SCIRT Rebuilding Infrastructure

LEARNING LEGACY

Lessons learned from one of New Zealand's most challenging civil engineering projects: rebuilding the earthquake damaged pipes, roads, bridges and retaining walls in the city of Christchurch 2011 - 2016.

Best Practice for Cyclists - Christchurch

Story: Cycle Safety and Traffic Management Guideline

Theme: Construction

A best practice traffic management guideline which helps traffic management team members manage cyclist through road work sites safely.

This document has been provided as an example of a tool that might be useful for other organisations undertaking complex disaster recovery or infrastructure rebuild programmes.

For more information about this document, visit www.scirtlearninglegacy.org.nz

Programme funded by
Christchurch City Council
New Zealand Government

Programme funded by
Christchurch City Council
New Zealand Government
city care
Downer
Fulton Hogan
McConnell Dowell
Fletcher

SCIRT
Rebuilding Infrastructure

Best Practice for Cyclists - Christchurch

Content:

- CoPTTM and CTOC Requirements
- Priority
    - Set Ups
    - Sign Placing
- Sign Placing
    - Bad Placing v Good Placing
- Cyclist Flow Chart
- Example Set Ups
    - Temporary Lane
    - Merging Cyclists (Variation 1)
    - Merging Cyclists (Variation 2)
    - Cyclists Onto Footpath

CoPTTM Requirements:

Where activities affect cyclists the TTM must ensure:

- Cyclists are not led into direct conflict with the operation or traffic moving through or around the worksite.
- If cyclists are directed into live lanes they should be adequately protected from traffic by delineation and/or barriers and suitable warning signs.
- Safe and impediment free temporary paths are provided where cycle lanes are blocked by the activates.

CoPTTM v4 May 2013 Section C13.1.1

Minimum cycle lane widths

Type of lane	Speed	Minimum Width (m)
Single direction cycle lane	Speed limit does not exceed 50km/h	1.0m*
Single direction cycle lane	Speed limit exceeds 50km/h	1.5m
Two-way cycle lane	Any speed	2.0m
Shared footpath and cycle way	Any speed	2.2m**

* A minimum lane width of 1.5m is required if the temporary cycle lane is uphill as riders tend to pump their cycles from side to side as they climb the hill.

** Where a shared footpath and cycle way is reduced to less than 2.2m wide, cyclists should be excluded by closing the cycle way.

CoPTTM v4 May 2013 Section C13.3.3

CTOC Requirements:

Consider marked cycle lanes, CTOC endorsed cycle routes* and any route with a high number of cyclists such e.g. near schools/universities and main roads.

CTOC best practise for cycle lane minimum width is 1.5m. Should there be an onsite constraint where the contractor wishes to reduce the cycle width to be below 1.5m, a site specific traffic management plan will be required. This will require reasoning and detail on the proposed width reduction below the best practise width.

* Ask your STMS foreman for a copy of the CTOC endorsed cycle routes if you require one. They can found here:

http://www.ccc.govt.nz/cityleisure/gettingaround/cycling/index.aspx

Priorities:

Set Ups

With accommodating cyclists on a work site there is a preferred priority which is ultimately decided by the onsite conditions. Preference listed as below:

- Temporary cycle lane *(refer to drawing 1 of 5)*
- Merging cyclists without speeds *(refer to drawing 2 of 5)*
- Merging cyclists with speeds *(refer to drawing 3 of 5)*
- Share footpath with pedestrians *(refer to drawing 4 of 5)*
- Cyclists to dismount bike *(refer to drawing 5 of 5)*
- Detour cyclists to a nearby route

Sign Placing

Signage being placed in cycle lanes is a hazard and this is something that is usually easy to fix. When placing a signs such as T1/T2 or RS1s the priority is:

- Shoulder/parking lane
- Berm/CCC garden
- Footpath (if you can still maintain 1.2m)
- Half footpath/half cycle lane*
- In the cycle lane**

If you cannot find a place to put the sign that maintained both the cycle lane and the footpath look at placing the sign 5-10m back from your current position.

If you are not able to place the sign following the above priority speak with your STMS foreman as you will need to get a new site specific TMP for this work.

