Self-explaining rural roads

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What is SERR?

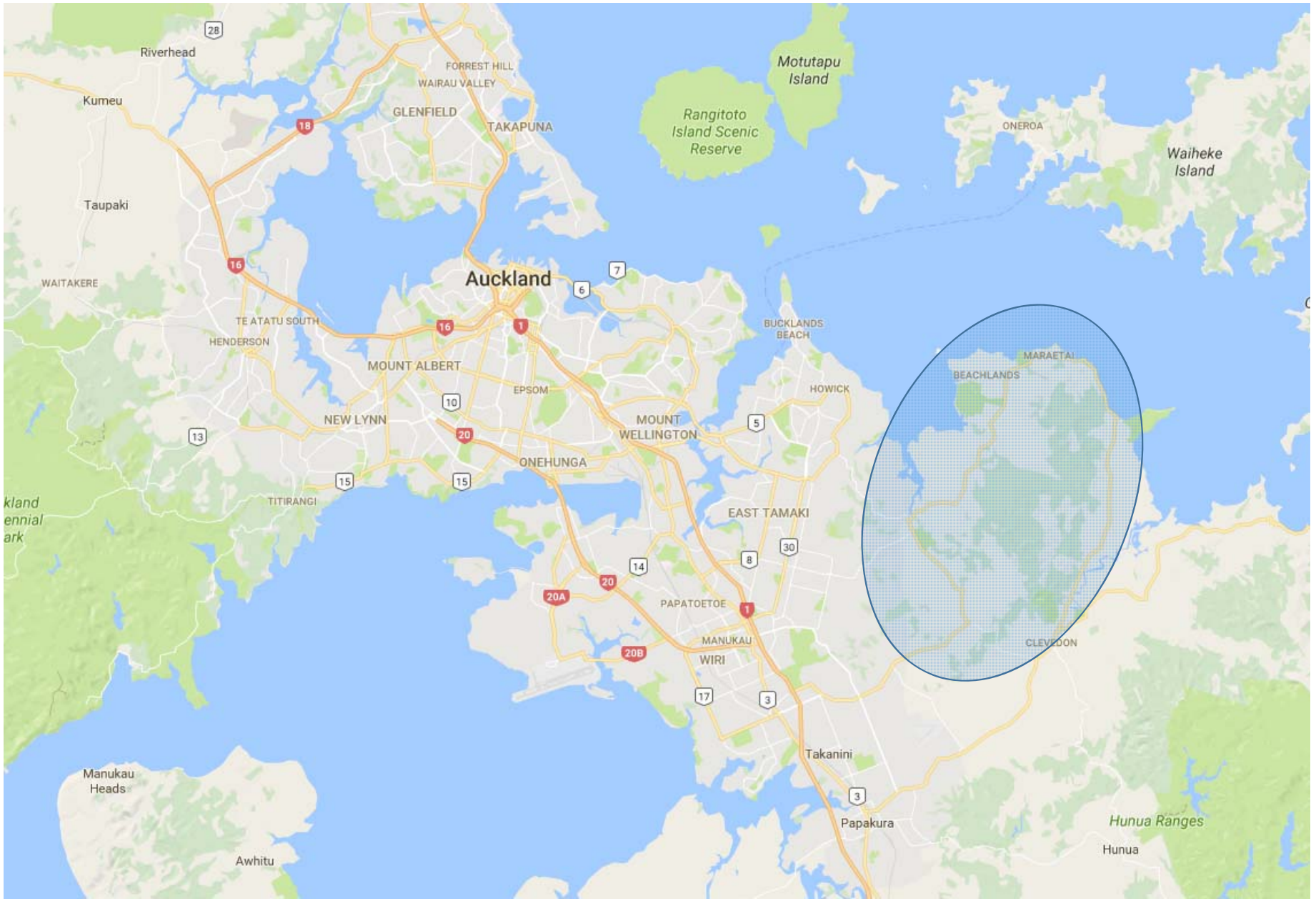
Area-wide demonstration of self-explaining roads (SER) principles in rural southeast Auckland

