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Handbook for Tactical Urbanism in Aotearoa

Guidance: Roadway Art

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WAKA KOTAHI NZ TRANSPORT AGENCY

New Zealand Government

Handbook for Tactical Urbanism in Aotearoa

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Prepared for	Kathryn King Waka Kotahi NZ Transport Agency
Document Author	Resilio Studio, Abley, MRCagney, Via Strada and Mackie Research
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The following person(s) shall receive a copy of this document upon each subsequent release:

Name	Title/Group	Organisation
Claire Pascoe	Client Representative	Waka Kotahi NZ Transport Agency
Gary Marshall	Records Copy	Resilio Studio

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Contents

Note that guidance in this document is focused on Roadway Art only and supplements information in Waka Kotahi's Tactical Urbanism Handbook see: https://www.nzta.govt.nz/assets/Roads-and-Rail/innovating-streets/docs/tactical-urbanism-handbook.pdf. Several references to sections of the Tactical Urbanism Handbook are made throughout this guidance.

1 | What is Roadway Art?

Roadway art is a subset of street art that is marked within the roadway, i.e. where vehicles travel. In a nutshell roadway art is any marking on the roadway that is not considered a 'traffic control device'. See Section 2 for further information on traffic control devices. This art usually involves colourful designs, and is used:

- To reinforce a slow and informal street context
- To provide a sense of 'place'
- To highlight pedestrian crossing zones
- Alongside physical changes to the roadway (e.g. narrowing the carriageway) to influence safer motorist behaviour and reinforce slow vehicle speeds
- To show support for the community
- To enhance a streetscape by contributing to liveability and vibrancy

These artworks can support safer shared spaces and reinforce that townships and neighbourhoods are places for people – as well as corridors for moving vehicles. Roadway art helps to reinforce the functions desired for less formal streets and is often used as part of interim pilot installations to test a future street layout, in advance of a permanent upgrade.
When designing roadway art its important to consider scale and space. The proportions of the design/ graphic/ pattern in relation to the space, the speed and view of the customers need to be considered. Designs need to work at the pedestrian and vehicular level, not at a 'birds eye view.'

Roadway art, widened footpaths and a barrier-protected multiuse path installed in Asheville, North Carolina, helped to reduce speeds on Coxe Avenue by 28.3%, and reduced incidents of speeding from 66% to 21%. Source: Asphalt Art Guide, Bloomberg Associates

Roadway art installed in Des Moines, Iowa US, has a social or placemaking benefit through connecting public art installations in the city. Used to support wayfinding and enhance walkability. Source: Asphalt Art Guide, Bloomberg Associates

2 | Using roadway art in New Zealand

Roadway art must be installed in a way that is compliant with the Land Transport Rule: Traffic Control Devices (2004)[1] (TCD Rule). The Rule states:

A road controlling authority may install any marking on a roadway (roadway art) if the roadway art:

a. is installed in a lower risk environment; and
b. does not resemble and is not similar to a marking described in this Rule; and
c. does not mislead road users about the meaning of any traffic control device; and
d. is not part of or visually integrated into a marking specified in Schedule 2.

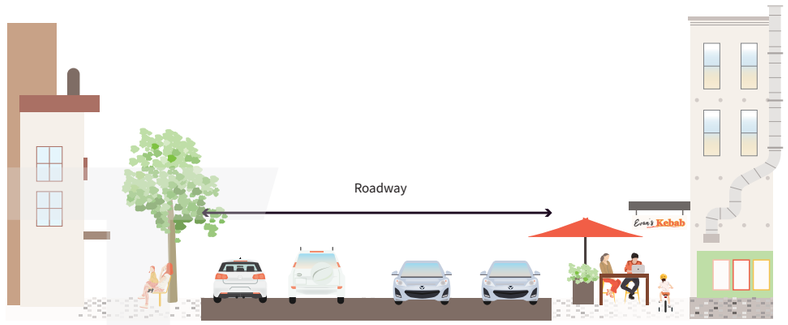
In layman's terms this means art may be installed on the roadway in New Zealand, provided that it:

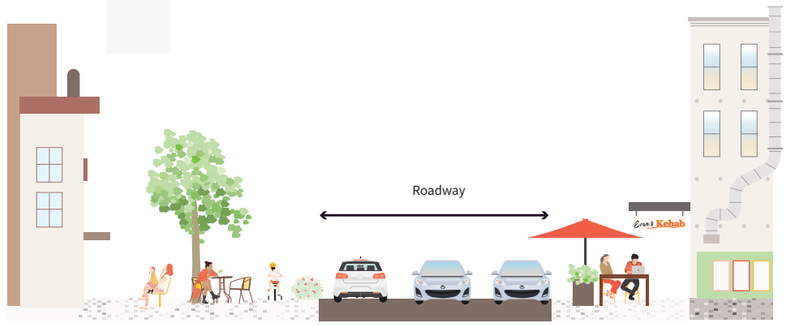
- is installed in a lower risk environment (vehicle operating speeds of 30km/h or less after the art and any other features have been installed), see also section 2.2 Lower risk environments
- does not resemble and is not similar to an official road marking or sign (traffic control device), roadway art should not be confused with give way markings or zebra crossings for example
- does not mislead road users about the meaning of any traffic control device (official sign or marking) and
- is not part of or visually integrated into an official road marking

More details on the regulatory requirements for installing roadway art can be found in the TCD Rule, particularly clauses 5.6 - 5.9.

