



Bus Stops Impacted by Temporary Traffic Management

Public Transport Design Guidance

Waka Kotahi

7 March 2023

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More information

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Contents

CONTENTS	I
GLOSSARY OF ABBREVIATIONS	II
INTRODUCTION	1
Related guidance	1
Governing principles	1
PLANNING	3
Temporary Traffic Management Bus Stop Alternatives	4
DESIGN	8
Key design considerations	8
IMPLEMENTATION	10
Process for notification/consultation	10
Implementation of TTM traffic control devices for temporary stops	12
Risk assessment	17
FURTHER INFORMATION	17

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Glossary of Abbreviations

Item	Description
NZGTTM	New Zealand Guide to Temporary Traffic Management
PTA	Public Transport Authority
RCA	Road Controlling Authorities
STMS	Site Traffic Management Supervisor
TMP	Traffic Management Plans
TTM	Temporary Traffic Management

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Introduction

The following guidance has been prepared for those designing and approving Temporary Traffic Management Plans (TMP) for activities that will affect a bus stop. Activities that may temporarily impact on a bus stop could include for example road works, services upgrades, event management planning or rail service replacement.

When there is temporary traffic management (TTM) in the vicinity of a bus stop there are three different ways this can typically be accommodated:

1. The bus stop remains open in its current location but with some temporary traffic management measures on or near it
2. The bus stop is temporarily moved with a temporary bus stop established nearby
3. The bus stop is closed

The following topics are covered in this guidance document:

- Introduction: Related guidance, governing principles
- Planning: Bus stops remaining open with temporary traffic management; temporary bus stops; and closing bus stops temporarily
- Design: Key design considerations
- Implementation: Process for notification/consultation (emergency works and planned works), implementation of TTM traffic control devices for temporary stops and risk assessment.

Any development or project that requires an existing bus stop to be moved, closed, or that results in a change to the expected usage of a stop, must be discussed with local Road Controlling Authorities (RCA) and Public Transport Authority (PTA). Typically, in New Zealand PTAs are the regional councils but, in some instances, such as Auckland Transport, this will be the same entity as the RCA.

Legal requirements for moving a stop may affect a project or its timescale; therefore, the RCA and PTA should be involved in a timely manner to avoid delays.

Related guidance

For further information about temporary traffic management more generally see [New Zealand Guide to Temporary Traffic Management](#) (NZGTTM).¹

For general planning and design guidance for bus stops refer to: [Public Transport Design Guidance: Bus Stop Design](#).²

Governing principles

The NZGTTM Toolbox outlines the following Governing Design principles:

- Advanced Warning (approaching the site)
- Guidance (navigating through the site)
- Protection (from site hazards) and
- Return to Normal (exiting the site).

¹ <https://www.nzta.govt.nz/roads-and-rail/new-zealand-guide-to-temporary-traffic-management/>

² <https://www.nzta.govt.nz/walking-cycling-and-public-transport/public-transport/public-transport-design-guidance/bus-stop-design/>

These fundamental principles have been considered in developing the following key principles underpinning this guidance document:

- Bus stop safety and inclusive accessibility for all modes is maintained
- Bus service reliability and level of service at bus stops is maintained whenever possible
- Notification/consultation with the RCA and PTA occurs with adequate lead-time to achieve acceptable outcomes for all parties
- Customers are informed of the changes ahead of time and throughout the period of work.

Achieving these principles will help to support public transport accessibility and support a safe system to support our Vision Zero.

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Planning

Temporary traffic management may be necessary for bus stops for contexts such as:

- Upgrading an existing bus stop
- During construction activities when there is disruption to the use of the roadway or footpath
- During an event (such as sporting event, street festival, concerts)
- For rail replacement services
- Bus service diversions.

Access to bus stops should be maintained wherever possible. It is preferable to keep the bus stop open at its permanent position because it:

- Is more intuitive for customers
- Is a better outcome for disabled people
- Can keep costs down
- Is more likely to be associated with provision of beneficial bus stop components like road markings, shelters, and timetable information.

When the impact of the planned work activity will affect a bus stop and it is unable to remain in use, from a safety or inclusive accessibility perspective, the provision of a temporary stop location will be investigated.

In the event a temporary stop location is not viable, closing the stop for the duration of the planned work activity would be necessary, as a last resort.