SIGNS ARE ONLY TO BE PLACED IN THE CYCLE LANE AS A LAST RESORT!

***** This is only to be used at the STMS's discretion as several things such as deep gutters or narrow footpath/cycle lanes may prevent it from being a safe option. 1.2m of clear footpath will still need to be maintained.

** This would only be acceptable on a few sites. e.g. when you have a narrow street with no shoulder that is against a retaining wall.

Note: When placing stands and sandbags in the gutter be careful not to block drainage. You need to leave at least 100mm clear to allow water to flow past.

Issue:

- Sign placed in the cycle lane.

How to solve issue:

- Bring sign back 5m and put in parking shoulder.

Issue:

- Sign placed in the cycle lane.

How to solve issue:

- Placed sign half on footpath and half in cycle lane.
- Maintain 1.2m for footpath and as much as room as possible for the cycle lane.
- Keep sandbags clear of gutter.

Issue:

- Sign placed in the cycle lane.

How to solve issue:

- Use parking, use 10m to allow sign visibility for passing vehicles.

Issue:

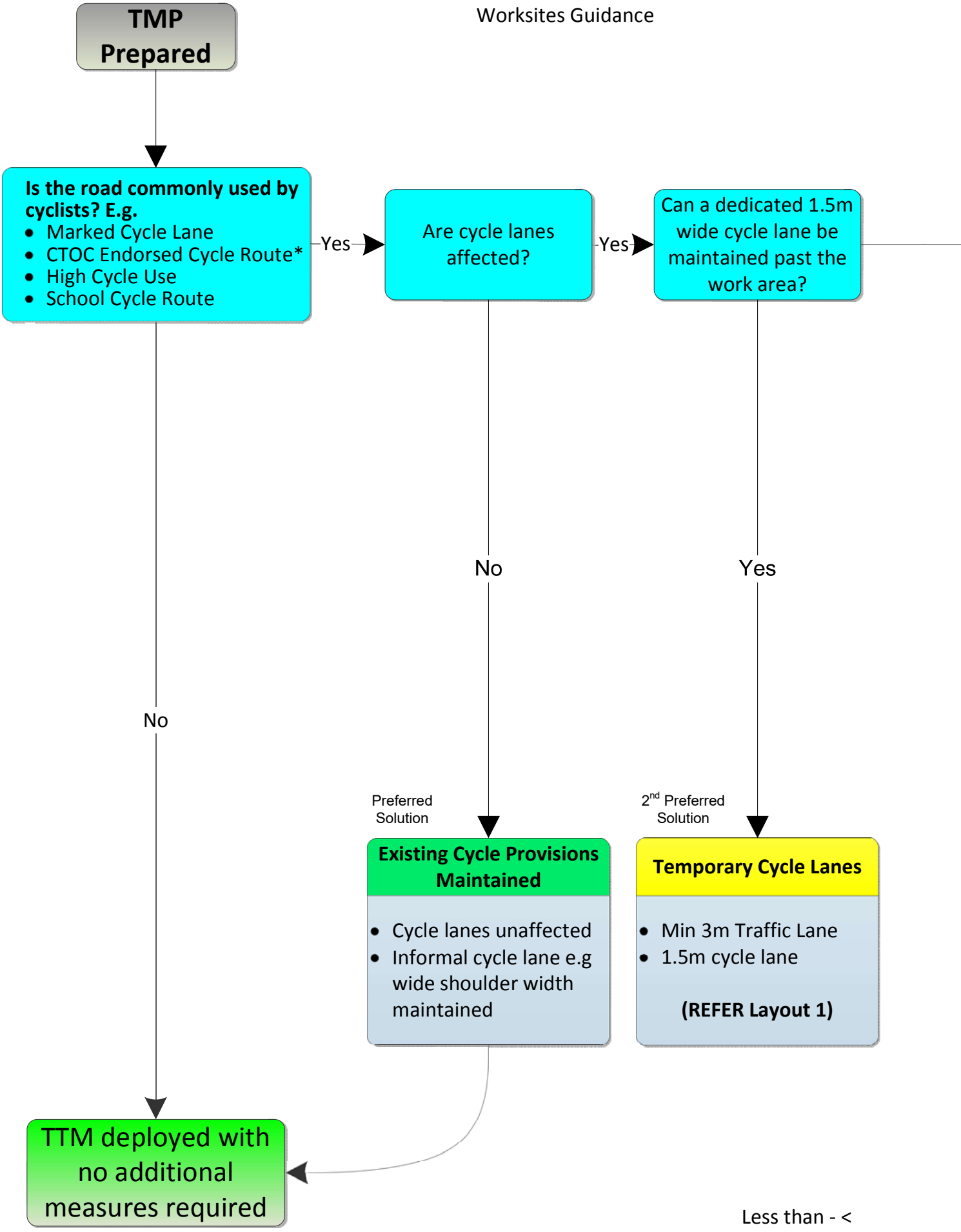
- Sign placed in the cycle lane.