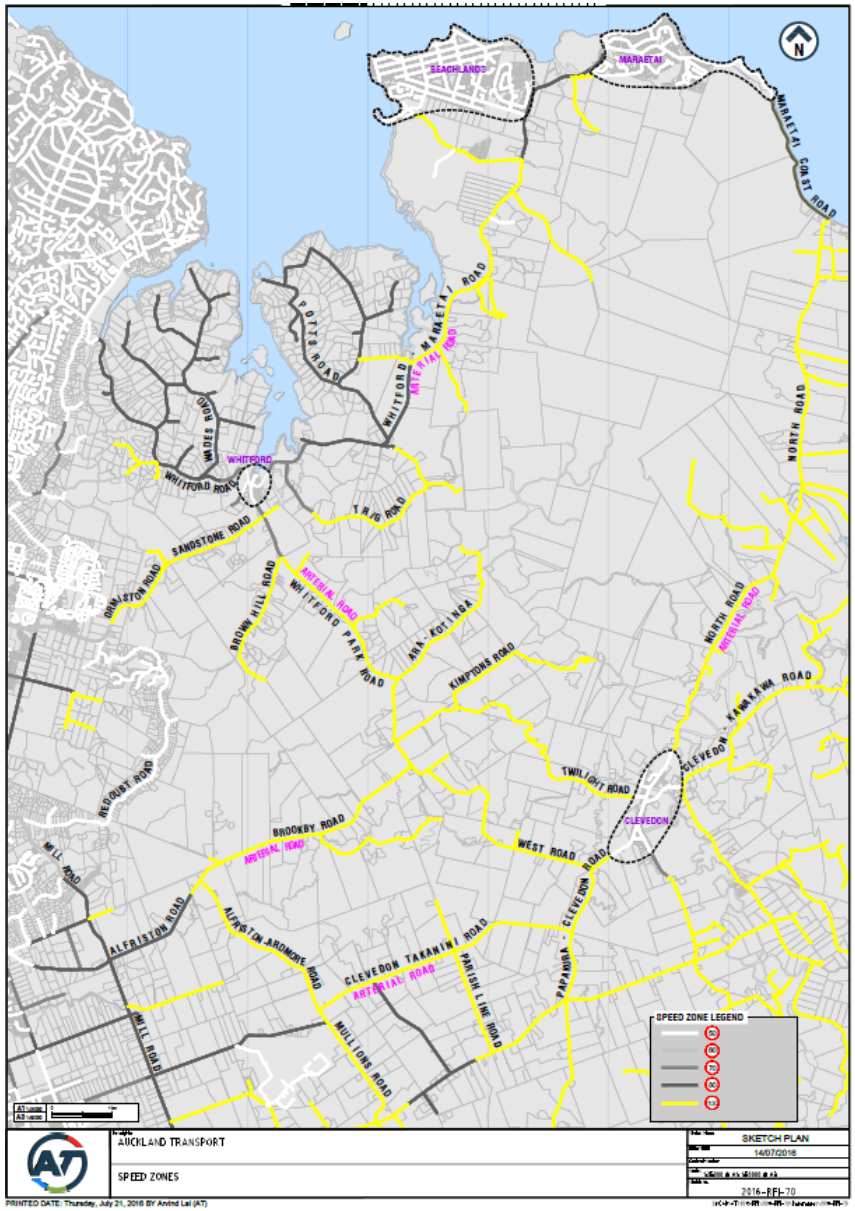
Why?

2012-2016: 6 F, 44 S, 198 M crashes. Among highest risk for rural roads in the Auckland region

SER Successfully demonstrated in urban areas

Area-wide focus


Riverhead
Kumeu
FORREST HILL
WAIRAU VALLEY
GLENFIELD
TAKAPUNA
Motutapu Island
Rangitoto Island Scenic Reserve
ONEROA
Waiheke Island
Taupaki
WAITAKERE
Auckland
TE ATATU SOUTH
HENDERSON
MOUNT ALBERT
EPSOM
NEW LYNN
ONEHUNGA
MOUNT WELLINGTON
BUCKLANDS BEACH
MARAETAI
BEACHLANDS
HOWICK
EAST TAMAKI
TITIRANGI
PAPATOETOE
MANUKAU
WIRI
CLEVEDON
Takanini
Papakura
Hunua Ranges
Hunua
Manukau Heads
Awhitu