Discussions between the contractor, RCA and/or PTA are important at an early stage to understand the possible impact. What may be considered minor, could in fact result in a disruption to the PTA, its customers or its contracted operator(s). The following factors should be considered as part of initial planning discussions:

- Is the stop a terminus, timing point, fare zone boundary stop, or school bus only stop?
- What is the frequency of use?
- What are the daily patronage figures for the stop?
- Is the stop a key transfer location on the network?
- Would a communication strategy be required (for example, if it has a major impact on a stop near a hospital)
- Duration of the planned impact
- The impact for pedestrian movement in terms of accessing crossings and other facilities. Consider the impact on safe walking routes to crossing points. If there are no safe crossings, or if they are too far away, this may create an unsafe environment
- The impact on all ages and abilities - some people heavily rely on public transport and a minor change for some people might be life changing for others
- Weather protection – will there be any shelter at alternative stops or might a lack of shelter encourage customers to stand away from the bus stop in the 'wrong' place.

Having a common understanding of the impact will likely determine if a bus stop remains where it is, if it is relocated or if it is closed. These temporary traffic management alternatives are further detailed in the following sub-section.

Temporary traffic management bus stop alternatives

When there is temporary traffic management in the vicinity of a bus stop there are three ways this can be accommodated:

1. The bus stop remains open in its current location but with some temporary traffic management measures at or near the stop
2. The bus stop is temporarily moved, with a temporary bus stop established nearby
3. The bus stop is closed, temporarily

1. Bus stops remaining open with temporary traffic management

Sometimes bus stops can remain open despite temporary traffic management activities. For example, the image below shows a bus stop being retrofitted to add a 'bus stop bypass' for a new segregated cycleway in the area. In this example, the bus stop largely remained open during the works but temporary traffic management materials were moved around as needed to ensure the continued safe operation and access of the bus stop which was particularly important given its location in front of a major hospital.



Figure 1: A bus stop in Newtown, Wellington affected by temporary traffic management but remaining open. (Source: Lorelei Schmitt)

Bus stops can, and should, remain open if safe and inclusive access can be maintained for:

- People boarding and alighting and buses accessing and using the stop
- People accessing the bus stop (journey to and from the stop, including road crossings) and
- Through movements past the bus stop on footpath and road (for example pedestrians, cyclists, other traffic).

If a bus stop cannot provide safe and inclusive access, then a safe and inclusive temporary bus stop may be the preferred outcome after discussions with the local RCA and PTA.

The [key design considerations](#) section of this guidance provides a description of fundamental issues to consider when planning whether you can keep the bus stop open.

2. Temporary bus stops

A temporary bus stop is a bus stop which is installed with the intention that it will be removed or otherwise not used at some point after its installation and commissioning, typically no more than a few months. (See example images in Figure 2 and Figure 3.)

Temporary stops are often established near a permanent bus stop when the latter is not able to continue to be used safely and effectively due to an activity affecting the bus stop or the safe and inclusive access to it. If the temporary bus stop is not accessible to everyone, additional provisions may be required for people who can no longer access the stop.



Figure 2: Example of a temporary bus stop in Auckland. (Source Josh Aldridge)



Figure 3: Example of a temporary bus shelter in Wellington. (Source: Mark Edwards)

Setting up a temporary bus stop

Consider bus stop relocation with setting up a temporary bus stop if the permanent bus stop cannot be used and all of the following can be met:

- The temporary bus stop can be relocated on the same bus route
- The temporary bus stop can be relocated to within 100m of the original bus stop OR within clear sight of the original bus stop. Consider local topography and other accessibility issues
- The temporary bus stop will *not* be within approximately 150m of an adjacent stop along the bus route. However, a reduced distance may be acceptable for some stops that serve more extensive catchments, specific demographics, or other contextual factors (for example, near retirement facilities or hospitals)
- The [key design considerations](#) can be achieved.

When developing the Traffic management plan (TMP) for the relocation of a bus stop a risk-based approach should be applied taking into account the site's unique characteristics and context. For example, safe crossing points near temporary bus stops should be prioritised over the distance criteria outlined in the bullet points above. This is because it is important that the temporary bus stop can be accessed safely by all ages and abilities and without needing to cross a busy and uncontrolled road.

TMPs need to be consulted on with the relevant RCA and/or PTA.

Closing bus stops temporarily

If the permanent bus stop cannot be kept open *and* a temporary bus stop cannot be established nearby (for example, if key design considerations cannot be met), discuss with the local RCA and PTA whether there are any other temporary bus stop provision solutions. For example, to adequately manage public transport in the absence of meeting these requirements it may be possible for a TMP to cater for a bus stop in their work site extents.