How to solve issue:

- Place sign on footpath, make sure you can maintain 1.2m

Cyclists Flow Chart

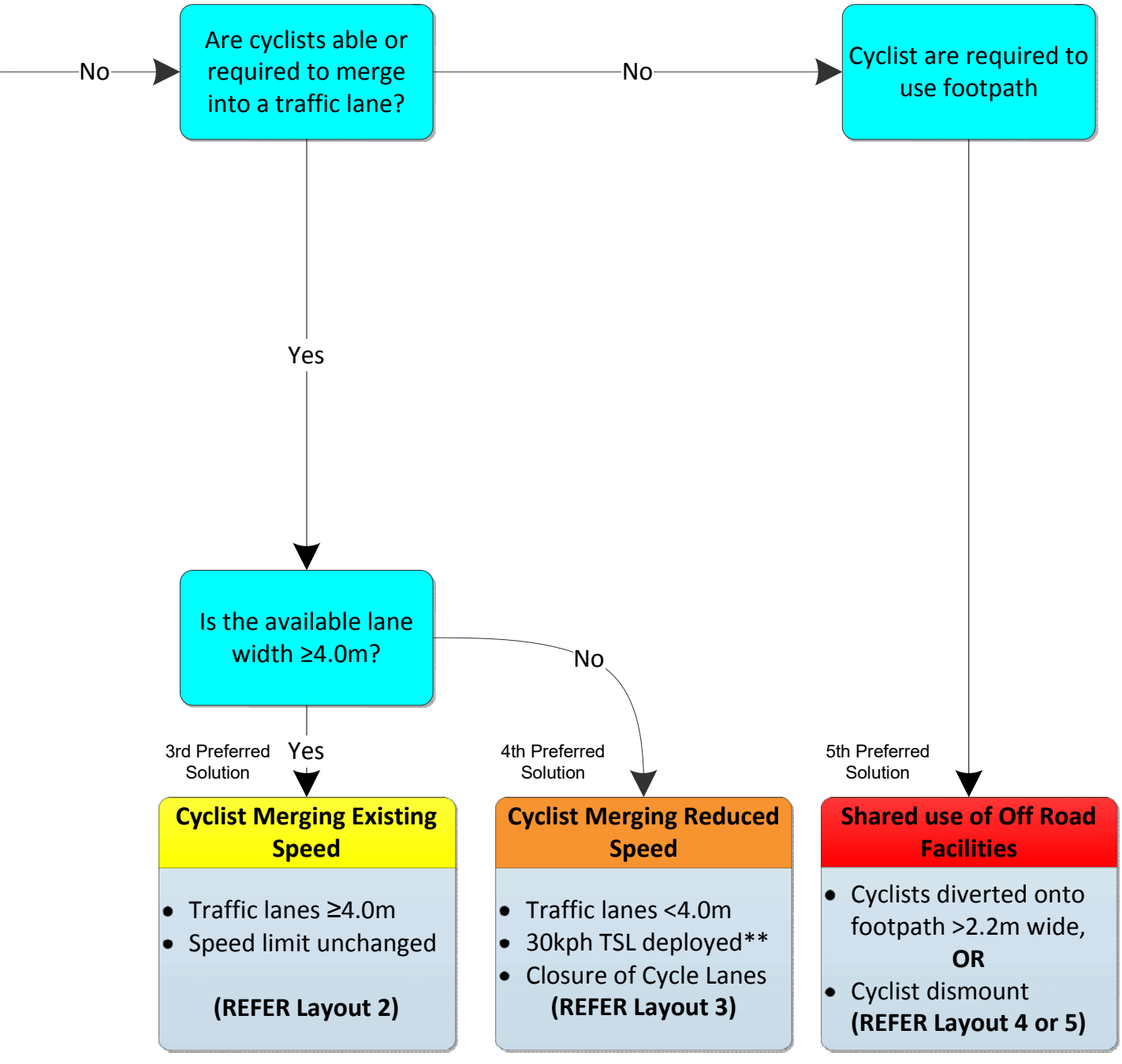
Cyclist Management Through Worksites Guidance



