Equity in road harm in Auckland

Analysis of equity factors in road deaths and serious injuries

December 2022

Equity in road harm in Auckland: Summary

This research explores equity in road harm in Auckland considering age, ethnicity, mode of travel and deprivation. The analysis looks at data from the Waka Kotahi Crash Analysis System, Stats NZ population data, and the Ministry of Transport Household Travel Survey.

Key findings:

Age:

- Children under 15 make up 6% of road deaths and serious injuries in Auckland
- Young adults (15 to 29 years old) make up 21% of Auckland's population and 37% of road deaths and serious injuries
- Older people (65+ years old) make up 12% of Auckland's population and 24% of walking road deaths and serious injuries

Ethnicity and Gender:

- Māori make up 12% of Auckland's population and 16% of road deaths and serious injuries
- Males are two times more likely than females to be killed or seriously injured on Auckland roads

Mode of travel:

- Walking makes up 1.2% of distance travelled in Auckland and 12% to 36% of road deaths and serious injuries
- Cycling makes up 0.6% of distance travelled in Auckland and 15% of road deaths and serious injuries
- Motorcycling/mopeds make up 0.3% of distance travelled in Auckland and 18% of DSI

Age:

Children under the age of 15 do not drive or make many of their travel choices and make up 6% of all deaths and serious injuries on Auckland roads*

Road deaths and serious injuries (DSIs) of children aged 0-14, Auckland, 2017-2021

	2017	2018	2019	2020	2021	Total
Fatal Injury	1	2	0	2	2	7
Serious Injury	48	40	31	28	28	175
Total DSIs	49	42	31	30	30	182

* Based on road deaths and serious injuries recorded in the Waka Kotahi Crash Analysis System, 2017 to 2021.

Age:

Young adults (15 to 29 years old) make up 21% of Auckland's population and 37% of all deaths and serious injuries on Auckland roads*

Young adults (15 to 29 years old) are almost two times more likely to be killed or seriously injured in a road accident in Auckland than adults 30+ years old*

* Population based on Stats NZ subnational population estimates, 2021. Road deaths and serious injuries based on the Waka Kotahi Crash Analysis System, 2017-2021.

Age:

Older people (65+ years old) make up 12% of Auckland's population and 24% of all walking deaths and serious injuries*

Older people (65+ years old) are two times more likely to be killed or seriously injured while walking in Auckland than people younger than 65 years old*

* Population based on Stats NZ subnational population estimates, 2021. Road deaths and serious injuries based on the Waka Kotahi Crash Analysis System, 2017-2021.

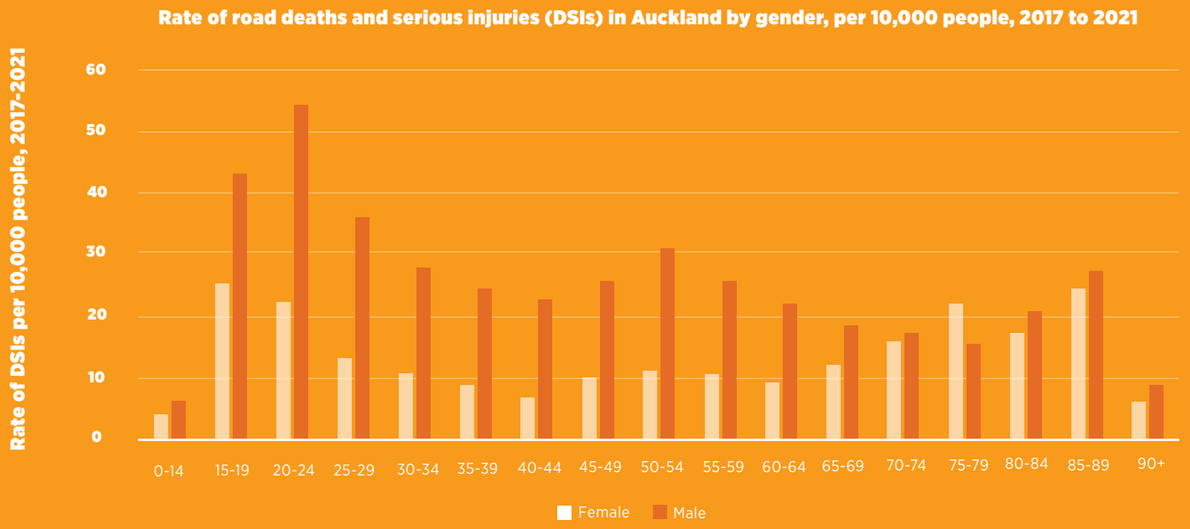
Ethnicity:

Māori make up 12% of Auckland's population* and 16% of road deaths and serious injuries in the Waka Kotahi Crash Analysis System, 2017-2021**