However, in some instances, it may not be possible to retain some bus stop access, so the bus stop may need to be closed temporarily without a temporary bus stop being provided, for example, if:

- The [key design considerations](#) and/or criteria for moving a bus stop temporarily cannot be met
- An adjacent bus stop on the route is within 200m of the bus stop impacted by works. However, an adjacent bus stop on the route should be within 100m of the bus stops affected by works when amenities such as shopping centres or retirement facilities are nearby
- The continuation of the bus route is compromised (detours away from the existing bus route).

Closing bus stops can impact customers negatively, particularly those with mobility impairments, so it should be avoided if possible. Discussions between the contractor RCA and/or PTA are vitally important at the early stages of planning temporary traffic management if it is anticipated that a bus stop will be closed during works or an event to identify if a relocated bus stop can be safely provided.

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Design

Temporary bus stops and bus stops with temporary traffic management should be designed using the same principles as permanent bus stops to accommodate the necessary accessibility and functionality of the bus stop. If the temporary bus stop is not accessible to everyone, additional special provisions may be required for people who can no longer access the stop.

Key design considerations

Safe, inclusive accessibility and efficient movement should be accommodated at temporary bus stops and bus stops affected by temporary traffic management, particularly in terms of:

- The bus moving in and out of the stop
- Customers being able to access and use the bus stop, including the wider journey to the bus stop (for example, safe crossings)
- Surrounding through-movements of pedestrians, cycles and through traffic is considered and accommodated.

Meeting these movement principles will ensure the continued safe, accessible and efficient operation of the bus stop despite the temporary traffic management.

Some fundamental design parameters to consider in designing temporary traffic management around bus stops (or for temporary bus stops) include:

- Ample lead-in (entry), set down, and lead-out (exit) space for buses to manoeuvre in and out of the stop and operate. For example, refer to [Bus stop layout](#) section of the Public Transport Design Guidance to see dimensions associated with common layouts that will accommodate this
- Adequate horizontal, vertical and underside clearance for buses pulling in and out of stops, factoring in front and rear tail swing to ensure safe operation. Be particularly mindful of street furniture including signs, streetlights, trees, barriers, fences and other obstructions which may be present at temporary bus stop locations. Also, particular attention should be given to vertical clearance requirements for double deck bus routes. Refer to [General clearance requirements](#)
- Safe access for the bus to reach the bus stop on multi-lane roads, avoiding multiple lane changes to enter the bus stop
- Temporary bus stop positions should meet legal requirements:
 - Not located in a 'no stopping' zone. If the temporary bus stop is needed to be located in a 'no stopping' zone, then the legal requirements will need to be changed by resolutions
 - Doesn't have restricted visibility of side roads and
 - Passenger boarding/alighting point is clear of driveways.

Note that in some cases it may be possible to mitigate issues with meeting these legal requirements through the TMP design process (for example, by temporarily changing the 'no stopping' markings)

- Inclusive (safe and step-free) access for all users (including people using wheelchairs and other mobility devices) to board and alight with relative ease, even if temporary materials need to be used to create temporary kerb ramps. Refer to [SOS principles](#) in Pedestrian Network Guidance
- Safe locations for customers to cross the road in the vicinity of the bus stop and wait for the bus. Consider adequate lighting, and for longer term stops, seating, shelter, or other amenities
- In deciding whether a temporary shelter is warranted consider:
 - If the existing stop has a shelter
 - Duration of works, time of year, and the likely weather conditions

- Whether the temporary stop is an inbound or outbound stop, with inbound stops (which tend to have higher boarding numbers) more likely to warrant shelter provision
- Whether the temporary stop is a connection point, which could also warrant the provision of a shelter for people to wait between services.

Where the above design considerations cannot be met, concessions should be agreed with the RCA and PTA.

There is a risk that impacts on the public transport service, especially related to loss of efficiency, accessibility and/or reliability could result in a negative community perception of the work being carried out and a loss in patronage, particularly if former customers become accustomed to travelling in other ways.

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Implementation

Process for notification/consultation

Any development or project that requires an existing bus stop to be temporarily moved or results in a change to the expected usage of a stop must notify the local road controlling authority and public transport authority. Figure 4 provides an overview of this process, which is further described in the following sections.