2.1 Roadway definition

The "roadway" is defined as *"that portion of the road used or reasonably usable for the time being for vehicular traffic in general".* In the context of tactical urbanism, this means if you narrow a carriageway by moving a kerbline with e.g. planters or other delineators, anything behind the new kerbline is not 'in the roadway'. See examples to the right of the roadway.





Street art outside of the roadway is not subject to the requirements of this legislation when it is applied e.g. on:

- Footpaths, shared paths, overpasses and underpasses, pedestrian areas etc,
- Temporary footpaths,
- Space in the road that has been reallocated to non-traffic use by protecting that space with delineators,
- Areas within roadway features such as traffic islands and roundabout central islands,
- Buildings, fences and other structures adjacent to the street.

See section B.5.c of the Tactical Urbanism Handbook for examples of street art that is not roadway art. Regardless of where street art is installed it should be legible and avoid confusion about the expected behaviours and priorities in the space.

1. *See https://www.nzta.govt.nz/resources/rules/traffic-control-devices-index/*

2.2 Lower risk environments

A lower risk environment is defined within the TCD Rule as an area:

a. where the road controlling authority manages speeds, through the use of any combination of traffic control devices, roadside developments, roadway art and other changes in the road environment, with the aim to achieve an outcome where the operating speed of vehicles (except in emergency situations) is not more than 30km/h (whether or not the speed limit for the area is 30km/h); and

b. in relation to which it is reasonable for the road controlling authority to believe that outcome has been or will be achieved.

In essence this means either;

- *the operating speed of vehicles is already 30km/h or less (except in emergency situations), or*
- *a road controlling authority has taken measures, in parallel with installing roadway art, to reduce the operating speed of vehicles to 30km/h or less (where the slower speeds reinforce the function of a street).*

Road controlling authorities should install what they believe to be the necessary supporting street treatments to achieve a slower speed environment. Measures to reduce the operating speed could include introducing:

- vertical deflection (e.g. speed humps and platforms)
- horizontal deflection (e.g. chicanes)
- narrowing the carriageway (e.g. reallocating space to non-motorised users and non-transport functions)
- changes in the road environment e.g. increasing active mode facilities, use of different materials placemaking
- gateway treatments
- reduced kerb radii at intersections
- road closures and changing intersection priorities
- introducing vertical features adjacent to the carriageway e.g. using parklets and planters (side friction)
- planting or structures to reduce forward visibility
- streetscape or placemaking that reflects a higher place value
- reducing the speed limit and use of other traffic control devices

Further guidance on reducing the speed environment is also available in the Tactical Urbanism Handbook (section C.4) and Vol.2 of the NZTA Speed Management Guide. Further traffic calming guidance is available in the Austroads Guide to Traffic Management Part 8: Local Street Management.

Operating Speed

Note that “operating speed” here is expected to apply to practically all traffic, i.e. the operating speed of all traffic should be 30km/h or less (acknowledging human nature and the impracticalities of achieving 100% compliance). This legislation is deliberately different from other terms used in rules, e.g. “mean operating speed” used the Setting of Speed Limits Rule 2017, and “measured mean operating speeds” used in clause 10.4(2) of the TCD Rule. While reduced speed limits typically do reduce observed speeds slightly, it should not be assumed that a 30km/h posted limit means operating speeds are 30km/h or less.

This slower speed requirement is important to achieve a safer street environment for pedestrians and other active road users. Roadway art may encourage more pedestrians to be in the roadway; it is important that, if conflicts do occur, they happen at a more survivable speed (30km/h or less).
To monitor whether a lower risk environment is achieved, speeds should be measured at the location of the roadway art installation. If subsequent speed measurements show that observed speeds have not reduced sufficiently, then additional measures should be considered to further improve speed behaviour. Waka Kotahi staff can provide additional advice and assistance with this if necessary. They will also monitor the ongoing implementation of these roadway art guidelines and consider any amendments to this policy.

2.3 Traffic Control Devices/Official signs and markings

It is important that art in the roadway does not confuse or mislead road users about behaviour requirements. Traffic control devices (TCDs) provide road users information on how they must behave when using the roadway, and this information and instructions must be legible, understandable, and credible. Through repeated exposure, motorists respond to TCDs automatically, and this efficient and consistent system needs to be protected if compliance is to be maintained.

TCDs include markings and signs and are defined in legislation, in the TCD Rule. It is important that these legal behaviour requirements are still clear when roadway art is implemented. Examples of relevant, common TCDs are shown on the right. Further information on markings is provided in the TCD Rule, see Schedule 2. Roadway art should also avoid resembling official signage in Schedule 1 of the Rule.

It is important to ensure the visibility of no stopping lines for drivers to ensure parking does not occur within sightlines or close to crossings, but also for parking enforcement. Unclear restrictions or controls may lead to challenges through the enforcement process.

Examples of traffic control device markings to avoid in roadway art:

No stopping lines.

Give way markings.

Zebra crossing (pedestrian crossing) and associated diamonds.

Stop control markings.

2.4 Additional safety measures

There is no “one size fits all” for roadway art projects; however, there are common elements the project team will need to consider in the design development and implementation stage.

