AGENDA

January 13, 2021

TRB Pedestrian and Bicycle Safety Analysis (Joint Subcommittee ACS20, ACH10 & ACH20)

Wednesday January 13, 2021
Noon – 1:30 pm
Online

Noon – 12:15 pm	**Welcome and Introductions** **Purpose of Subcommittee** **What has been going on since last AM?** Thomas Jonsson & Shane Turner
12:15 – 12:40 am	**Short presentations from current relevant research projects** - *Speed Management* (Shane Turner) - *Combining Police and Hospital crash data* (Thomas Jonsson)
12:40 – 12:50 am	**Other ongoing projects / announcements / conferences**
12:50 – 1:20 pm	**Research Needs Statements** Group discussions
1:20 – 1:30 pm	**Vote on RNS to go forward with** **Sign up for involvement**

NTNU – Trondheim
Norwegian University of
Science and Technology

Combining Hospital and Police Crash Data

Thomas Jonsson

TRB 2021

Traditional crash data

- Most countries use mostly, or solely, police reported crashes as measure of traffic safety
- Adding hospital data opens up a whole new world - especially regarding vulnerable road users

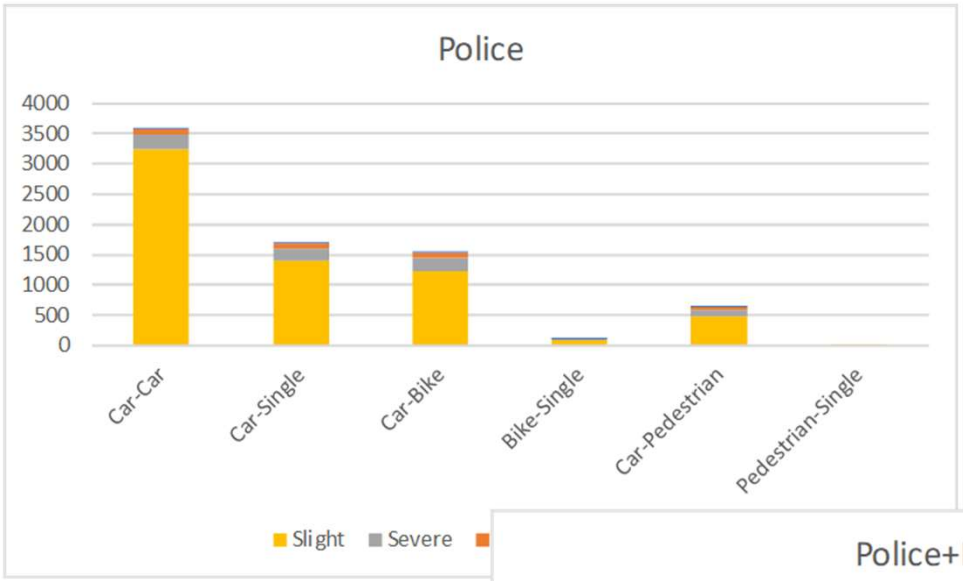
- Swedish TRaffic Accident Data Acquisition (STRADA)
  - Started in late 90's adding data from emergency units at hospitals to the already existing police data
  - Matching police and hospital crashes to each other to combine the data