The target outcome is a safe and accessible solution for all customers and stakeholders. Due to competing needs, this is likely to require consultation, coordination, and cooperation and may result in changes to the proposal.

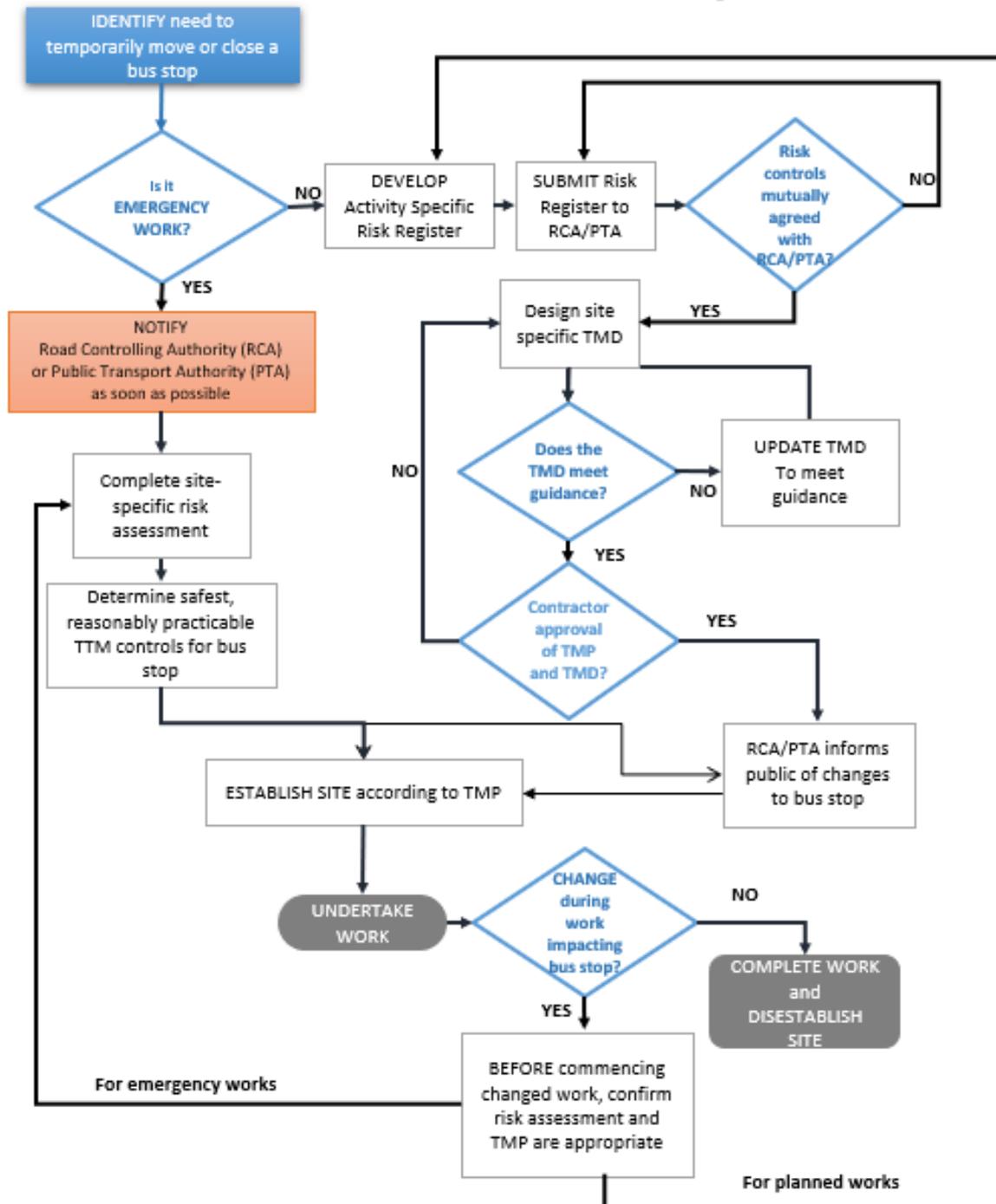


Figure 4: Temporary Bus Stop Notification/Consultation Process.

Emergency works

Emergency works occur when there is a situation that requires an urgent response such as a crash, police operation, burst watermain, or natural hazard which impacts bus stop operation. In this situation the RCA and/or PTA must be informed as soon as possible and provided with the following information:

- Description of the emergency works required, including impact on the bus stop(s) – and the proposed Temporary Traffic Management
- Location of the bus stop(s) impacted
- Length of time the works will impact the bus stop(s)
- Any further information at the request of RCA and/or PTA.