SEACLIFFS
MARAETAI
MARAETAI COAST ROAD
POTTS ROAD
WHITFORD - MARAETAI ROAD
ARTERIAL ROAD
NORTH ROAD
WHITFORD
WHITFORD ROAD
TARA ROAD
SANDSTONE ROAD
BROWN HILL ROAD
WHITFORD PARK ROAD
ARA-KOTINGA
KIMPTONS ROAD
CLEVEDON - KAWAKAWA ROAD
TWILIGHT ROAD
CLEVEDON
WEST ROAD
BROOKBY ROAD
RED DUST ROAD
ALFRISTON ROAD
ALFRISTON ARDMORE ROAD
CLEVEDON TAKANINI ROAD
PARISH LINE ROAD
PAPAKURA - CLEVEDON ROAD
MULLIONS ROAD
SPEED ZONE LEGEND
AUCKLAND TRANSPORT
SPEED ZONES
SKETCH PLAN
14/07/2016
2016--RFI--70
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Whitford-Maraetai

Vision

A safe road system that is credible and predictable for road users through self-explaining rural roads principles

Desired outcomes

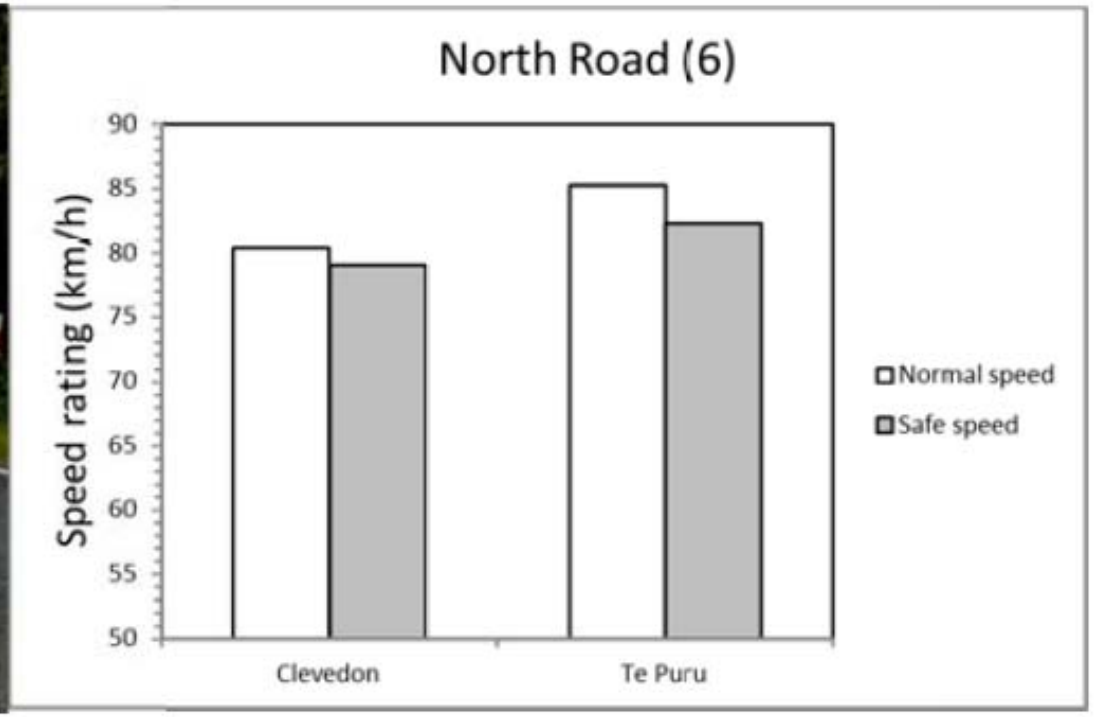
- Involve road users, stakeholders and the community to better understand local issues related to road function and design.
- Demonstrate a process for implementing SERR on an area-wide scale.
- Develop and implement changes to the road environment based on SERR principles.
- Monitor and evaluate the SERR scheme,