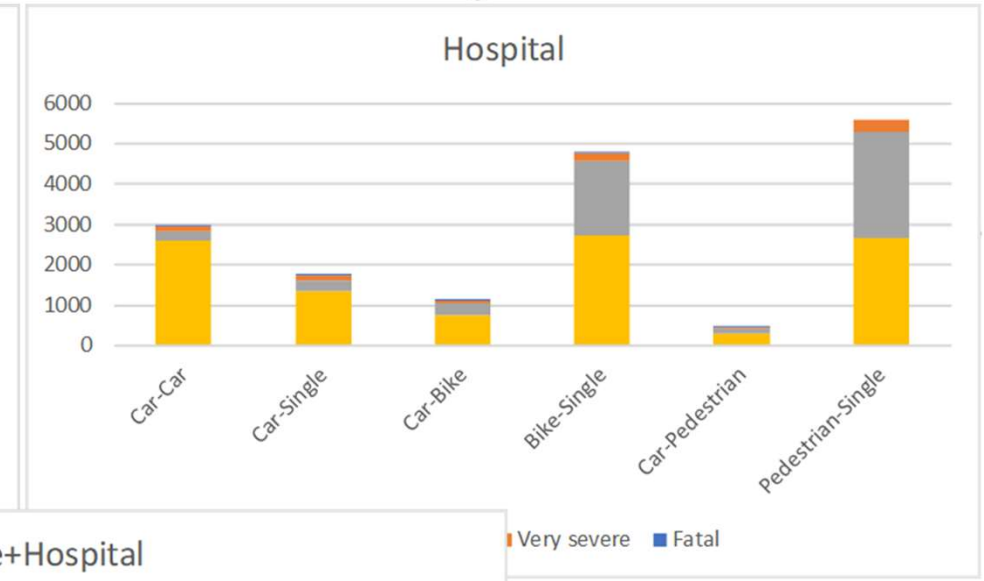
Police vs. Hospital crash data

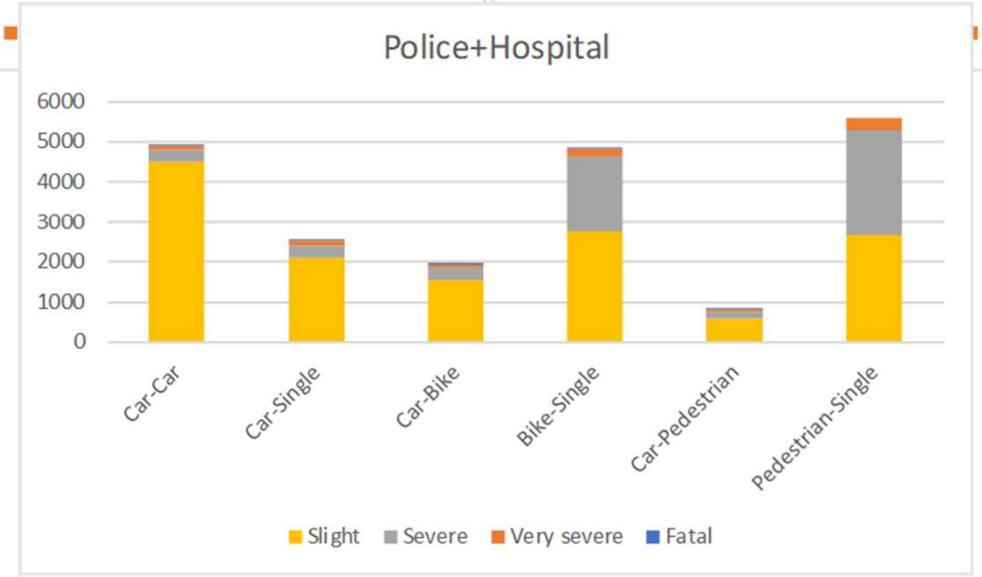
- Police
  - Focus on where, when and how
  - Weak on consequences
- Hospital
  - Focus on consequences
  - Weak on where and how