The RCA or PTA will then advise the public with a notification on their website. In the case of emergency works where no TMP has been prepared prior, a retrospective TMP must promptly be prepared, approved, and submitted to the local RCA and/or PTA.

Planned works

Any proposal for temporary traffic management which will impact bus stops must be approved in advance by the RCA and/or PTA, following the process outlined below. Failure to involve the RCA and/or PTA in a timely manner may result in TMPs not being accepted and works being delayed.

- Provide notice with adequate lead-time to achieve acceptable outcomes for all parties. We recommend:
 - 5 working days if the bus stop does not need to be closed or relocated and the bus service reliability will not be impacted
 - 10 working days if the bus service may experience delays travelling along the affected road
 - 10 working days if a bus stop(s) needs to be relocated but NO diversion of buses is required
 - 6 weeks if a bus stop(s) needs to be closed AND/OR buses need to be diverted from the normal route
 - Early engagement is recommended to promote safe and inclusive accessible changes to bus stops.
- Provide the following details:
 - Advise whether the bus stop(s) needs to be temporarily relocated or closed
 - Impacts on pedestrians and accessibility implications
 - Location (address) of affected bus stop(s) and bus stop number & name
 - Proposed location of the temporary bus stop(s) (if being relocated) on a map, including address
 - Dates, duration of the works and times that the bus stop(s) will be affected
 - Alternative dates if work is to be delayed
 - Photographs of existing bus stop(s) showing signs, structures, and road markings
 - Further supporting information requested by the RCA and/or PTA – for example, for busier bus stops the RCA and/or PTA may require information in relation to the number of customers using the bus stop to ensure the temporary bus stop has enough safe waiting area, or they may request information on the bus tracking curves or site distances
 - Risk register in accordance with NZGTTM
- Advise bus stop owner whether infrastructure at the bus stop (for example, pole, sign, shelter, seat) will need to be removed/impacted during the work and confirm it will be put back in place as agreed with bus stop owner
- Agree conditions for reinstating bus stop upon completion of works.

Once the RCA and/or PTA is satisfied with the proposal and information provided it will notify the bus operator of the bus stop change. The RCA and/or PTA will also notify passengers of the change (for example via website). Meanwhile, the Contractor/TTM provider will undertake on-site notification of the bus stop change as per the TMP and agreement with RCA such as using physical signage.

Implementation of TTM traffic control devices for temporary stops

Figure 5 provides a typical layout of the minimum requirements for a temporary bus stop showing the location of signs and TTM.