Community engagement

- Introduction to the project
- Workbook: perceptions of speed
- Verbal discussion

Community engagement

Winding and narrow, 100 km/h often too fast, Trucks, cyclists, narrow bridges, changing land-use

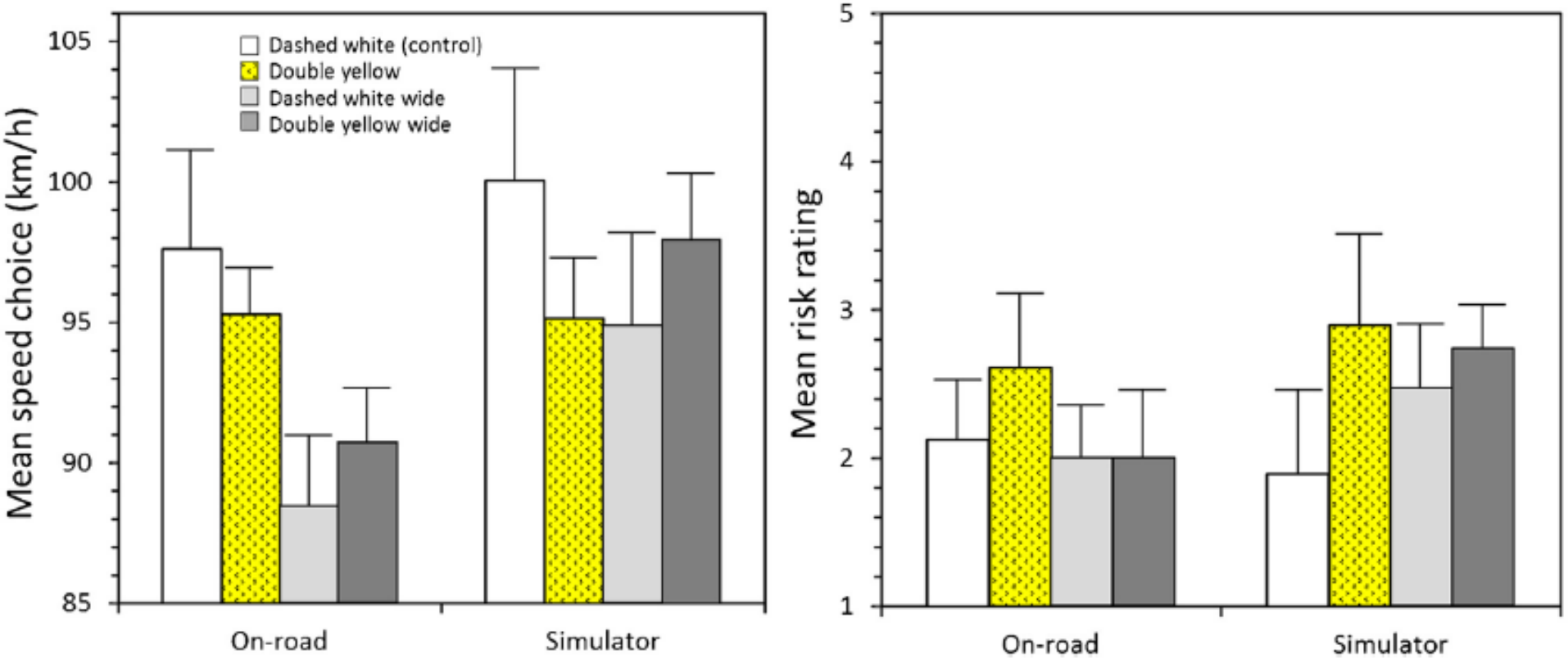


Functional road types

Road Type	Design goals, reflecting desired function
Village roads	Change in road, vulnerable road users, lower speed, reinforce place
Rural arterials	Arterial look and feel Improve Speed homogeneity Promote lane keeping and reduce error likelihood
Local rural roads	No specific improvements except as required
Amenity road	Reinforce scenic and recreational functions Improve safety for vulnerable road users and afford shared use among road user types