Art colours

In the TCD Rule, certain colours are used for certain TCDs and should be carefully considered for roadway art to ensure it is not misleading or confusing[2]:

Colour	Current TCD marking / surfacing usage
White	Centre-lines, edge-lines, lane lines, limit lines (e.g. at signals and give way intersections), give way triangles, various words on roadways, zebra crossing stripes, advance crossing warning diamonds, road user symbols (e.g. cyclist), sharrows, flush medians, raised pavement markers
Yellow	No-stopping lines, special parking bays/zones, No-passing lines, STOP control limit line, Fire hydrant locations (triangles and circles), “Keep clear” cross-hatching, Raised Pavement markers
Green	Special vehicle lanes (bus, cycle, HOV), raised pavement markers
Red	Speed threshold, raised pavement markers
Blue	Accessible parking spaces, raised pavement markers

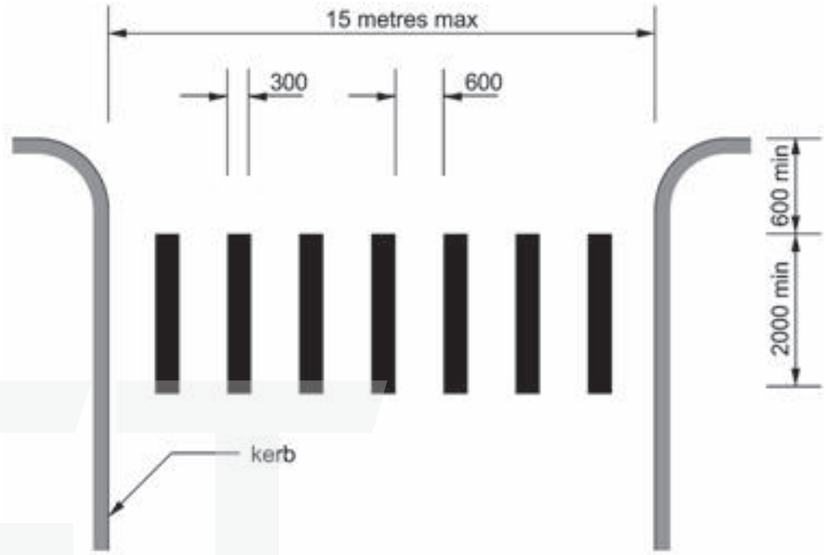
The above table does not preclude roadway art from using any of these colours; however, care is needed to avoid any confusion with existing TCDs or undermining of them. If in doubt, consider using colours and shades not generally associated with TCDs, e.g. purple, orange, aqua, terracotta.

When considering colours for roadway art it is important to understand the sunlight and shade on a street. For example, a large area of white-based colour in the midday sun would reflect a lot of light, but a light grey may offer some relief on the eyes and the environment. Los Angeles has previously painted its roads in a grey paint that keeps streets and parking lots 10 degrees cooler than black asphalt.[3] Molly Dilworth’s Cool Water Hot Island roadway artwork also used blues and light hues to reflect sunlight and absorb less heat but without creating issues for pedestrians.[4]

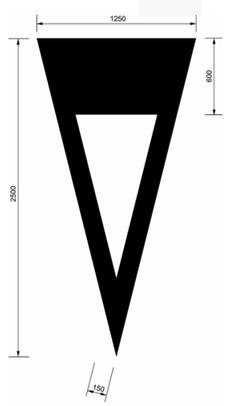
Art patterns

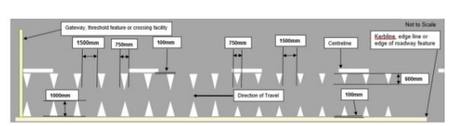
It is important roadway art does not resemble TCDs and does not create any confusion about the meaning of existing TDCs. Common patterns that should also be avoided or considered carefully in roadway art include stripes, triangles, diamonds, roundels, crosses, arrows and text. Examples of how these patterns are used in road markings are shown in this section. Schedule 2 of the TCD Rule provides a more comprehensive set of road markings.

Stripes that are used for zebra crossings:

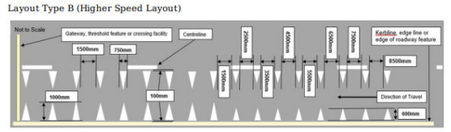


Triangles (give-way and fire hydrant) and "Dragons Teeth" (currently under trial):

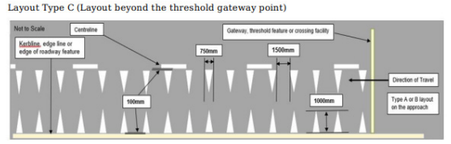




Layout Type B (Higher Speed Layout)

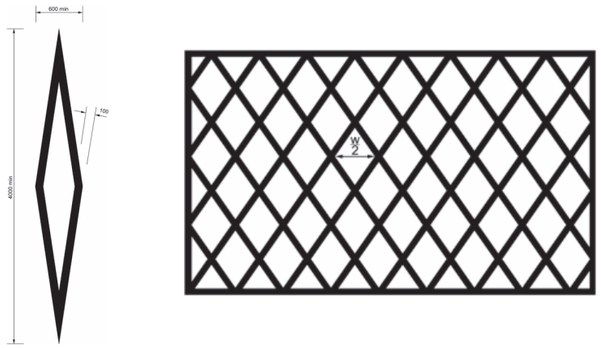


Layout Type C (Layout beyond the threshold gateway point)



2. The specific colour codes are provided in P33: 2017 Specification for Coloured Surfaces, Table 12.1 Colour Requirements, which are based on Australian Standard AS2700 “Colour Standards for General Purposes” consisting of 206 standard colours for use in choosing colour schemes in the industrial and architectural areas.
3. https://www.popsci.com/la-is-painting-its-streets-white-to-keep-city-cool/?src=SOC&dom=tw#page-2
4. http://arts.timessquarenyc.org/times-square-arts/projects/at-the-crossroads/cool-water-hot-island-/index.aspx

Diamonds:



Crosses:

When designing roadway art it is important to consider scale and space. The proportions of the design in relation to the space, the speed and view of the customers need to be considered. Designs need to work at the pedestrian and vehicular level, not at a 'birds eye view'.