Less than - <
Greater than - >

MANUAL TRAFFIC CONTROL

The use of MTC requires that all cyclists are to stop as directed. The MTC can release cyclists ahead of other traffic where the site is long, or where site specific hazards would cause unsafe conditions for cyclists and vehicles in the same lane



* See TMPforCHCH downloads page for cycle route maps

** If good visibility is available, the site Is short in length, and cyclist safety Is not significantly compromised by site conditions. TSL is optional

February 2014 V1.0

Example Set Up: Temporary Cycle Lane

When to Use:

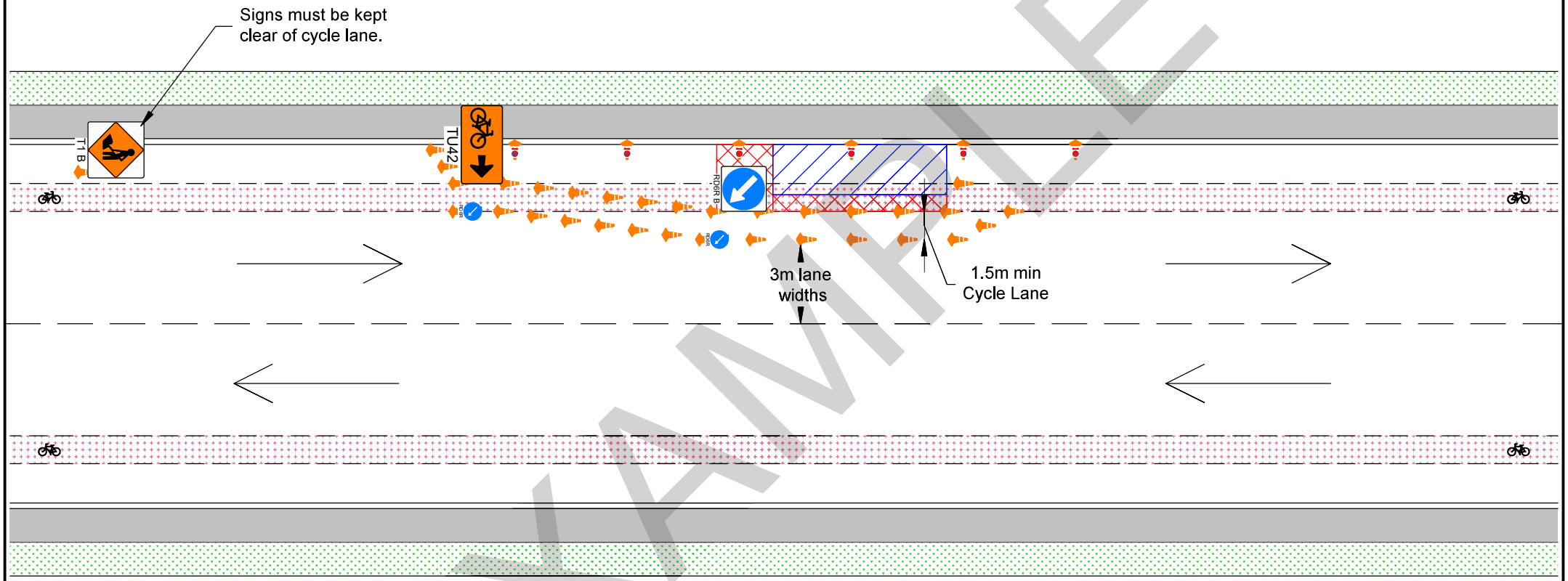
- Ideally you would use this set up every time you effect a cycle lane but this set up requires more road width than other set ups.
- To use a temporary cycle lane you will need to have enough room for your work site, temporary cycle lane (*1.5m refer to CTOC requirements*) and a ≥ 3m traffic lane.