Treatment approach

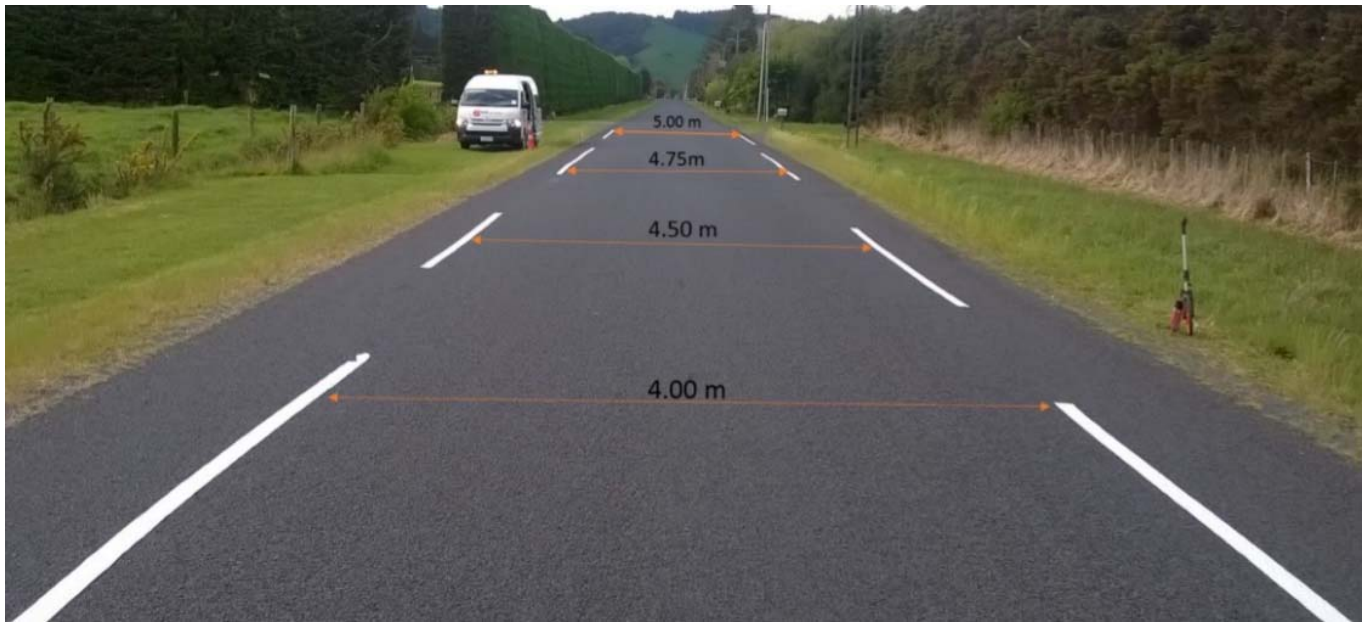
- Area-wide
- Self-explaining roads: Functionality, homogeneity, predictability
- Safe System for all road users
- Safety maintenance: improvement as maintenance needed