Police and Hospital data complement each other

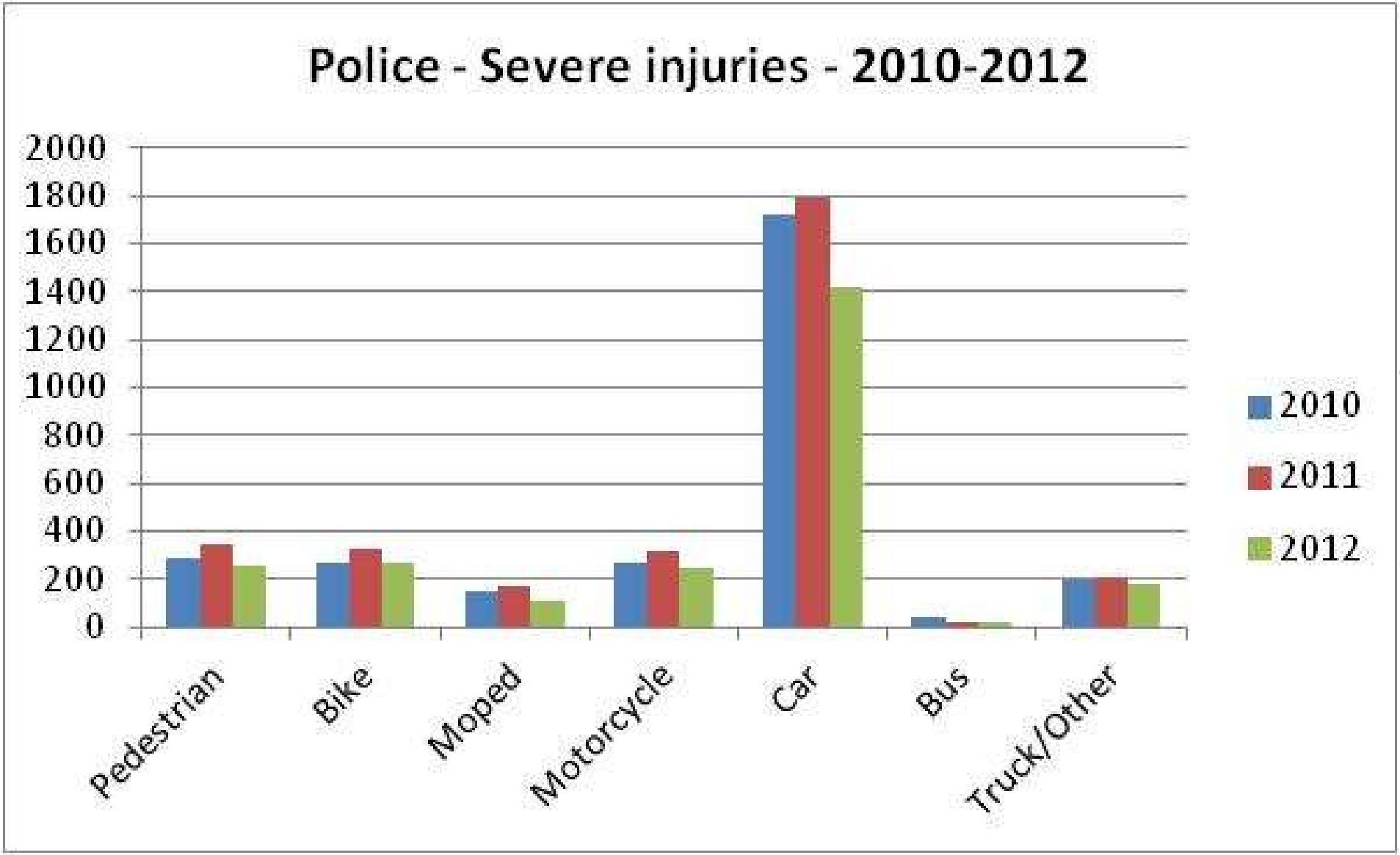
Skåne 2015-2017



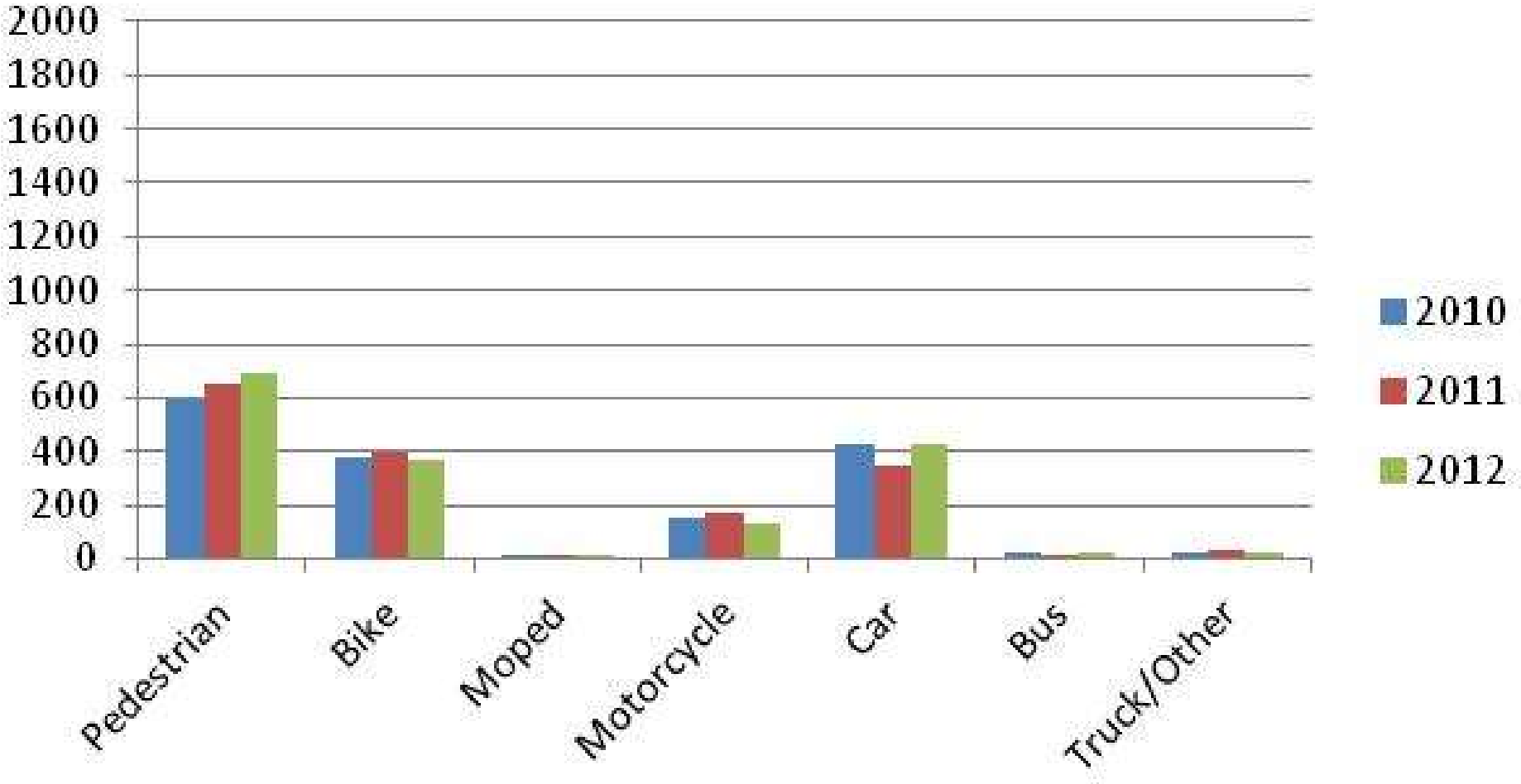




NTNU – Trondheim
Norwegian University of Science and Technology


Police - Severe injuries - 2010-2012
2000
1800
1600
1400
1200
1000
800
600
400
200
0
Pedestrian
Bike
Moped
Motorcycle
Car
Bus
Truck/Other
2010
2011
2012

Hospital - Severe injuries (ISS 9+) - 2010-2012



Main conclusions

- Basing traffic safety analysis on police data causes us to focus on safety related to cars
- Adding hospital data causes us to focus on safety related to pedestrians and bicyclists
- With only police data available the socio-economic prioritization will favor road and street design for cars

Challenges

- Much of hospital data is sensitive and protected
- Recent EU-regulation on privacy of data makes this even more so:
  GDPR - General Data Protection Regulation (EU 2016/679)
  - Sweden: Recently restricted access to STRADA due to privacy concerns
  - Norway: Recently restricted access to severity-data due to privacy concerns
- How do we work with privacy concerns in order to ensure privacy and still being able to use hospital data?