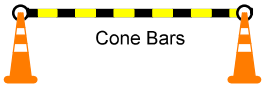
Variations:

- If you are unable to maintain a ≥ 3m traffic lane with a temporary cycle line between the centre line and kerb you will need to either contra flow the site or use another set up.
- If you choose to contra flow the site you must make sure that both traffic lanes are ≥ 3m or 2.75m with a TSL and a temporary cycle lane. Depending on the road you might need to close the shoulder on the other side of the road to put a temporary cycle lane in and maintain lane widths.

Cycle Lane Closed
"Temporary Cycle Lane"

Speed Limit: All
Level Two





Cone bars can be used to further reinforce the cycle lane

Reference No: 01 of 05	Level: 2	Operation: Static	SCIRT Rebuilding Infrastructure	Road:	Method: Cyclist Best Pracitice
	Designed & Drawn: Luke Murphy L2-3 STMS NP - ID:59739			Version: 1 Date: February 2014	Closure: Temporary Cycle Lane
				This drawing is not to any defined scale.	

Example Set Up: Merging Cyclists (Variation 1)

When to Use:

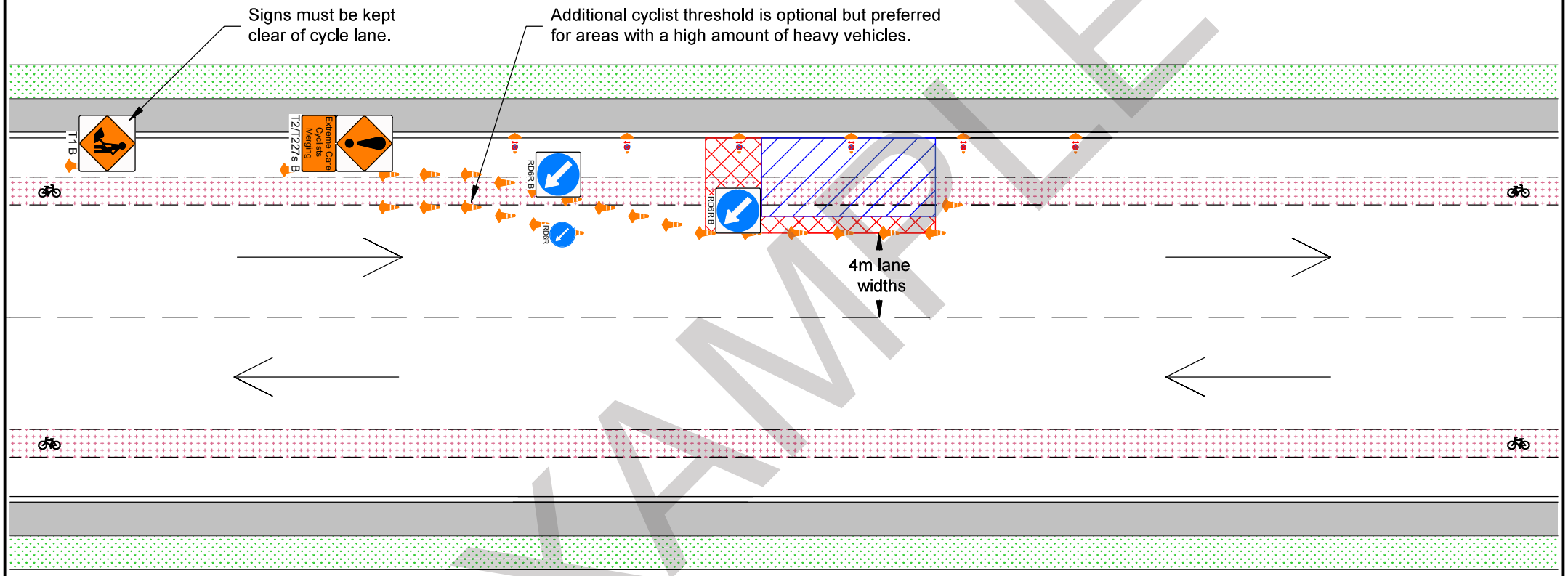
- When you are merging cyclists into the traffic lane and you can maintain ≥ 4m.
- If you can't maintain ≥ 4m lanes you would need to look at using Variation 2.