2.5 Materials and implementation

It is important to understand how long the installation will be in place as this will affect material types and ongoing maintenance. Different scenarios could include:

- Short life (e.g. pop-up or pilot project) will require a material easy to remove with a power wash/ water blast
- Multi-year life (i.e. semi-permanent project) that will not be maintained will need a sturdy and resilient material as it will otherwise wear over time with use and may become a skid hazard
- Multi-year life that will be maintained will require materials that can be re-applied

For semi-permanent installations all paint and other coloured surfacing used on the roadway should generally be professionally implemented (due to material requirements) and meet the skid resistance requirements of NZTA P33. Local contractors will also be able to advise on the best conditions for application, and also the different options for different surfaces. The different materials that could be considered are on the next page, with considerations from NACTO[5] and Tactical Urbanism Guide to Materials and Design[6] (see also Section D of the Tactical Urbanism Handbook).

5. https://nacto.org/publication/urban-bikeway-design-guide/bikeway-signing-marking/colored-pavement-material-guidance/
6. http://tacticalurbanismguide.com/

Material	Duration	Considerations
Chalk Paint / Spray paint	1 day	• Community/smaller application for a day. • Used for crossings, kerb extensions, traffic calming, activation. • Can be removed with water. • Spray paint may require high pressure water blasting, which can affect the quality of the road surface.
Acrylic asphalt paint	1 month – 1 year	• Enlivens spaces and can be used for delineation between spaces such as build outs and pedestrian spaces. • May wear fairly quickly if used in the roadway with vehicles traversing over the paint. • Slip resistance additives can be used. • Can be applied by a non-professional. • May require re-application annually.
Decals	1 month – 1 year	• As with paint, surface material, slip resistance and also durability will need to be considered if using decals. • Necessary to discuss with the manufacturer of the decal, how easy it is to be removed from a road surface. • Manufacturer may need to know if the application surface is chip seal, pavers or asphalt. • A local manufacturer will understand the environment and be able to recommend suitable conditions for applying the decal to the surface (weather, temperature etc). • Requires professional installation.
Chlorinated rubber paint	1-5 years	• Common road marking paint type. • Solvent thinned. • Longer lasting than acrylics. • Quick drying time. • Requires professional installation. • Can be applied to different surfaces.
Street bond pavement coating	1-5 years	• Use on the roadway. Great for pedestrian crossings, build outs, murals etc. • Bonds permanently to asphalt surfaces. • Low maintenance and durable. • Requires professional installation.

Plastic	1-5 years	• Three kinds of plastic markings:
		  • Cold applied plastic
		  • Preformed (applied with brush and heat torch)
		  • Hot-applied (specialised machine required)
		• Use on the roadway as per street bond.
		• Not easily removed.
		• Requires professional installation.
		• Quick cure time (minimise traffic management costs).
		• Fairly robust in highly trafficable areas.
		• May be cost prohibitive.

Epoxy gravel (resin bound and bonded)	1-5 years	• Very attractive surface material. • Expensive if require colour over the natural colour. • Adds non-slip texture to street. • Requires professional installation. • Difficult to replace or patch if defects occur or utility/services work completed. • Resin bonded can be impermeable (stormwater run-off considerations). • Resin bonded is not as easy to clean as bound aggregate.

2.5 Maintenance, operation and decommissioning

For roadway art that is intended to be in place for many years, it could be useful to photograph regularly the changes to the art on the surface as this will assist in understanding the different paint applications in local situations and for programming re-paints.

In general, artists and designers should design roadway art so that it is easy to maintain e.g. templated artwork for easy renewal. If there is no budget to maintain roadway art (materials, labour, traffic management etc), or it is agreed that it will not be maintained, it is recommended that a date is set to transition to a permanent upgrade, or removal. This ensures the unmaintained installation does not result in poor quality amenity outcomes or create uncertainty that may result in a safety issue. Whilst most short-term applications should be able to be removed by a wash, it should be part of the implementation process to understand with the contractor the method of removal and the associated timeframes and costs for removal.

As with all projects it is prudent to check whether any maintenance or renewals work will be happening in your study area during the life of the street art. If so, timing of implementation for after these works or a plan for reinstatement should be made.

3 | How roadway art may impact different community groups

Roadway art can have positive impacts as described elsewhere in this guidance, however it may also have negative impacts on different people.

3.1 Who may be negatively impacted by roadway art?

By following this guidance, risk to peoples' safety is minimised. However, there are other risks associated with roadway art. People can be negatively impacted by roadway art if they:

- feel less safe using the street or place
- feel confused in the street or place

If people feel unsafe or confused in a street, they are less likely to use it, reducing their mobility choices. If they do use the street, they may experience anxiety or stress. From a safety perspective, feeling unsafe can increase risk of harm if people misinterpret how to behave on or near a roadway art installation.