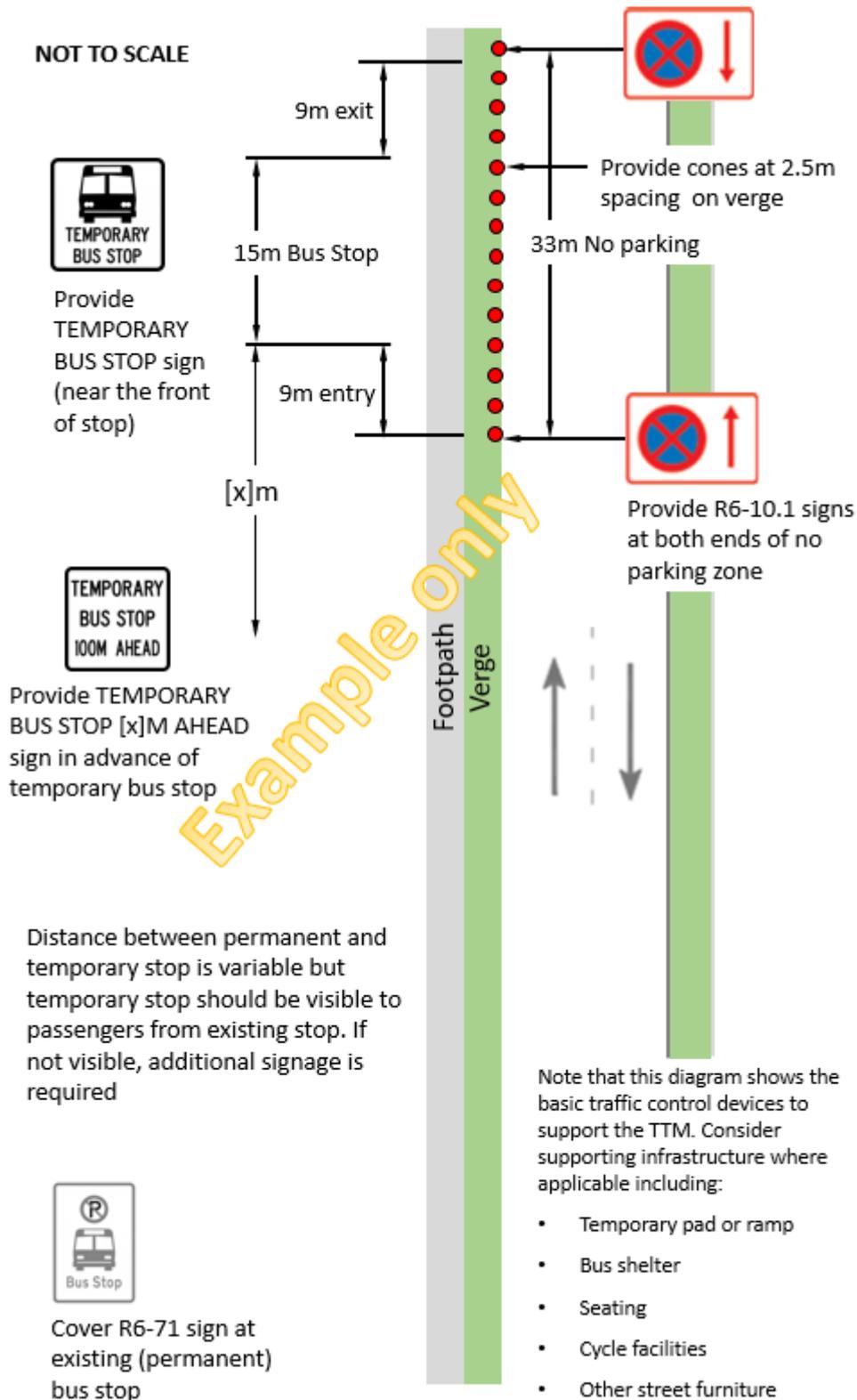


Figure 5: Example temporary bus stop layout and considerations.

During site works the Contractor or Site Traffic Management Supervisor (STMS) must:

- Inform bus stop users on site by:
 - Covering or removing existing bus stop sign(s)

- Post information at the closed bus stop stating location of temporary bus stop (preferably with a map – see below example detour map) and duration of change. The notification should be in place two working days prior to moving or closing the bus stop

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Route detour for Barbadoes Street

FROM : Wednesday 15th June 7pm
DURATION : 3 Weeks
HOURS OF OPERATION : 24hr

Road will reopen Friday 1st July 7pm

ROUTE : 100	
Northbound (towards The Palms)	Southbound (towards Halswell)
Normal route to Edgeware Road	No detour required
Left at Madras Street	
Continue Forfar Street	
Right at Warrington Street	
Resume Normal route from Barbadoes Street	