Variations:

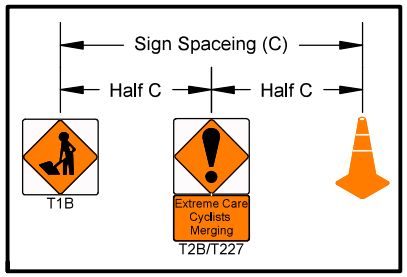
- If you're doing a set up that requires you to merge vehicles into the cycle lane (e.g. contra flow or diamond set up) you will need to use TSLs. Refer to 'Merging Cyclist – Variation 2'

Cycle Lane Closed "Merging Cyclists" Variation 1

Speed Limit: All
Level Two



Cone bars can be used to further reinforce the cycle lane



Reference No: 02 of 05	Level: 2	Operation: Static	SCIRT Rebuilding Infrastructure Copyright SCIRT ©	Road:	Method: Cyclist Best Pracitice
	Designed & Drawn: Luke Murphy L2-3 STMS NP - ID:59739			Version: 1 Date: February 2014 This drawing is not to any defined scale.	Closure: Merging Cyclists V1

Example Set Up: Merging Cyclists (Variation 2)

When to Use:

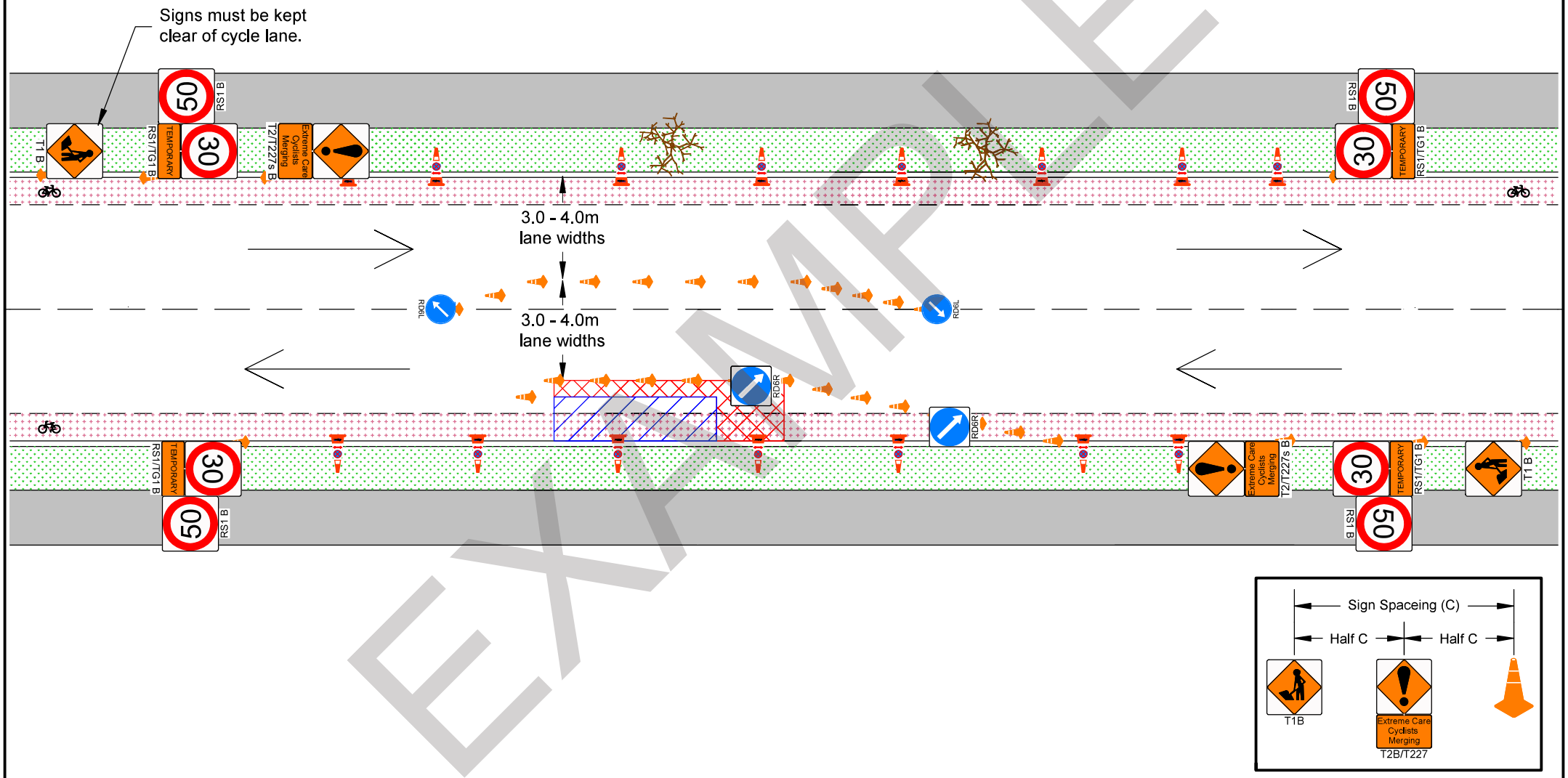
- When you're merging vehicles into a cycle lane with a set up such as a contra flow or diamond.
- When you're merging Cyclists into the live lane with < 4m lane widths.