People who may be impacted by roadway art include for example

- people with learning disabilities
- people with neurodiversity, such as autistic people
- people with mild cognitive impairment, brain injury, or cognitive decline such as Alzheimers disease
- children and their caregivers

In this guidance we have termed people who fall into the above categories "high-risk groups"

Cultural considerations

There are also risks associated with the nature of the art itself, such as cultural misappropriation. Any roadway art related to specific cultural groups should be informed and reviewed by people knowledgeable about its implications for specific cultural identities. Note that this applies to all artwork, not just roadway art.

Intellectual property

It is important to recognise the intellectual property that may exist around art, design and images. Permission should always be gained from the artist.

3.2 How can designers avoid negative impacts of roadway art on specific community groups?

Designers can minimise risks of negative impacts of roadway art by:

- early engagement with groups who could be affected, particularly local disability advocacy groups and disabled people themselves; local schools; groups promoting the voices of children, and cultural groups (refer Engagement in section 3.3 and 3.4)
- designing the art to incorporate the principles of inclusive pedestrian environments: safe, obvious, and with step-free choices (refer Pedestrian Network Guidance)
- including peoples' disability identity (including learning disability and neurodiversity) in qualitative monitoring of the effects of roadway art (refer Monitoring section 5)

Where roadway art is installed at an existing road crossing such as a refuge island, kerb extension, or kerb cutdowns where people cross the road, effort should be made to ensure that the road crossing remains obvious as a crossing point. Any connecting pedestrian routes should also be obvious, insofar as the art should not be extended across footpaths without clear accessible routes alongside. The accessible routes alongside and across roads, and through public spaces nearby, should include step-free choices. Those choices should also be slip-resistant and navigable by mobility devices with small wheels including manual and electric scooters, and wheelchairs.

3.3 Engagement with high-risk groups

In addition to the communication and engagement and monitoring and evaluation advice provided in section B.1.b of the Tactical Urbanism Handbook, include the perceptions and experiences of specific community groups in pre-concept engagement; design; and monitoring stages:

- people with learning disabilities
- people with neurodiversity, such as autistic people
- people with mild cognitive impairment, brain injury, or cognitive decline such as Alzheimers disease
- children and their caregivers, particularly school and early childhood learning centres where children and their parents/caregivers are likely to use the road where the art is proposed.

Understanding the roadway art's impact on these specific community groups is important to promote safe and inclusive mobility. By gathering evidence about positive and negative impacts, future roadway art installations can be refined to promote the best outcomes for everyone in the community.

3.4 Tangata Whenua Engagement

Local iwi representatives need to be engaged at a project's inception phase, so that any outcomes can be informed by Mātauranga Māori and drawn from local sources of knowledge and interpretation. Specific advice on Māoritanga should be sought through Te Ara Kotahi, Waka Kotahi's Māori Strategy. Further advice on engaging with Tangata Whenua is provided in Section B.1.b.1 of the Tactical Urbanism Handbook.

4 | Case Studies

The following case studies provide examples of roadway art and identify whether these are or are not permissible in New Zealand. The case studies seek to illustrate the principles underpinning the criteria set out in Section 2 and demonstrate how these should be applied in practice.

Note that, while it is useful to look at overseas examples of roadway art for inspiration, other jurisdictions have different traffic legislation than New Zealand. For example, in North America, intersections of roadways create legal pedestrian priority crosswalks across all entering roads, whether they are marked or not. While some kind of marking layout (e.g. parallel lines or zebra stripes) typically improves driver compliance with this, it doesn't affect the legality of the situation. In New Zealand, legal priority crossings are only zebra crossings, signalised crossings, and school patrols defined through signs and markings.

Polka Dots, Auckland

The intersection of Sale and Wellesley Streets in Auckland has traditionally presented a significant challenge in terms of pedestrian and cyclist safety. Traffic lanes were excessively wide – up to 35m kerb to kerb on the pedestrian desire line – encouraging high traffic speeds, with many vehicles entering Sale Street at speeds in excess of 50kmph. This posed a real danger due to the high volume of pedestrians in this area.

Coloured polka dots were installed as a form of street art on the roadway alongside other interventions including reduced kerb radii and lane width, speed humps and planter boxes and street art outside the roadway.

Note that street art outside of the roadway is also used in this example in the form of wavy lines. These lines are installed behind the re-positioned kerb and are therefore not the subject of this guidance note.

