# Safer Journeys for Motorcycling on New Zealand Roads

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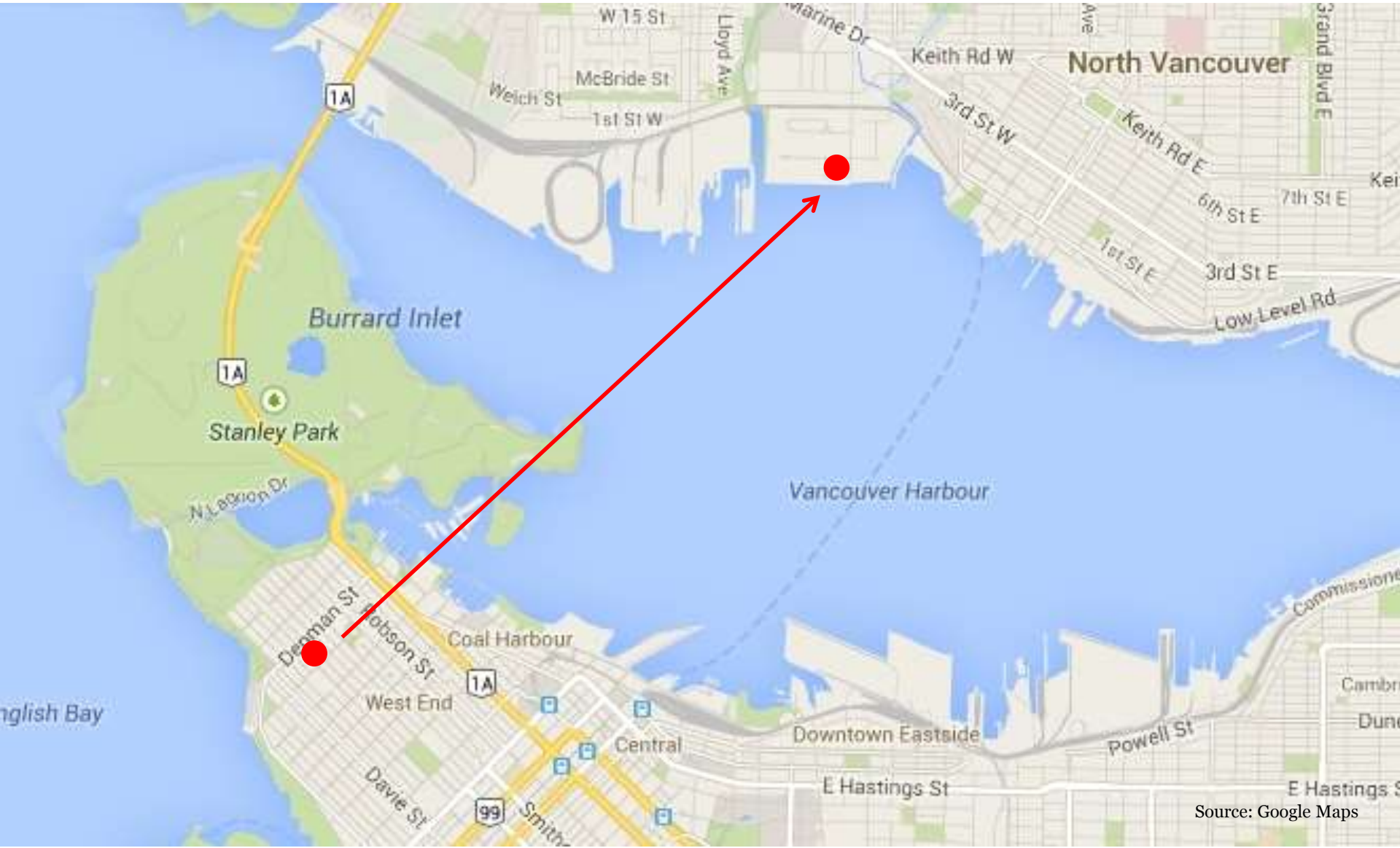
# Safer Journeys for Motorcycling on New Zealand Roads

- The Guide is a motorcycling centric coordinated approach to road safety
- Deals with road safety issues within Safe System context
- Do we, as road safety professionals, have the right perspective for motorcycling road safety?