Variations:

- If you can maintain two ≥ 4m lanes TSL's are not required.

Cycle Lane Closed "Merging Cyclists" Variation 2

Speed Limit: All
Level Two



Reference No: 03 of 05	Level: 2	Operation: Static	SCIRT Rebuilding Infrastructure	Road:	Method: Cyclist Best Pracitice
	Designed & Drawn: Luke Murphy L2-3 STMS NP - ID:59739			Version: 1 Date: February 2014	Closure: Merging Cyclists V2
				This drawing is not to any defined scale.	

Example Set Ups: Cyclists Onto Footpath

When to use - Shared Footpath:

- When you are unable to safely provide provisions for cyclists to continue through/past the site.
- When you have a footpath that is ≥ 2.2m then you can allow cyclists to share the footpath with pedestrians.
- You will need to ramp both the points where the cyclists go onto the footpath and where they go back onto the road.
- RLU3 signs optional but are recommended for long term sites and in areas of high pedestrian movement. e.g. near schools.

When to use - Cyclist Dismount:

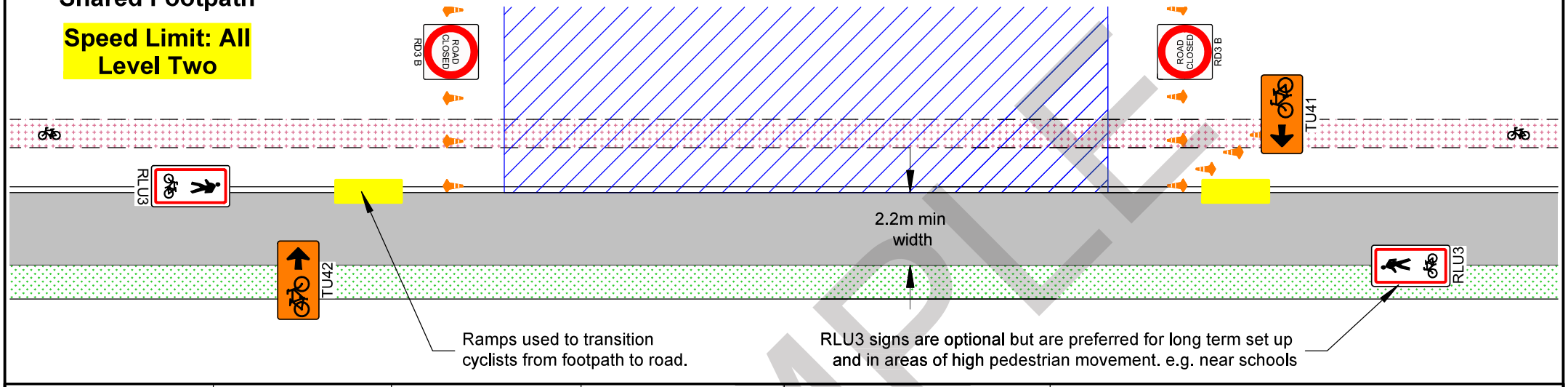
- When you are unable to safely provide provisions for cyclists cyclists to continue through/past the site.
- When you have a footpath that is < 2.2m.
- You will need to ramp both the points where the cyclists go onto the footpath and where they go back onto the road.
- Asking cyclists dismount is considered the last option to use if none of the other options can provide provisions for the cyclist to safely pass though the site.

