Raised Safety Platforms

What works, where, and why

Issues • best-practice guidance • industry opportunities

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Speed bumps at intersections cut serious crash risk by 40%, NZTA studies show

Jordan Smith - Local Democracy Reporter
Waikato Herald · 2 Sep, 2026 06:01 AM · 3 mins to read

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Safety audit urges speed hump for remaining half of Christchurch's divided Deans Ave crossing

Sinead Gill | The Press
July 14, 2026 · 4:00am

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Principals fear more kids will die as Govt cancels speed humps funding

More than 70 schools were awaiting construction of raised crossings or speed humps, when the Govt axed funding this week. At two of those schools, pupils were hit and seriously hurt this year.

by Jonathan Milne 04/09/2024

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Auckland Transport's ashes: Who gets to decide on speed humps now?

Jonathan Killick | The Post
August 5, 2026 · 11:28am

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An east Auckland resident is speaking out in support of controversial traffic calming measures installed in a seaside community and which have been the recent focus of court action.

RNZ | News | Life | Radio | Podcasts | Video | Sections

Auckland speed table modified after complaints, claims of damage to vehicles

Torika Tokalau
LDR Auckland



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News / Crime and Justice 26 August 2025, 12:02pm

The law student who took on Auckland Transport over speed bumps and won

Melanie Earley
Senior Digital Journalist
Morning Report



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Speed bumps could get bumped off by Waipā District Council – at up to $10K per bump