TRB 2021

NTNU – Trondheim
Norwegian University of
Science and Technology

Pedestrian and Bicycle Safety Analysis Subcommittee ACS20(4)

Joint subcommittee of ACS20, ACH10, ACH20
Co-chairs:Thomas Jonsson & Shane Turner

Sign In

- https://odot.formstack.com/forms/trb_acs20_sign_in2021_pb

SCAN ME

NTNU – Trondheim
Norwegian University of
Science and Technology

Agenda

Noon – 12:15 pm	**Welcome and Introductions** **Purpose of Subcommittee** **What has been going on since last AM?** Thomas Jonsson & Shane Turner
12:15 – 12:40 am	**Short presentations from current relevant research projects** - *Speed Management* (Shane Turner) - *Combining Police and Hospital crash data* (Thomas Jonsson)
12:40 – 12:50 am	**Other ongoing projects / announcements / conferences**
12:50 – 1:20 pm	**Research Needs Statements** Group discussions
1:20 – 1:30 pm	**Vote on RNS to go forward with** **Sign up for involvement**

Pedestrian and Bicycle Safety Analysis Subcommittee ACS20(4)

- Joint subcommittee of ACS20, ACH10, ACH20
- Co-chairs:
  - Thomas Jonsson, Norway
  - Shane Turner, New Zealand

- Purpose:
  Pedestrian and Bicycle Safety Analysis ☺

What's new?