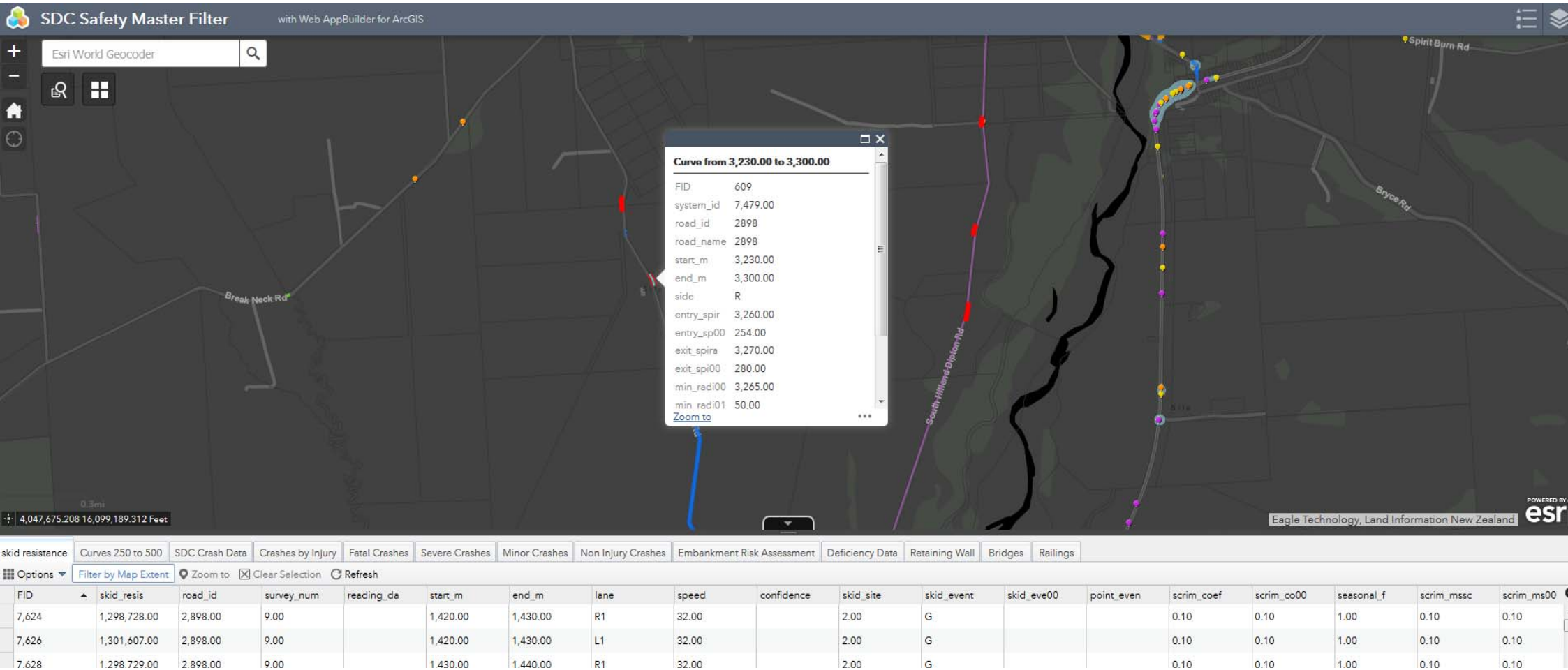
Mean speed and risk ratings for four different types of centreline for an on-road group and simulator group. Error bars indicate 95% confidence intervals. On-road group n=23, simulator group n=19. (Source: Charlton and Starkey 2016).

Design options

Experimenting



What to do and where?



skid resistance | Curves 250 to 500 | SDC Crash Data | Crashes by Injury | Fatal Crashes | Severe Crashes | Minor Crashes | Non Injury Crashes | Embankment Risk Assessment | Deficiency Data | Retaining Wall | Bridges | Railings

Options | Filter by Map Extent | Zoom to | Clear Selection | Refresh

FID	skid_resis	road_id	survey_num	reading_da	start_m	end_m	lane	speed	confidence	skid_site	skid_event	skid_eve00	point_even	scrim_coef	scrim_co00	seasonal_f	scrim_mssc	scrim_ms00
7,624	1,298,728.00	2,898.00	9.00		1,420.00	1,430.00	R1	32.00		2.00	G			0.10	0.10	1.00	0.10	0.10
7,626	1,301,607.00	2,898.00	9.00		1,420.00	1,430.00	L1	32.00		2.00	G			0.10	0.10	1.00	0.10	0.10
7,628	1,298,729.00	2,898.00	9.00		1,430.00	1,440.00	R1	32.00		2.00	G			0.10	0.10	1.00	0.10	0.10

Challenges and more work needed

- Interrupted progress
- Need for unified approach to treating roads
- Integration with national programmes (e.g. Speed Management)
- Special areas (by sea and iconic cycling routes?)

Thank you!