Source: Google Earth


Source:: http://susanmacbryde.com

# Different country, same company




Source: Google Maps

# Perspectives

- Do we, as road safety professionals, have the right perspective for motorcycling road safety?

- Do we take action through our work to treat road safety for motorcycles differently to road safety for four (or more) wheeled vehicles?

# Some things are different: Toyota Corolla Canada

- Left-hand drive
- Right-hand side of road

Source: Toyota Canada

# Some things are different: Toyota Corolla NZ

- Right-hand drive
- Left-hand side of road

# Honda CBR600RR Canada

- Some things look similar


Source: Honda Canada

# Honda CBR600RR NZ


Source: Honda NZ

# But motorcycles are not cars

- Do we recognise the differences?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Source: Honda NZ and Toyota NZ

# Basis for Preparing the Guide

- NZ Safer Journeys Strategy:
  - "... a safe road system increasingly free of death and serious injury"
- For motorcycling, the Guide addresses Strategy aims of:
  - Policies for treating routes to improve safety for motorcyclists
  - Identifying high risk routes and treatment programmes for these

# Basis for Preparing the Guide

- Motorcycle crash history (2008-12):
  - 14.9% of all fatal crashes
  - 21.3% of all serious injury crashes
  - Risk of fatal or injury crash is 22 times higher for motorcyclist than car driver (vkt)
  - Around 11 fatalities per 1 million population per annum
  - Victoria (Australia) has around 7 fatalities per 1 million population - that's our maximum target

# Basis for Preparing the Guide

- Target audience:
  - RCAs
  - State highway and local road engineers
  - Planners
  - Funders
  - Policy makers
  - Road system designers
  - Road maintenance personnel
  - System users

# Basis for Preparing the Guide

- Organisations/agencies contributing

NZ TRANSPORT AGENCY
WAKA KOTAHI

MSAC
Making Motorcycling Safer
(c) Motorcycle Safety Advisory Council

ACC
PREVENTION. CARE. RECOVERY.
Te Kaporeihana Āwhina Hunga Whara

OPUS

# Key Processes Involved

- Overview:
  - Identifying, assessing and prioritising high risk routes based on crash data
  - Methodology for treatment encompassing elements of a safe system
  - Developing programmes, and evaluation and reporting framework

# Key Processes Involved

- Initial analysis.  Selected route:
  - Popular rural motorcycling route 130 km long
  - 5 fatal, 21 serious, and 20 minor crashes (2001-10)
  - Consultation with motorcycle groups
  - Ride over for inputs to pilot project

# Key Processes Involved: Pilot Study Route


Southern Coromandel Peninsula

# Key Processes Involved: Pilot Study Route


Credit: Destination Coromandel www.thecoromandel.com

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# Key Processes Involved: Pilot Study

- Analysis process involved:
  - Key stakeholders
  - Highway maintenance personnel
  - Local road safety coordinators
  - Motorcycling experts from VicRoads and Monash