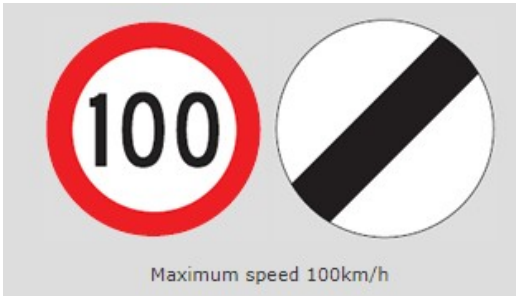
- New webpage https://sites.google.com/mail.usf.edu/trb-pedestrian-bicycle-safety
  Thanks to Chunfu Xin
- Online meetings to discuss RNS
- COVID-19

Applying the Speed Management Guide to New Zealand Cities

Old Speed Management Guidelines

- Not safe system compliant
- Based on type and intensity (based on access and side-road) of road-side development
- Did not acknowledge how safe the road was at different speeds

- No link with risk of deaths and serious injuries for various crash types
- No link between infrastructure and appropriate speeds



Role of Speed in Crashes

Move to Safer Speeds

NZ Speed Management Guide

- A nationally consistent approach to speed management (State Highways and LGAs)
- Deliver both Safe Speeds and network efficiency
- **Assist local councils to prioritise 'high benefit' speed management opportunities**
- Support a new conversation on road risk and speed

<table>
<tr><th>Classification</th><th>Straight open road /urban motorways</th><th>Curved open road</th><th>Winding open road</th><th>Urban (not motorway)</th></tr>
<tr><td>Class 1
High volume national</td><td>100–110km/h[7]

Depends on design and safety risk (e.g. divided 4-5 star, grade separated intersections, safety barriers) and factoring in enforcement thresholds</td><td rowspan="3"></td><td rowspan="3">60-80km/h</td><td></td></tr>
<tr><td>Class 2
National, Regional, Arterial</td><td rowspan="2">80-100km/h
Depends on safety risk and whether volumes justify investment to bring the road up to 3 star equivalent, also enforcement thresholds</td><td>50km/h

60-80km/h where safety risk allows, e.g. fewer intersections, mode separation for active users</td></tr>
<tr><td>Class 3 Primary and secondary collector</td><td>30-50km/h

30km/h if high volumes of cyclists/pedestrians
Recognise access and place

10km/h for Shared Spaces</td></tr>
<tr><td>Class 4
Access and low-volume access
All winding/tortuous</td><td colspan="3">60-80km/h
Depending on roadside development, pedestrian and cyclist volumes, whether sealed or not</td></tr>
</table>

Auckland's Safe Speed Areas

The safe speed programme has been classified into five areas to allow for targeted treatments for each area.

Area	Typical treatments
Town centres	Gateway entry treatments, raised tables, raised zebra crossing, road narrowing, kerb realignment, pedestrian improvements, place marking, reduced posted speed limit.
Auckland city centre	Gateway features, kerb realignment, pedestrian improvements, place marking features, reduced posted speed limits and traffic signal phasing improvements.
High risk rural roads	Setting a speed limit for a safe road environment, improved road signs and markings.
Residential roads	Speed humps, speed table, raised intersections, zebra crossings, reduced speed limit and gateway entry treatments.
High risk urban roads	Setting a speed limit for a safe road environment, improved road signs and markings.