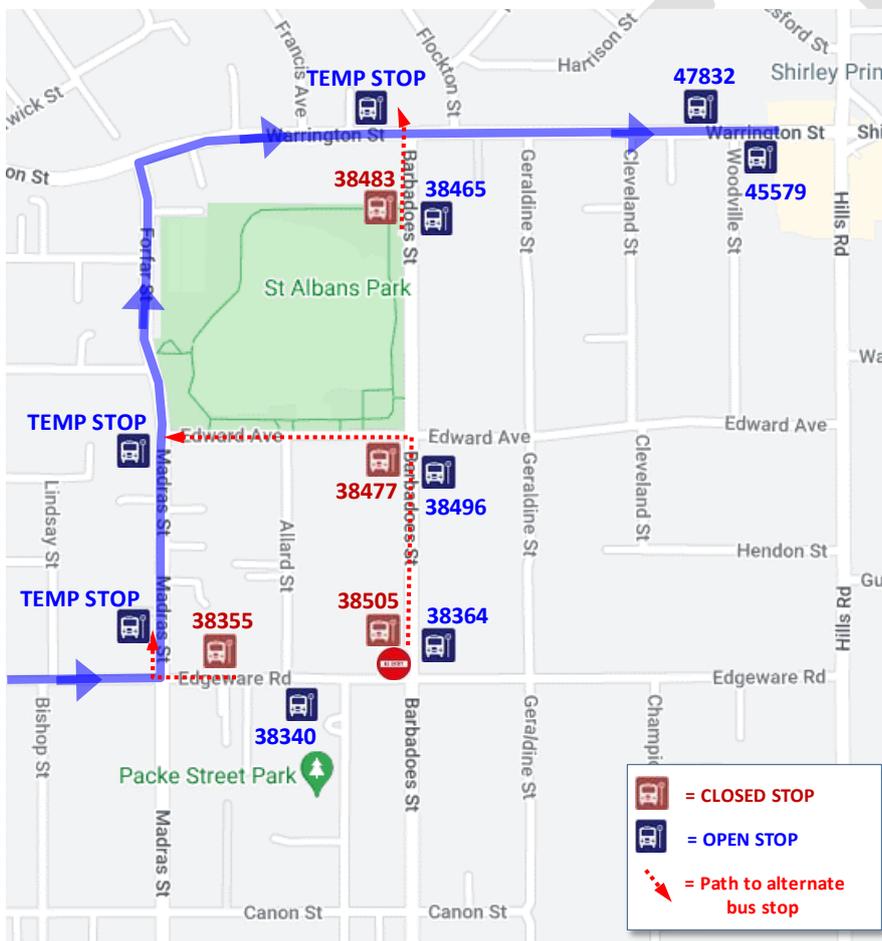


Figure 6: Example of detour map for laminated display at closed bus stop in Christchurch which is provided along with a bag over the bus stop sign to make it clear the stop is closed. (Source: Christchurch City Council).

- Provide traffic management for relocated bus stop
 - The temporary bus stop shall be installed before the permanent stop is closed
 - Install a TEMPORARY BUS STOP sign to show passengers and bus drivers the location of the temporary bus stop

- Install a TEMPORARY BUS STOP AHEAD sign. This sign should be clearly visible from the closed bus stop and specify a distance on it (for example, 100m), which may vary by site
- Place road cones on the road edge or verge (at 2.5m centres) for the length of the temporary bus stop including the entry and exit (33m total length)
- Place temporary R6-10.1 no parking signs at each end of the temporary bus stop.
- Changes during works are to be managed in accordance with NZGTTM:
 - If the STMS finds the accepted TMP is not suitable for the temporary bus stop relocation or closure based on site information or environment, the STMS must notify the TTM Planner immediately
 - Minor changes (such as adjusting cone or sign placement) can be made by the STMS within the approval of the TMP and must be noted on the TMP
 - Where major changes are required, the TTM Planner must be notified, work must be stopped, and the site minimised until a suitable solution is found and/or the TMP is updated

Upon completion of the works, the temporary traffic management shall be removed, and the original bus stop shall be reinstated as agreed with the RCA and PTA.

- Advise the RCA and PTA when the stop is to be reinstated (they need advance notice so bus operators can be informed of the shift in bus stop locations)
- Ensure all signs, structures and road markings are reinstated to the previous location and standard (or as agreed with the RCA)
- Any damage to the signs, structures and road markings must be reported to the RCA.

Risk assessment

All Temporary Traffic Management Plans shall apply a risk-based approach in line with the NZGTTM.

Where planned works impact bus stops, the site risk register must cover the needs of all road users (for example cyclists and pedestrians) and be discussed with the RCA or PTA. The risk assessment should also consider methods to safely mitigate the identified risks.

The following items should be considered as part of the risk assessment for example:

- Reduced legibility of bus stop/service
- Implications of key design considerations not being met – for example any impacts on access (to/from stop for passengers, buses) and through the area
- Impact of closing or relocating stop on customers (such as decreased public transport level of service, longer journeys, or impacts on those with mobility impairments)
- Reduced provision of bus stop components, such as real time information, seating, and shelter.

There is a risk that impacts on the public transport service, especially related to loss of efficiency, accessibility and/or reliability could result in a negative community perception of the work being carried out and a loss in patronage, particularly if former customers become accustomed to travelling in other ways.

Further information

For further information on how to manage risk related to temporary traffic management refer to:

- New Zealand guide to temporary traffic management:
<https://www.nzta.govt.nz/roads-and-rail/new-zealand-guide-to-temporary-traffic-management/>
- Keeping healthy and safe while working on the road or roadside:
<https://www.worksafe.govt.nz/topic-and-industry/road-and-roadside/keeping-healthy-safe-working-road-or-roadside>