traffic travelling from the West Tamar Highway is the cause of congestion.</p>	<p>The Department is currently doing a feasibility study into a second Tamar River crossing between the East Tamar Highway and the West Tamar Highway.</p>
<p>Traffic signals along Goderich Street</p> 	
<p>The addition of more traffic signals along Goderich Street have contributed to congestion as the "stopping and starting" restricts traffic flow. Respondents suggested traffic signal synchronisation be reviewed.</p>	<p>Conditions during the trial showed improvements in travel times for northbound and southbound traffic. Traffic signals along the corridor are managed to prioritise highway traffic.</p>

What did we hear?	Department's response
Esplanade/Charles Street intersection 	
<p>There should not be a red signal at the Esplanade/Charles Street intersection for northbound traffic, except for when pedestrians need to cross the road.</p>	<p>As part of the permanent removal of right turns, Charles Street will have a green traffic signal unless pedestrians are crossing.</p>
Right turn removal alternatives 	
<ol style="list-style-type: none"> 1. Replace the intersection with a roundabout and add more lanes to the Charles Street Bridge. If possible, more lanes should be added to the surrounding streets entering the roundabout. 2. Re-open the right turns and install green arrows to all traffic signals (with a longer "turn time") at the Goderich Street/Lindsay Street intersection. 	<ol style="list-style-type: none"> 1. The focus of this project is to implement infrastructure solutions that improve traffic flow along Goderich Street in the short to medium term. The replacement or modification of the Charles Street Bridge would be a complex, long-term project that may be some years away and would not in isolation reduce traffic congestion on the corridor. 2. As noted previously, adding right turn phases for road users to turn right from Lindsay Street will reduce the efficiencies along Goderich Street won by the removal of the right turns. Adding signal phases to Lindsay Street will increase time to travel along Goderich Street.
Increased traffic on the Tamar Street Bridge and Invermay Road 	
<p>The trial has moved the congestion issues of the Charles Street Bridge and the Goderich Street/Lindsay Street intersection to the Tamar Street Bridge and Invermay Road.</p>	<p>Invermay Road (between Cimitiere Street and Mowbray Link) was within the traffic survey study area during the trial. There were only very minor changes in traffic performance for the northbound direction.</p> <p>Travel times for the southbound direction improved slightly during the trial.</p>

Traffic survey summary

From November 2020 to February 2021, the Department completed a traffic survey. The intent of the traffic survey was to observe whether the right turn ban would improve the performance of the Goderich Street corridor while minimising any potential negative impacts to the surrounding road network in the Invermay area.

The performance metrics reviewed were:

- Traffic volumes and any traffic redistribution due to the right turn bans
- Travel times along key routes, including Goderich Street
- Effectiveness of the trial at increasing the traffic flow across the Charles Street Bridge.

The traffic survey showed the trial had a significant improvement for northbound traffic along Goderich Street. Travel times for southbound traffic were also improved, however to a lesser extent than that for northbound traffic. These results were achieved despite the additional delays introduced by the signalisation of the Gleadow Street intersection. This is considered a substantial result and has achieved the objective of improving the performance for the north-south movement across the Charles Street Bridge.

The section of Invermay Road between Esplanade (or Boland Street) and Forster Street was the only assessed location to have observed a significant increase in traffic volumes. Between 2019 and 2020, the northbound daily traffic volumes approximately doubled. The source of this change in traffic volume is unknown and unlikely to have had a significant impact on the results during the trial.

During the trial, Lindsay Street experienced some additional delays in both directions, with the afternoon peak being the most impacted. These delays are due to changed traffic conditions at Goderich Street and at Invermay Road. The additional delays are however considered acceptable in the context of the road network noting that Lindsay Street is a minor access road, and there are significant benefits to the arterial corridor along Goderich Street.

Traffic performance during trial

A summary of the trial findings for each of the roads assessed is below.

Goderich Street/Charles Street corridor

The journey time for the Goderich Street/Charles Street corridor northbound traffic was observed to reduce by an average of around 42.6 seconds across the day. This includes a 57.5 second reduction in the morning peak and a 28.8 second reduction in the afternoon peak. For southbound traffic, the journey time was reduced by an average of around 15.3 seconds over the day.

Weekday traffic movements were similar between 2019 and 2020.

It is noted delays to journey time on the Goderich Street/Charles Street corridor were expected due the signalisation of the Goderich Street/Gleadow Street intersection (previously a left-in/left-out intersection with priority to through movements along Goderich Street). Noting there was an improvement in both directions of travel time during the trial, despite the delays introduced by the new traffic signals, this is considered a substantial result.

Invermay Road

Average daily journey times for Invermay Road were observed to reduce by around 8.1 seconds for northbound travel and 13.9 seconds for southbound travel. There were consistent journey time savings for the afternoon peak in both directions and a negligible increase of around 3.3 seconds in the morning peak.

Northbound traffic volumes are observed to have increased from November 2019 to November 2020. Between Esplanade (Boland Street) and Forster Street, northbound traffic movements increased from 3,600 vehicles a day to 7,400 vehicles a day. The cause of this change in traffic volume has not been identified.

Notwithstanding, given the observed change in traffic volume was an increase rather than a decrease, and there were journey time savings throughout the day as a result, it can be concluded Invermay Road has a minor improvement in traffic performance.

Lindsay Street

Average daily journey times for Lindsay Street were observed to increase by around 8.3 seconds for eastbound travel and by around 5.2 seconds for westbound travel. Additional delays were observed during the peak hours with the afternoon peak experiencing higher delays. It is likely changed traffic conditions are contributing to reduced service along Lindsay Street including:

- Additional traffic volumes at the Invermay Road/Lindsay Street roundabout with Lindsay Street eastbound traffic required to give way to northbound traffic heading from the city towards Invermay.
- Removal of the right turn phases at Goderich Street/Lindsay Street reduces the number of opportunities available for the left-turn slip lane to proceed unopposed. This reduces the service at this intersection.

The additional delays along Lindsay Street are considered acceptable in the context of the road network, with Lindsay Street having a minor access road function, and given the overall improvements to the arterial corridor of Goderich Street (East Tamar Highway).

William Street

There were some minor improvements in travel times for William Street in both directions, the average journey time reducing by around 1.2 seconds for eastbound travel and by around 10.1 seconds for westbound travel. Given the low traffic volumes using this road however, this is not considered a significant result and the overall travel times during the trial were generally equivalent to normal conditions. Therefore, the performance of William Street did not deteriorate as a result of the right turn bans on Charles Street.

Cimitiere Street

Journey time for Cimitiere Street was observed to reduce by around 7.4 seconds on average for eastbound travel and by around 11.1 seconds reduction for westbound travel.

It is noted there was a small decrease in traffic volumes between 2019 and 2020. It is likely the very minor improvement in travel times along Cimitiere Street is attributed to the traffic volumes rather than the trial. It is important to note, however, the performance of Cimitiere Street did not deteriorate as a result of the right turn bans on Charles Street.

Outcome

The feedback and traffic survey data show the trial has reduced congestion on the Charles Street Bridge and has improved traffic flow on Goderich Street.

Next steps

The right turn ban trial conditions will be permanently installed.

Design of the new intersection arrangements is completed, with road work to start in mid-2022.

Further information

Please email participate@ghd.com if you have any further queries.