# Key Processes Involved: Pilot Study

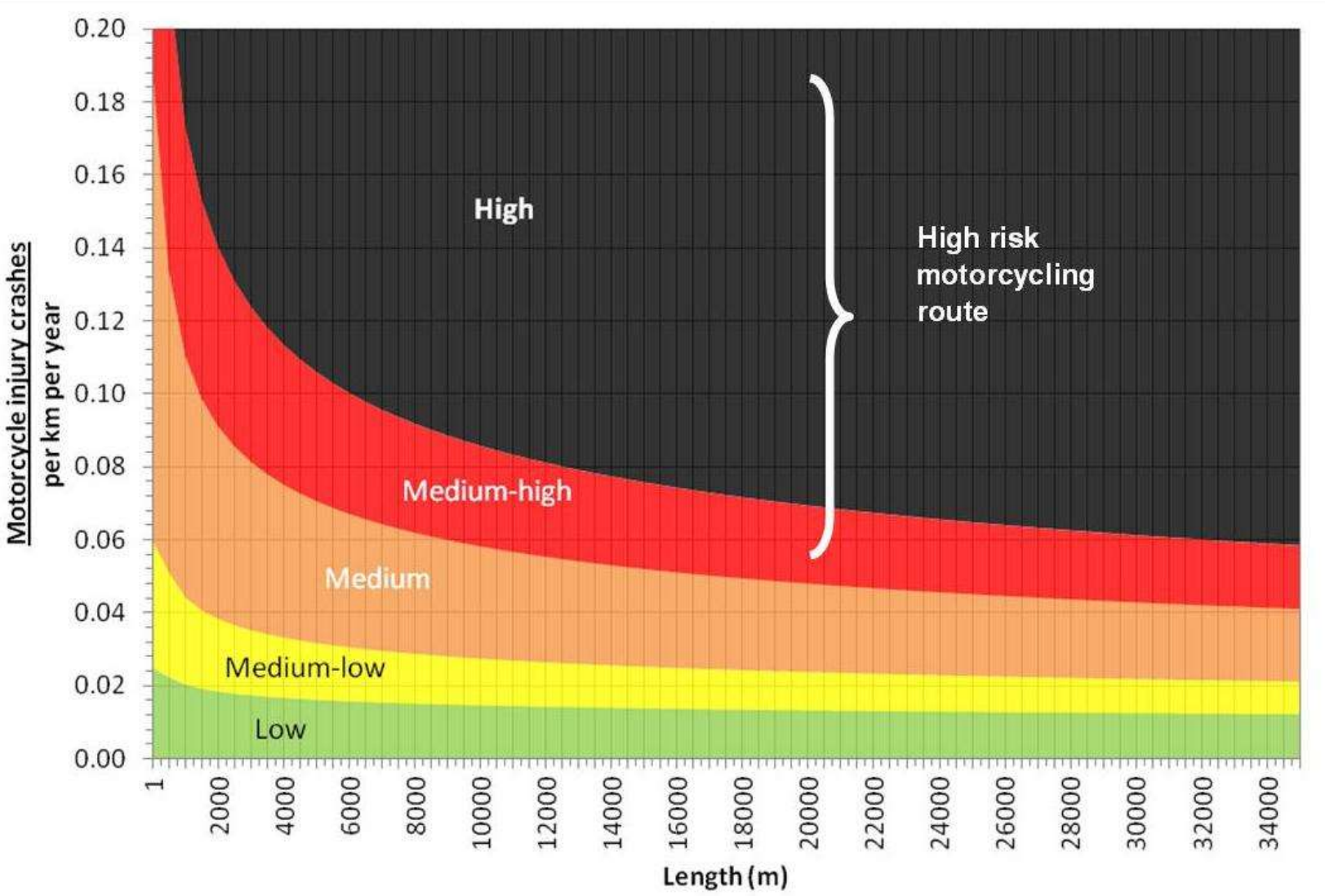
- Analysis process identified features:
  - Uneven surface condition
  - Consistency of surface condition
  - Readability of the route
  - Pavement marking gives riders guidance
  - Pavement marking – skid resistance
  - Audio Tactile Profiled (ATP) markings
  - Consistency of route delineation
  - Debris on the road surface
  - Objects in clearzones
  - Barriers

# Guide Contents: Identifying favoured and high risk routes

- Favoured = route motorcyclists frequently choose to ride
- High risk = collective risk high or medium-high
- Two or more motorcycle injury crashes in five years or four motorcycle injury crashes in 10 years in rural areas to be high risk

$$\text{Rural collective risk} = \frac{\text{Motorcycle injury crashes / number of years of data}}{\text{Length of road section}}$$

# Guide Contents: Identifying high risk routes



# Safe System Context: Four Elements

# Guide Contents: Key Issues

- Roads and roadsides element:
  - Surface conditions
  - Pavement marking and delineation
  - Hazard/roadside furniture
  - Geometry and alignment
  - Intersections