Mike Mather | Waikato Times
August 19, 2026 · 4:00am

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Raised **intersection**



Raised safety platforms – **roundabout arms, midblock, carparks**





zebra, courtesy, or unmarked





Not a Raised Safety **Platform** & not covered today







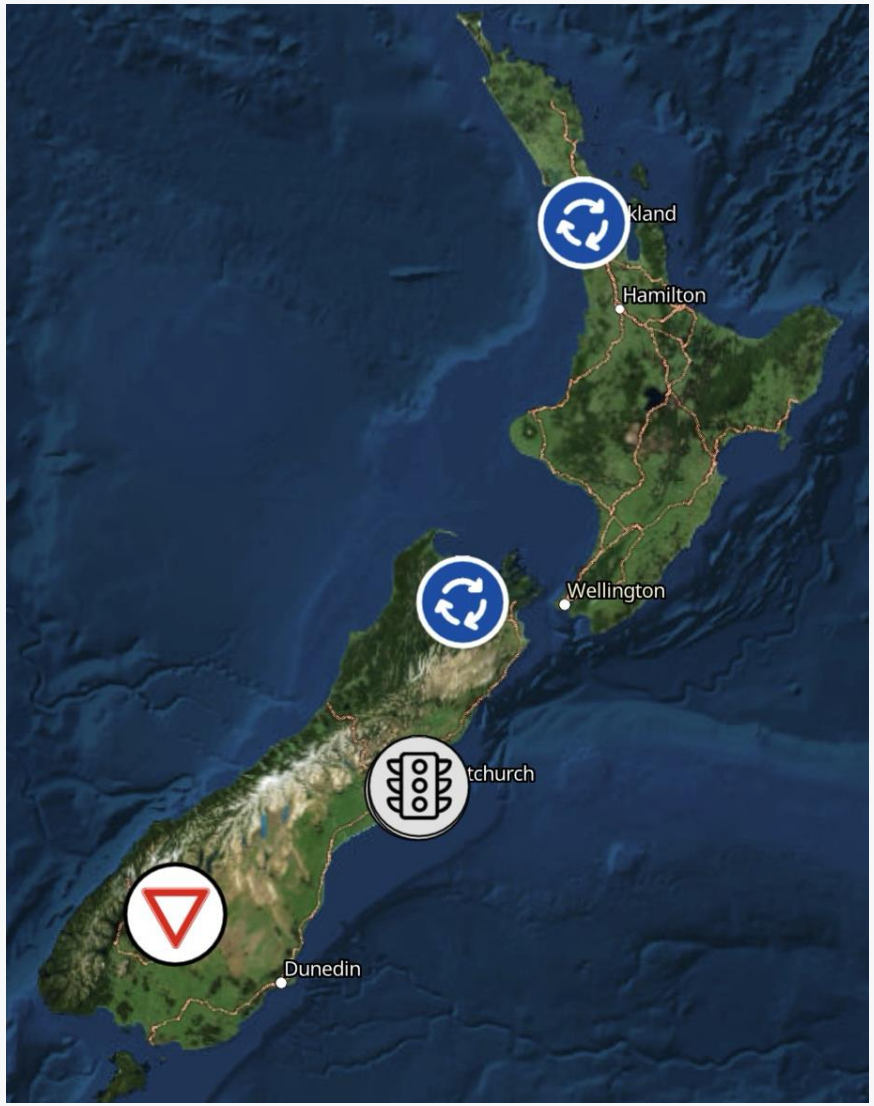


National map of RSPs and raised intersections

ViaStrada is donating time to create a national webmap

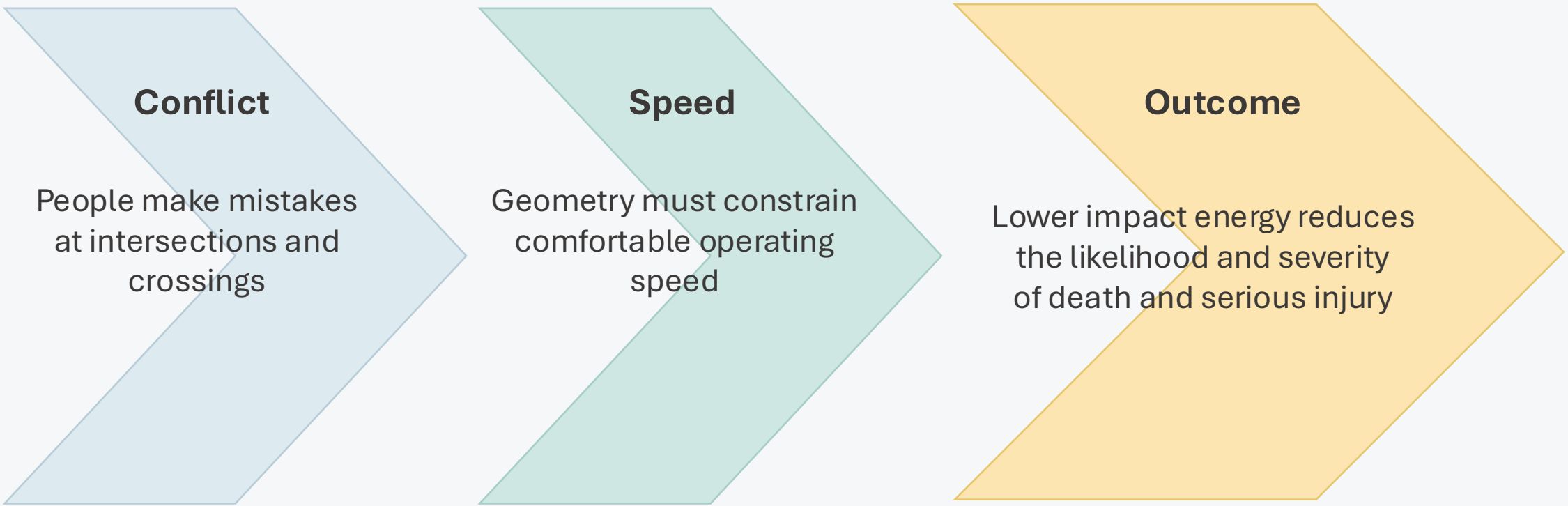
Email me a Google Map link or just the name of the location and I'll add it: john@viastrada.nz

Aiming to get funding to add fields, collate, process and include before/after data, ROC (excluding unrelated elements), etc



The central engineering question[2]

Not “do people like the bump?” but “are conflict speeds survivable?”



≤30 km/h: people

≤50 km/h: side impact

Safe System thresholds used in the evidence base

What the evidence says

Speed reduction is immediate; crash evidence is positive and strengthening

Speed (85th percentile change)

Christchurch: -6%, -12%, -20%[3, 4, 5]
Victoria: 21% [6]

Rule of thumb: 5-8 km/h reduction

Safety

Austroads CRF: 40%[1]
Dutch CRF: 35–40%.[8]

Behaviour

Most drivers brake consistently. Late braking was observed in a small minority and appeared to reduce with familiarity.[1]

Effectiveness depends on:



The treatment is a system, not a standard asphalt object

Where RSPs add the most value

Match the treatment to the conflict, road function and desired operating speed

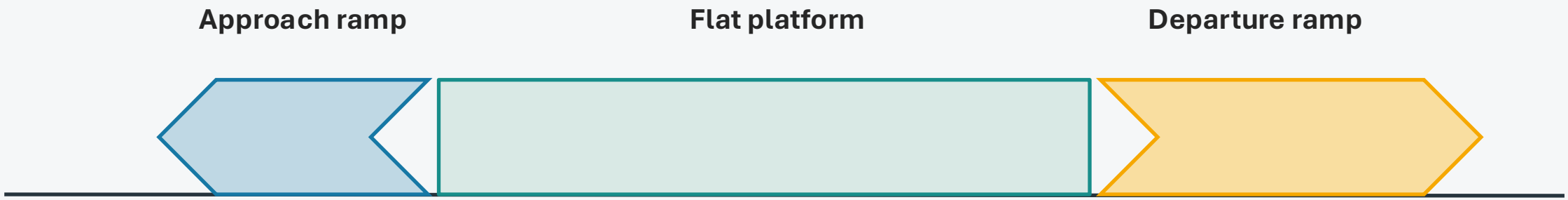


There is debate over whether an RSP is needed at a mid-block signal

- **Signalised intersections**
  Control side-impact speeds where conventional signals do not manage kinetic energy.
- **Crossings and activity centres**
  Target pedestrian and cyclist safety where 30 km/h is sought.
- **Roundabouts**
  Supplement geometric deflection where entry-speed control is otherwise insufficient.
- **Rural road vs. trail crossings**
  Use staged speed reduction and supporting measures when the approach environment is faster. *No known installations.*

Issue 1: design must express the target speed

Ramp geometry, height and platform length work together



Target speed

1:15 for ~30 km/h
1:20 for ~40 km/h

Typical geometry

100 mm high
Ideally, a 6 m+ length top

Heavy vehicle design

1:20 min
1:35 max

Use site-specific testing and longitudinal-grade adjustment. Do not copy a profile without checking context.