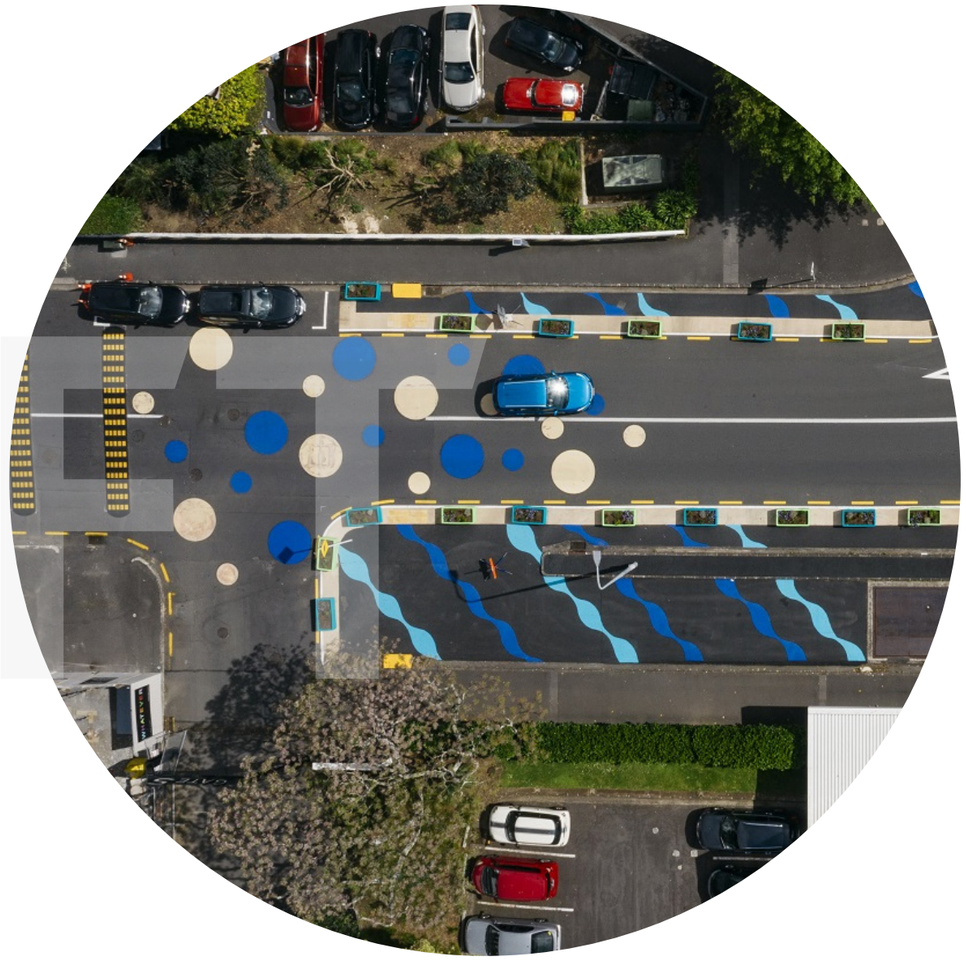
Permissible in NZ?

Consistent with the requirements, the use of the coloured dots on the roadway is included as part of a suite of initiatives to slow speeds and improve pedestrian level of service. Dots do not conflict with or mimic TCDs and are therefore an appropriate design for use in the roadway.

The combination of measures on Sale Street was successful in reducing vehicles speeds by 13-14%. Pedestrian crossing distances on desire lines and wait times also significantly reduced. The majority of interviewed pedestrians reported an increase in pedestrian amenity, and some asked for further speed reduction measures.

While this project is a success, further intervention is required to ensure operating speeds are below 30km/h. Since the installation the speed limit in central Auckland has been reduced to 30km/h, which may help. The installation is due to be replaced by a permanent solution, incorporating learnings from the trial.

Further information on this case study is available here: https://www.nzta.govt.nz/roads-and-rail/innovating-streets/case-studies/sale-street-intersection/



River Road Mural, Palmerston North

This site is on Queen Street in Palmerston North City Centre. Queen Street is defined as a secondary collector under the ONRC and the site is adjacent to the UCOL campus.

The site extends across a short section of narrow roadway, past the entrance to a car park. This is a low speed environment, sitting on top of a long raised platform in the roadway.

Palmerston North City Council partnered with UCOL to develop the design. The mural represents the journey of personal growth that a student experiences, through the flow of a river.

The roadway art uses a specialised calcined bauxite material, resistant to wear and tear and skid resistant.

Permissible in NZ? ✓

Provided post-installation observations demonstrate operating speeds of <= 30km/h this is a permissible use of art in the roadway. No TCDs are obscured or visually connected to the roadway art. The platform and narrow roadway reinforce the low speed environment.

The shapes used in this installation include large hollow triangles and smaller triangles. Care should be taken when using such shapes that they do not resemble give way markings or other TCDs.

Paving on the grass on either side of the roadway resembles a pedestrian crossing and meets the roadway on a diagonal on either side. This may confuse pedestrians with regard to priority.

Butterfly Mural Painted Street, Asheville US

This project involved taking road space to create a 0.3 mile long shared path, resulting in narrower traffic lanes. The roadway art butterfly mural formed the centrepiece of the design.

Permissible in NZ? ✓

Provided post-installation observations demonstrate operating speeds of <= 30km/h this is generally a permissible use of street art in the roadway. The art stops before the zebra crossings, making these clearly visible and ensuring defined routes for pedestrians. The narrow roadway reinforces the low speed environment.

However, the artwork in this example has a break in the middle, which resembles a centreline. In New Zealand the centreline would either need to be painted white (if it is required) or excluded from the artwork.

⚠

It is likely additional features to support reduced speeds may be required over and above those visible in the image.

⚠

In New Zealand a zebra crossing may include a diamond advance warning symbol. If this is used it would need to be clearly distinguishable from the roadway art.

⚠

Patterns used in these environments can create difficulties for some parts of the community, see section 4 of this guidance for further information.

Avon River/ Otakaro Temporary Streetscape, Christchurch

The temporary streetscape project acknowledges the significance of the Avon River/Ōtākaro and celebrates the rich Māori cultural heritage and natural environment of the river corridor. The art was designed by Priscilla Cowie, a visual artist of Ngāi Tahu, Ngāpuhi and Ngāti Kahu descent, and celebrates the importance of the river to the local tribe. The design incorporated the harakeke (flax) and raupo, as well as the main food sources gathered here such as the eel. A permanent shared space streetscape is now in place.