# Guide Contents: Key Issues

- Road users element:
  - Training and education
  - Rider experience
  - Fatigue
  - Rider safety gear
  - Group riding and rider position
  - Alcohol and drug use



# Guide Contents: Key Issues

- Example: Motorcyclists subject to same CBT requirements as other road users

# Guide Contents: Key Issues

- Vehicle element:
  - Maintenance
  - Power to weight for novice/learner
  - Safety features
  - Headlight performance



# Guide Contents: Key Issues

- Speeds element:
  - Too fast for conditions
  - Following distances
  - Posted speed limits



# Guide Contents: Key Issues

- Injury treatment - Post crash element:
  - Mobile phone coverage
  - Personal responsibility
  - Locator beacons to summon assistance
  - Helicopter landing areas

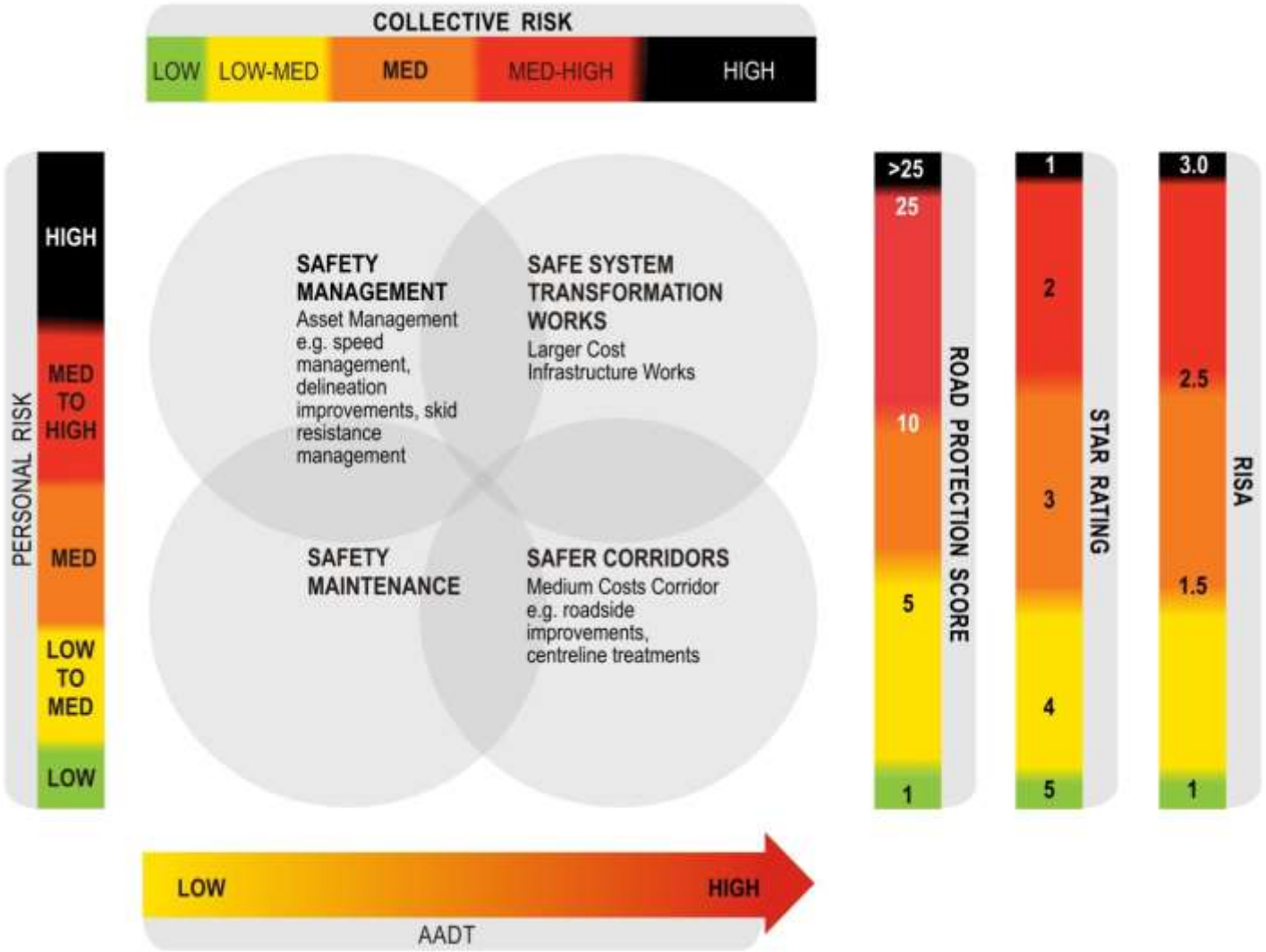
# Guide Contents: Key Issues

27 April 2014

A motorcycle rider has been seriously injured … male rider came off his bike … he was flown to Nelson Hospital in a serious condition

Three thousand minds per hour.

# Guide Contents: Countermeasures



# Guide Contents: Key Countermeasures

| Key crash type | Recommended Safe System treatments | Recommended safe corridor treatments | Recommended safety management treatments |
|---|---|---|---|
| **Run-off road** | • Roadside barriers.<br>• Clearzones.<br>• Safe System speeds. | • Wider shoulders.<br>• Improved delineation.<br>• Harm reduction speeds. | • Increased intervention levels.<br>• Skid resistance.<br>• Planting policies.<br>• Hazard removal. |

# Guide Contents: Key Countermeasures

| Key crash type | Recommended Safe System treatments | Recommended safe corridor treatments | Recommended safety management treatments |
|---|---|---|---|
| **Head-on** | • Median barriers (solid/ semi-rigid and flexible).<br>• Safe System speeds. | • Marked median treatments.<br>• ATP markings, improved delineation.<br>• VAS. However, difficult for motorcycles only.<br>• Harm reduction speeds. | • Increased intervention levels.<br>• Skid resistance.<br>• Hazard removal. |

# Guide Contents: Key Countermeasures

| Key crash type | Recommended Safe System treatments | Recommended safe corridor treatments | Recommended safety management treatments |
|---|---|---|---|