Note: When a road closure is installed it is preferred to provide access along the footpath for cyclists rather than a detour.

Cyclists Onto Footpath "Shared Footpath"

Speed Limit: All Level Two

Signs placed on footpaths will be deployed as per CoPTTM



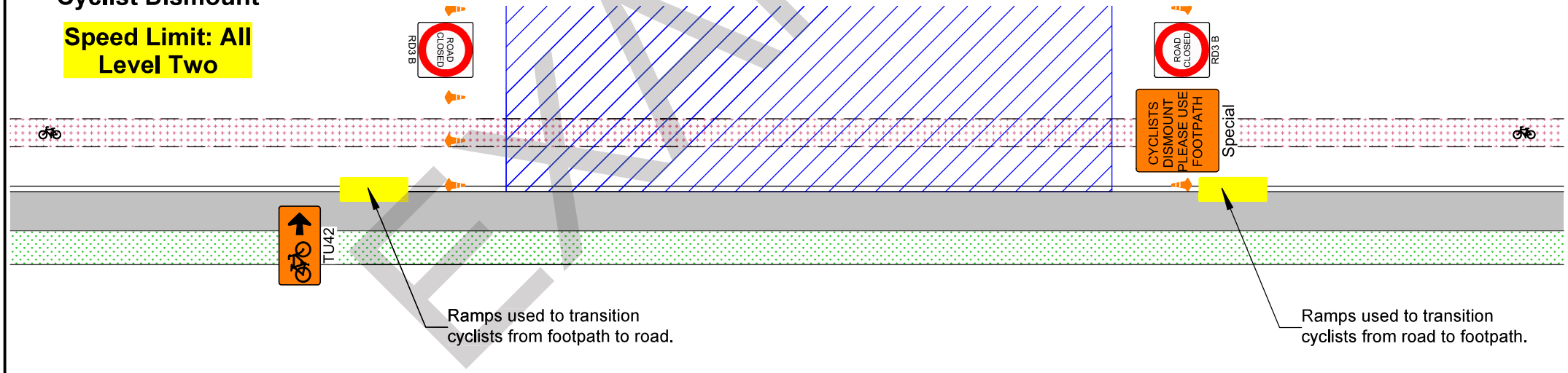
Reference No:	Level:	Operation:	Road:	Method:
04 of 05	2	Static		Cyclist Best Pracitice
	Designed & Drawn: Luke Murphy L2-3 STMS NP - ID:59739		Version: 1 Date: August 2013	Closure: Shared Footpath
			This drawing is not to any defined scale.	

SCIRT Rebuilding Infrastructure — Copyright SCIRT ©

Cyclists Onto Footpath "Cyclist Dismount"

Speed Limit: All Level Two

Signs placed on footpaths will be deployed as per CoPTTM



Reference No:	Level:	Operation:	Road:	Method:
05 of 05	2	Static		Cyclist Best Pracitice
	Designed & Drawn: Luke Murphy L2-3 STMS NP - ID:59739		Version: 1 Date: February 2014	Closure: Cyclist Dismount
			This drawing is not to any defined scale.	

SCIRT Rebuilding Infrastructure — Copyright SCIRT ©