Permissible in NZ?

The design introduces the concept of a shared space along the river for people walking, biking and other traffic travelling at slow speeds (typically 10km/h).

The roadway art does interact with no stopping lines along the corridor. Avoiding this interaction is now required under the TCD Rule change.

Shared Space/ Cul-de-sac, Wellington

Bond Street was transformed to create a more pedestrian friendly destination in the centre of Wellington. To create vibrancy, seating areas and an artificial lawn were installed and the road surface was painted with a bright red pattern.

Permissible in NZ?

This approach is supported in New Zealand, this is a low volume and low speed area that is primarily used as a cul-de-sac street for servicing vehicles.

See video: https://www.youtube.com/watch?v=8Oq3-8fTRXY&feature=youtu.be

Courtesy Crossing, Auckland

Following the restriction of private vehicle access to the maunga tihi (summit), the summit roads are now shared spaces for pedestrians and cyclists - with minimal use by service vehicles and the cars of visitors with limited mobility.

This change in road environment presented an opportunity to explore bilingual signage in te reo Māori and English, and also Māori design for road markings. This is a tangible way to recognise and celebrate the cultural significance of the maunga.

To achieve a genuine outcome for this kaupapa it was vital that the Authority engaged Māori businesses and artists to carry out this mahi from conception to completion. Artist Jermaine Reihana was selected for this mahi.

Roadway art is implemented along the roadway, this example shows a platform courtesy crossing. The Maungawhau road marking designs are inspired by the kaitaka – a chiefly Māori cloak. This example shows Ara Poutama, a stepped pattern of tukutuku panels and woven mats symbolising genealogies, a journey of self-determination and also the various levels of learning and intellectual achievement.

Permissible in NZ? ✓

Due to the platform and narrow roadway it is anticipated that the required lower speed environment is achieved in this location. Low traffic volumes also contribute to this as a lower risk environment. The roadway art is not visually connected to a TCD.

Image Source: Rebecca Tuke, Abley

Signalised Crossing Art, London UK

The area within the defined crossing area is painted with a vibrant pattern. The pattern does not resemble an official road marking.

Permissible in NZ? ✓

Provided this is implemented in a slower speed environment it is permissible. The artwork does not confuse users about their responsibilities and in NZ white lines either side of the crossing should be used to demarcate the crossing area.

⚠

Patterns used in these environments can create difficulties for some parts of the community, see section 4 of this guidance for further information.

Image source: Asphalt Art Guide, Bloomberg Associates

Coloured zebra crossing, Seattle US

Zebra crossing using red green and black stripes instead of standard white stripes.

Permissible in NZ? ✗

NZ legislation requires that zebra crossings are marked using white stripes. Painting a crossing that resembles a zebra crossing but does not use the correct colours is misleading to road users and may create confusion about who has priority. In NZ it is not permissible to mark zebra crossings in any colour other than reflectorised white.

Image source: Tactical Urbanist's Guide to Materials and Design V1.0, Street Plans Collective

Horizontal rainbow stripes at crossing, Taipei

Horizontal rainbow painted adjacent to a signalised crossing in Taipei, Taiwan.

Permissible in NZ? ✗

This does not comply with the TCD Rule because the horizontal markings could be misinterpreted as a zebra crossing.

Image source: Alamy

Parallel rainbow stripes at crossing, Sydney

Rainbow painted parallel to the walking direction at a signalised crossing in Sydney, Australia.

Permissible in NZ? ✓

Assuming this location satisfies the lower risk environment criteria, this would be permissible because the stripes are painted parallel to the crossing direction and therefore do not create confusion with the horizontal stripes of a zebra crossing.

Image source:

Intersection Mural, St Petersburg US

Signalised intersection in the city centre of St Petersburg, installed by the St Petersburg Art Alliance in collaboration with community volunteers.

This intersection is in 20mph speed limit area in a commercial area. A mix of road uses are present in the area including cycling (sharing the traffic lane as denoted by the use of sharrows), walking (including accessing the many adjacent activities) and driving (including angle parking on each leg of the intersection). Crossings on each leg of the intersection have a paved surface treatment.

Permissible in NZ? ✓

Provided that slower speeds have been achieved (operating speeds <= 30km/h) through the intersection this treatment would be permissible in New Zealand. The limit lines are clearly distinct/set back from the roadway art and the artwork does not mimic standard road markings.

⚠

Care should be taken when using triangular shapes that these do not provide unintended directional cues or confusion with TCDs, see section 2 of this guidance for further information.

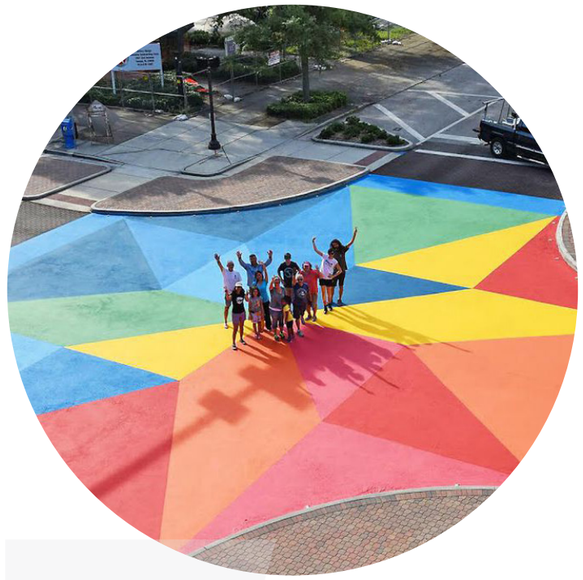


Image source: Asphalt Art Guide, Bloomberg Associates

3D Markings, Dunedin

3D art applied on the roadway at a crossing point on Clyde Street, in Dunedin. Clyde Street is a busy street in the Tertiary Quarter.