In 2018/19 approximately 760 km of roads are being treated consisting of:

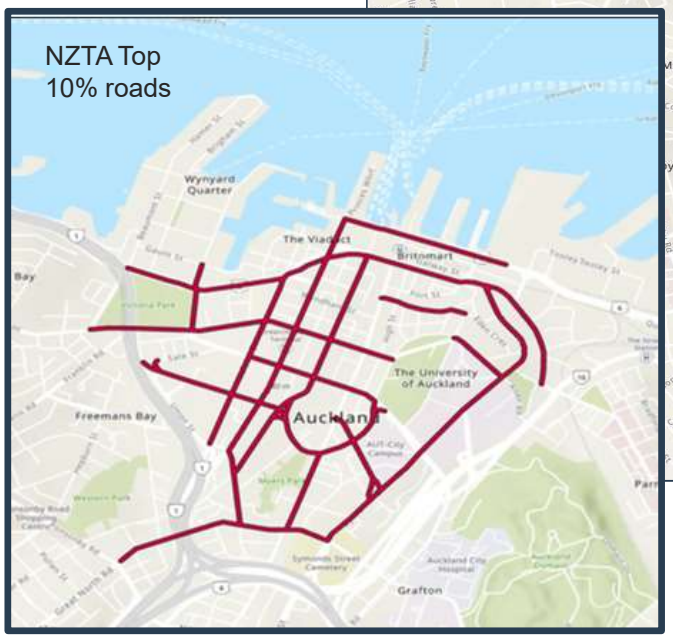
- **8.6km - Town centres (much more to do)**
- **46.4km - City Centre (all of the central city)**
- 686.6km - Rural Roads (focus on top 10% plus adjoining roads).
- 17.6km - Residential roads.

In addition a further 68km of roads will be modified due to customer requests and or changes required to meet the technical requirements of the speed setting rule.

Years 2 and 3 will see a continuation of delivery of the top 10% high risk roads, an additional seven town centres, more residential areas and a more detailed assessment of the urban high risk roads.

Auckland Transport
An Auckland Council Organisation

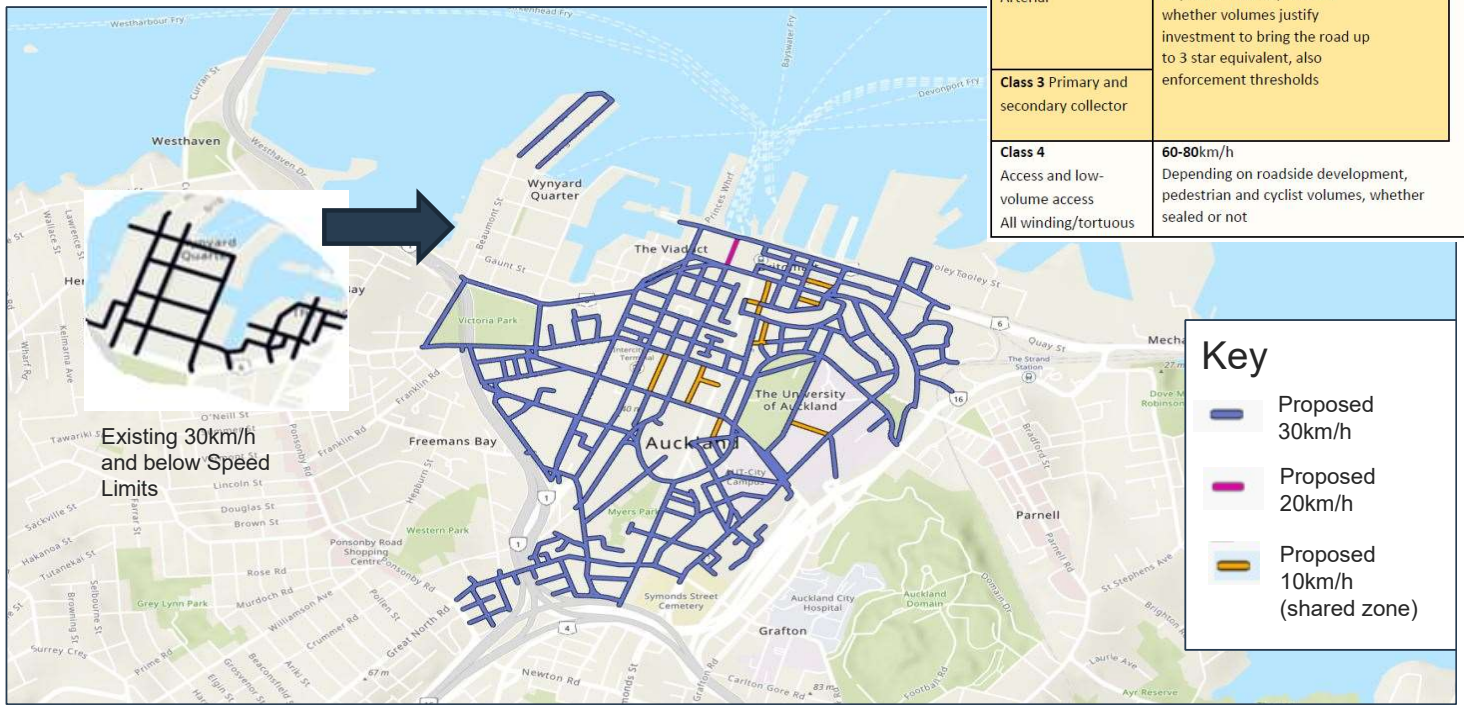
Proposed Safe Speed Limit for City Centre