Reference: Austroads AP-R642-20 [2]
See also: Auckland Transport Practice Note 02 [9]

Asymmetric ramps

Asymmetric ramps are buildable in asphalt without a median





Asymmetric or not, ramps can accelerate wear due to HV vibration and axle weight being transferred to pavement during braking

Issue 2: construction accuracy is safety-critical

Small profile deviations can make a platform ineffective or unacceptably severe



The recurring problem

Designed and “as-built” ramp profiles can differ materially.

Best-practice controls

Obtain geotechnical information to determine suitability / need for ground improvements
Set-out at close intervals
Templates or controlled layer construction
Survey and accelerometer verification

Procurement implication

Brief contractors on the performance intent, not only the dimensions. Treat profile tolerances as functional requirements.

Issue 3: legitimate operational concerns need evidence

Design out problems; do not dismiss them

Noise & vibration
Usually limited in evaluations, but heavy vehicles, loose loads and severe departure ramps can create local effects.

Buses & emergency services
Use appropriate profiles and engage operators; slower intersection approach is not equivalent to conventional hump delay.

Heavy vehicles
Assess turning stability, load shift, ground clearance and ramp orientation.

Capacity & queues
Impacts appear mixed. Stop-line position and signal clearance settings can matter more than the platform itself.

Cycling & motorcycling
Maintain skid resistance, perpendicular ramps and clear priority.

Drainage & maintenance
Platforms create new high and low points; anticipate ponding, rutting and marking renewal.



Local observation: Cashmere / Colombo

Useful operational intelligence, but not a substitute for measurement

"No noticeable change in vibration from heavy vehicles after installation of the RSPs."

Restaurant staff are only a few metres from the vertical deflection.
Informal observation of a drink surface also found no discernible movement attributable to the RSPs.

Anecdotal evidence

How to strengthen the data

Baseline and post-installation vibration monitoring
Vehicle-class and speed observations
Complaint and maintenance logs

Decision principles

Separate perceptibility, amenity effects and building-damage risk.

Use evidence proportional to the risk and sensitivity of the receiving environment.

A practical project workflow

Build the evidence chain from problem definition to post-opening learning



1	2	3	4	5	6
Define	**Set target**	**Select form**	**Design system**	**Assure build**	**Evaluate**
Conflict type, road function, users	30 / 40 / 50 km/h outcome	Raised crossing, approach platform, intersection	Geometry, signs, drainage, signals	Survey, profile, materials, tolerances	Speed, behaviour, crashes, amenity

Gateway reviews: Safe System assessment • heavy-vehicle check • constructability review • communications plan

Communicating with communities

Explain the risk, the mechanism and the trade-off before defending the device

1	**Start with the place**	Who crosses, turns, walks, cycles and waits here?
2	**Show the conflict**	What error or crash mechanism produces serious harm?
3	**Explain the mechanism**	The platform makes the desired speed the comfortable speed.
4	**Own the trade-offs**	Noise, comfort, access and delay are design variables to manage.
5	**Report results**	Publish speed, behaviour, complaint and maintenance findings.



Opportunities for the industry

Move from isolated projects to a learning system

1. Consistent guidance

Common terminology, profile families, warrants and performance measures across road-controlling authorities.

2. Standard assurance

Construction tolerances, profile survey templates and commissioning tests embedded in contracts.

3. Shared evidence

Comparable before/after datasets covering speed, crashes, comfort, queues, noise and maintenance.

4. Better modelling

Calibrate traffic and vehicle-dynamics tools against observed low-speed intersection performance.

5. Sector capability

Training for designers, contractors, safety auditors, asset teams and communications staff.

6. Transparent learning

Publish failures and refinements, not only successful case studies.

Takeaways for local government engineers[2]

- **Use RSPs to manage kinetic energy at conflict points, not as a generic response to complaints.**
- Select the target speed first, then design the profile and supporting environment.
- Construction accuracy is integral to safety performance and public acceptance.
- Operational concerns are real design inputs, but should be tested against site evidence.
- Every installation should add to a shared, comparable evidence base.

Design for safe speed | Build the profile accurately | Measure what happens.

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2. Austroads AP-R642-20, pp. 1, 5 and 78.
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4. G. Dioni (2026) Shaping resilient cities: safe speed platforms and people-centred movement in Ōtautahi, Transportation Group Conference, Wellington (link)
5. A.M. Head (2026) Small changes, big impacts: reimagining roundabouts for people and safety, Transportation Group Conference, Wellington (link)
6. Urban Connection (2025) Cashmere Roundabout Safety Improvements – SMART Safety Assessment.
7. Lawrence et al (2021) Evaluation of Raised Safety Platforms (RSP) On-Road Safety Performance. Sustainability 14(1):138 (link)
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Ngā Mihi | Thank you

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