The art creates an optical illusion, appearing 3-D to motorists while being flat to pedestrians.

Permissible in NZ? ✗

There is no supporting traffic calming on the approaches to the crossing. Traffic from the south has just travelled downhill and traffic would still be travelling close to the posted 50km/h speed limit. A nearby speed survey found mean speeds of 34km/h and 85th percentile speeds of 40km/h - too fast to meet the Rule requirements.

3D Zebra Crossing, UK

Zebra crossing encompassed within roadway art to appear as 3D.

Permissible in NZ? ✗

This does not comply with the TCD Rule requirements for marking pedestrian crossings and it may mislead users about the authenticity of the zebra crossing and therefore their legal responsibilities.

Los Angeles

Roadway art installed within the intersection on a low volume, neighbourhood street. In this example the street remains wide at the approach to the intersection and it is anticipated operating speeds are above 30km/h.

Permissible in NZ? ✗

There are three reasons this example is not permissible in New Zealand:

- The roadway art interacts with and mimics the painted zebra crossing on each leg of the intersection. This may confuse road users.
- The roadway art appears to have been implemented as a standalone intervention. No additional measures are installed to slow traffic and ensure a lower risk environment. This is not permissible unless existing data shows speeds are already below 30km/h.
- The circular shape used in the roadway art may be confused by some users as a roundabout. Roundabouts can be installed in NZ without official markings and signs, however measures to ensure operating speeds of less than 30km/h are required.

5 | Monitoring and evaluation

Best-practice monitoring and evaluation for roadway art should follow the principles and methods set out in Tactical Urbanism Handbook section B.7.
There are three points to emphasise in monitoring for roadway art as a special case of tactical urbanism or placemaking:

- Monitoring immediately after installation is important to ensure that the speed environment is suited to the art installation, that is, operating speeds no greater than 30km/h; and
- The potential for confusion over what is and is not a roadway should be monitored by talking with people who use the space, both as drivers and pedestrians as a priority, and other modes, such as micro-mobility and cycling, as a consideration.
- Implementation success in terms of impact on achieving goal of roadway art

It is also important to evaluate the implementation process, was this successful or easy to implement, how can we take these process learnings forward for our next installation?

The monitoring and evaluation process is summarised as follows. References are to the relevant sections in the Tactical Urbanism Handbook:

- Monitoring and evaluation methods are defined based on project goals (Section B2.e)
- Pre-concept engagement with high-risk groups (see section 3 of this guide)
- Monitoring and evaluation plan is developed and refined as part of the project (Section B4.c)
- Monitoring and evaluation plan is delivered post-construction (Section B7), including specific planned engagement and monitoring with high-risk groups

As per the criteria set out in the TCD Rule, if the Agency considers on reasonable grounds that the roadway on which the relevant marking has been installed is not a lower risk environment, the Agency may, by notice in writing, require a road controlling authority to install or remove traffic control devices or roadside developments or make other changes in the road environment (take action), with the aim of making the roadway a lower risk environment.

6 | Before you install: Roadway Art Checklist

In order to support the embedding of roadway art as a tool in the New Zealand street environment and understand the benefits and potential implications across the country during the initial phase of implementation, Waka Kotahi require you to engage with them on all roadway art ahead of installation. Answer the following questions and email them, along with your roadway art scheme design to: innovatingstreets@nzta.govt.nz

1. Provide a description of the purpose and logic for the roadway art including how this supports place value and reinforces the functional road hierarchy.
2. Provide evidence that the roadway art makes sense, and roadway priority will be understood by a range of community groups? (e.g. provide a summary of your engagement with high risk groups and how this is reflected in your design)
3. How have you ensured the art is unlikely to offend, appropriate artist permissions gained and is acceptable to locals and community groups? – include information about who you have engaged with on the art (cultural and special interest groups, designers/artists)
4. Describe how you have engaged with Tangata Whenua and reflected this in your design/ planning.
5. Does the roadway art comply with the TCD Rule?
6. What is the evidence for a 'lower risk' environment?
7. What other street features are needed, or may be needed, to create a Lower Risk traffic environment?
8. How have you ensured the markings are suitable in terms of shape, colour, reflectivity and skid resistance?
9. What is the proximity of the art to official markings/traffic control devices? How have you ensured these will remain legible?
10. What is your monitoring and evaluation plan?
11. Has baseline monitoring been carried out?
12. What are your monitoring timeframes and what will you measure?
13. What is your plan to adapt the design if it doesn't achieve vehicles speeds under 30km/h?
14. 7) What is the current condition of site and how will you maintain your roadway art?
15. Is the site ready and suitable or is minor maintenance required? Provide a photo.
16. What is the lifespan of your art and what materials will you use to create it?
17. What is your maintenance plan for the art? Is there any planned maintenance for the site that you need to work around/plan for?
18. How will the art be decommissioned/ removed?

Waka Kotahi's "Bridging the Gap" urban design guidance has further information to support in planning your roadway art, see section 4.23 Public Art: *https://www.nzta.govt.nz/resources/bridging-the-gap/*