Auckland Transport
An Auckland Council Organisation

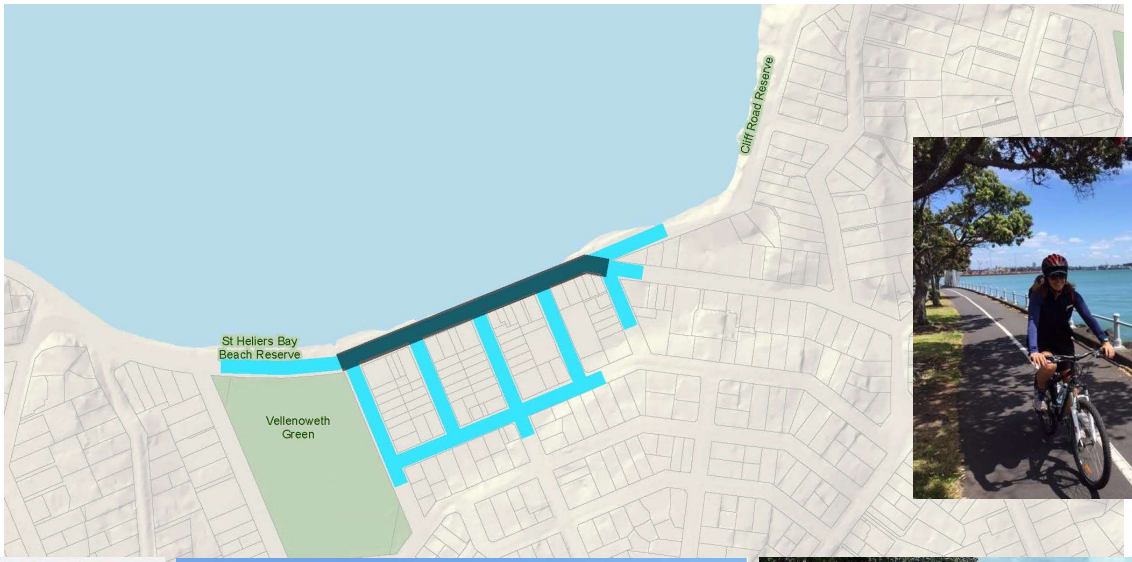
Proposed Speed Limits

Classification	Straight open road /urban motorways	Curved open road	Winding open road	Urban (not motorway)
Class 1 High volume national	**100–110km/h**[7] Depends on design and safety risk (e.g. divided 4-5 star, grade separated intersections, safety barriers) and factoring in enforcement thresholds			
Class 2 National, Regional, Arterial	**80-100km/h** Depends on safety risk and whether volumes justify investment to bring the road up to 3 star equivalent, also enforcement thresholds		**60-80km/h**	50km/h 60-80km/h where safety risk allows, e.g. fewer intersections, mode separation for active users
Class 3 Primary and secondary collector				30-50km/h 30km/h if high volumes of cyclists/pedestrians Recognise access and place
Class 4 Access and low-volume access All winding/tortuous	**60-80**km/h Depending on roadside development, pedestrian and cyclist volumes, whether sealed or not			10km/h for Shared Spaces



Auckland Transport
An Auckland Council Organisation

St Helier's Town Centre, Top 10% (From NZTA list)