| **Crossing or turning at intersections** | • Grade-separated interchanges or overpasses.<br>• Roundabouts.<br>• Safe System speeds. | • Wider shoulders and separated turning facilities.<br>• Improved delineation.<br>• Active signs.<br>• Harm reduction speeds. | • Intervention levels.<br>• Skid resistance.<br>• Improved sight distance through various treatments. |



# Guide Contents: Understanding the Issues

- Need to understand issues behind motorcycle crashes to identify treatment; reliable crash data needed
- Guide endeavours to bridge knowledge gap for practitioners
- Safe system elements very important
- High use of route ≠ safety issues on route

# Guide Contents: Implementation, monitoring & evaluation

- Primary outcome metrics are to reduce:
  - ACC claims from motorcyclists
  - Motorcycles/mopeds riders killed/100,000 pop.
  - Percentage motorcycles/mopeds without WOF (similar to Canadian safety standards certificate) involved in crashes
  - Motorcycles/mopeds riders hospitalised for > 1 day/100,000 population

# Next Steps

- Physical works for southern Coromandel pilot project route; includes:
  - Road marking and signage to assist with guidance on curves
  - Improved surface condition
  - Works to improve visibility
  - Creating more forgiving roadsides
  - Constructing helicopter landing areas
  - Improving cell phone coverage

# Next Steps: Example

Less than 3% of vehicles on the 130 km Southern Coromandel Loop are motorcycles; yet for 2008 - 12 motorcycles accounted for 44% of all fatal and serious injury crashes

# Conclusions

- Likelihood of DSI much greater for motorcyclists than 4+ wheeled road users
- Approach for road safety treatments and programmes for motorcyclists must be different to those for other road users
- Safe system approach improves safety for all road users
- Safer Journeys for Motorcycling on New Zealand Roads is important key element to improve safety for these vulnerable road users

# Conclusions

- The work on the ground has started, now we need to follow through
- It's a team effort and we all need to work together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Source: Honda NZ and Toyota NZ


Credit: Destination Coromandel www.thecoromandel.com

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