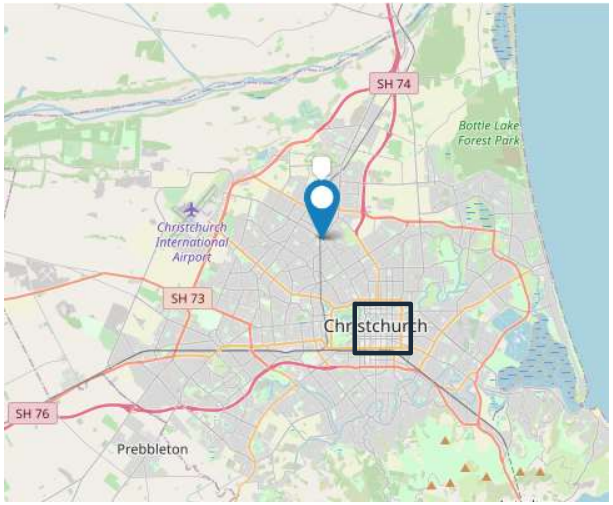


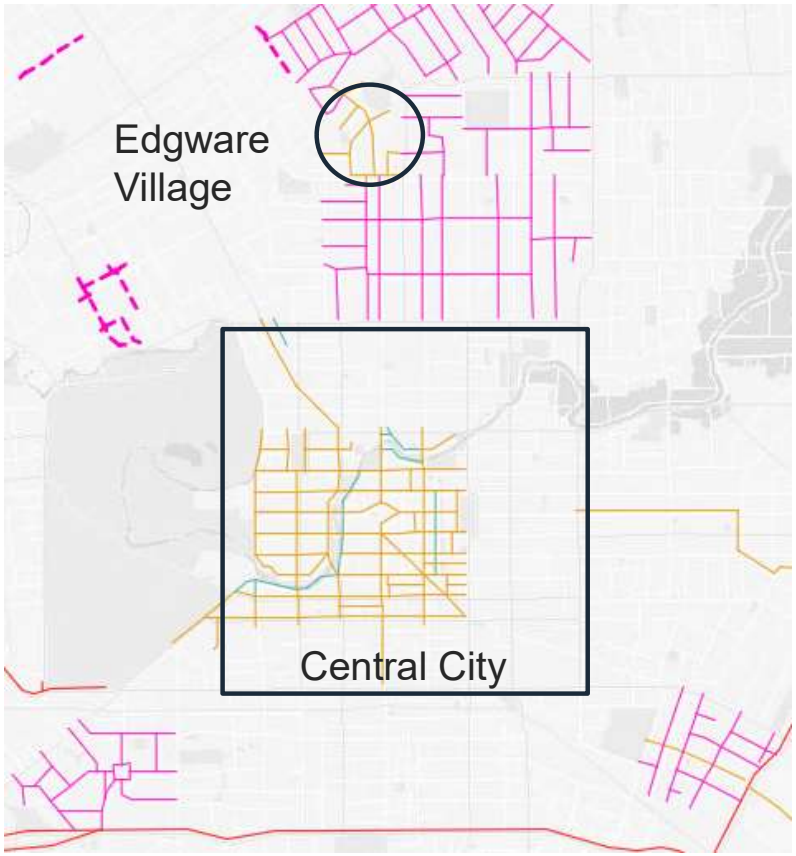
Key

- Proposed 30km//h
- Top 10%

Auckland Transport
An Auckland Council Organisation

Christchurch City 30s and 40s





Permanent speed limits (km/h)

- 10
- 20
- 30
- 40
- 60
- 70
- 80
- 100

Engagement

Speed is a highly sensitive topic!

A new approach and perspective to implementation, focussed on:

- Talking about speed management rather than speed limits
- Early engagement with stakeholders
- Gradually building public understanding and support for speed management interventions
- Pace of change is very important - how many roads?
- Understand relationship between reduced speed and travel time

Objective - Build public understanding of road risk resulting in safer choices by communities and individuals

Dr Shane Turner
Technical Director

E shane.turner@abley.com
P +64 27 495 5048
researchgate.net/profile/Shane_Turner6

www.abley.com

iRAP ACCREDITED

abley