* Population based on Stats NZ subnational population estimates, 2018.
** Road deaths and serious injuries based on the Waka Kotahi Crash Analysis System, 2017-2021. Ethnicity in the Waka Kotahi Crash Analysis System is not self-reported, and a significant proportion of reported serious injuries are recorded with unknown ethnicity. The 2021 He Pūronga Whakahaumaru Mō Ngā Iwi Māori - Māori Road Safety Outcomes Report states that around 80% of Māori injured in a crash are recorded as Māori in the Waka Kotahi Crash Analysis System. Further work is in progress to look at overnight hospitalisation data for road-related serious injuries for Māori

Gender:

On average, males are twice as likely to be killed or seriously injured on Auckland roads than females*



* Population based on Stats NZ subnational population estimates, 2021. Road deaths and serious injuries based on the Waka Kotahi Crash Analysis System, 2017-2021.

Mode of Travel:

Walking makes up 1.2% of distance and 10% of hours travelled in Auckland*, and 12% to 36% of deaths and serious injuries**

* Based on Ministry of Transport's 2015-2018 Household Travel Survey.

** Road deaths and serious injuries based on the Waka Crash Analysis System, 2017-2021. Data has been adjusted to account for under-reporting using scaling factors as outline in ViaStrada, 2021. The lower end of the range excludes single-party pedestrian crashes, and the upper end of the range includes single-party crashes (such as slips, trips, and falls).

Mode of Travel:

Cycling makes up 0.6% of distance and 1.2% of hours travelled in Auckland*, and 15% of deaths and serious injuries**

* Based on Ministry of Transport's 2015-2018 Household Travel Survey.

** Road deaths and serious injuries based on data from the Waka Kotahi Crash Analysis System, 2017-2021. Data has been adjusted to account for under-reporting using scaling factors as outlined in ViaStrada, 2021. Includes single-party crashes.

Mode of Travel:

Motorcycling or travelling by moped makes up 0.3% of distance and 0.2% of hours travelled in Auckland*, and 18% of deaths and serious injuries**

* Based on Ministry of Transport's 2015-2018 Household Travel Survey.

** Road deaths and serious injuries based on data from the Waka Kotahi Crash Analysis System, 2017-2021. Data has been adjusted to account for under-reporting using scaling factors as outlined in ViaStrada, 2021. Includes single-party crashes.

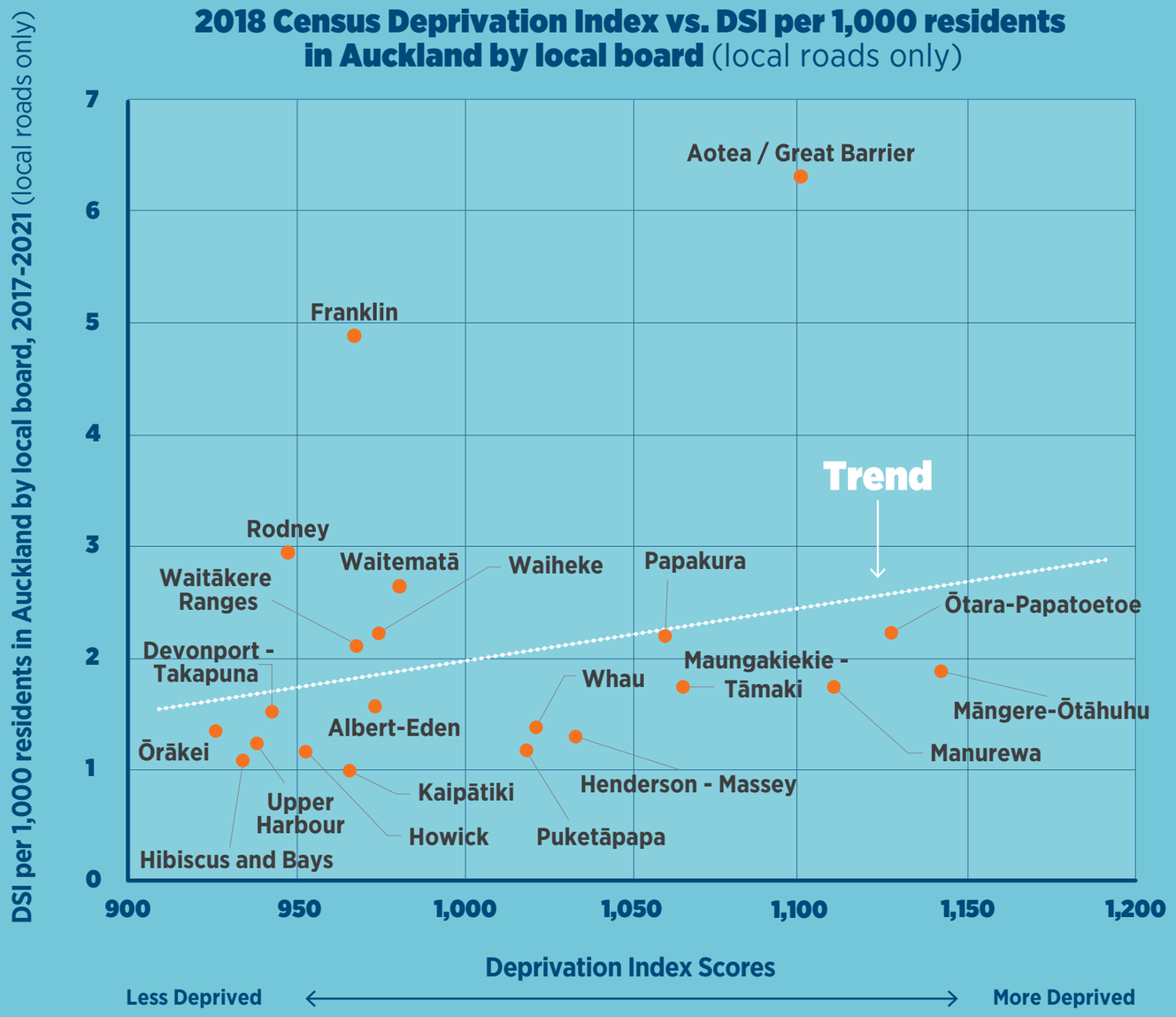
Local Boards:

Deaths and serious injuries per 1,000 people

Deaths and serious injuries
per 1000 people*

Auckland Mean	1.99
Aotea/Great Barrier	5.34
Franklin	3.93
Rodney	2.94
Waitematā	2.47
Ōtara - Papatoetoe	2.23
Waiheke	2.21
Papakura	2.15
Waitākere Ranges	2.07
Maungakiekie - Tāmaki	1.91
Māngere - Ōtāhuhu	1.89
Manurewa	1.85
Devonport - Takapuna	1.48
Albert - Eden	1.46
Ōrākei	1.40
Whau	1.36
Henderson - Massey	1.34
Howick	1.31
Upper Harbour	1.24
Puketāpapa	1.22
Hibiscus and Bays	1.11
Kaipātiki	0.87

* Based on 2018 Census data of usually-resident population, and road deaths and serious injuries recorded in the Waka Kotahi Crash Analysis System, 2017-2021 (mean values). Note that people involved in a crash in a local board may not be residents of that local board. State Highway data has been excluded as this is likely to reflect higher numbers of non-residents involved in crashes. Note that DSI rates for local boards with small populations may be affected by smaller variations in numbers.



Local Boards:

Deaths and serious injury rates increase with deprivation

Based on 2018 Census data of usually-resident population, and road deaths and serious injuries recorded in the Waka Kotahi Crash Analysis System, 2017-2021. Note that people involved in a crash in a local board may not be residents of that local board. State Highway data has been excluded as this is likely to reflect higher numbers of non-residents involved in crashes. Note that DSI rates for local boards with small populations may be affected by smaller variations in numbers. Deprivation index scores taken from Auckland Council Research and Evaluation Unit (RIMU).

Local Boards:

Active road users: deaths and serious injuries per 1,000 people

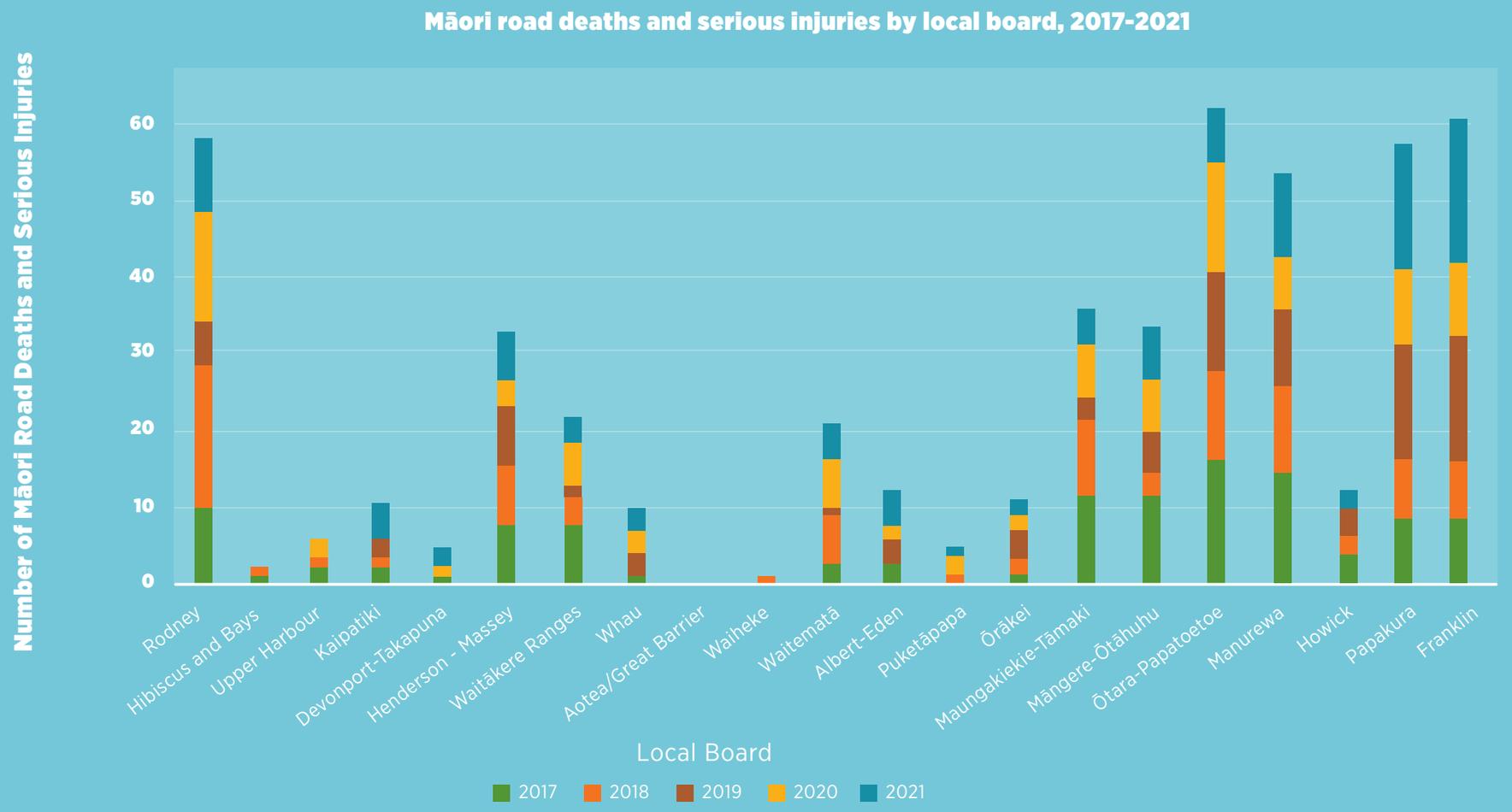
Deaths and serious injuries
per 1000 people*

Auckland Mean	0.44
Waitematā	1.42
Hibiscus and Bays	1.28
Puketāpapa	1.28
Devonport - Takapuna	0.78
Ōtara - Papatoetoe	0.56
Albert - Eden	0.55
Maungakiekie - Tāmaki	0.51
Whau	0.49
Papakura	0.49
Waitākere Ranges	0.48
Ōrākei	0.46
Waiheke	0.44
Manurewa	0.41
Howick	0.38
Upper Harbour	0.38
Māngere - Ōtāhuhu	0.37
Henderson - Massey	0.36
Kaipātiki	0.32
Franklin	0.28
Rodney	0.12
Aotea/Great Barrier	0.00

* Based on 2018 Census data of usually-resident population, and road deaths and serious injuries recorded in the Waka Kotahi Crash Analysis System, 2017-2021 (mean values). Note that people involved in a crash in a local board may not be residents of that local board. State Highway data has been excluded as this is likely to reflect higher numbers of non-residents involved in crashes. Note that DSI rates for local boards with small populations may be affected by smaller variations in numbers. Active road users include people on bikes, foot, skateboards/skates, and wheelchairs/mobility scooters.

Local Boards:

Māori road deaths and serious injuries by local board, 2017-2021



*Based on the Waka Kotahi Crash Analysis System, 2017-2021. Ethnicity in the Waka Kotahi Crash Analysis System is not self-reported, and a significant proportion of reported serious injuries are reported with unknown ethnicity. The 2021 He Pūronga Whakahaumaru Huarahi Mō Ngā Iwi Māori – Māori Road Safety Outcomes Report states that around 80% of Māori injured in a crash are recorded as Māori in the Waka Kotahi Crash Analysis System.

References and Acknowledgements:

1. Waka Kotahi Crash Analysis System. All road data from 2017-2021 for the Auckland region, unless local road data use is specifically noted.
2. Stats NZ, 2021. Subnational population component changes and median age (RC, TA) at 30 June 2018-2021 (2021 boundaries).
3. Stats NZ, 2018. New Zealand Census: Usually-Resident Population data.
4. Ministry of Transport. Household Travel Survey, 2015-2018.
5. Waka Kotahi, 2021. He Pūrongo Whakahaumaru Mō Ngā Iwi Māori - Māori Road Safety Outcomes Report.
6. Hosking, J. et al., 2013. Social and geographical differences in road traffic injury in the Auckland region. University of Auckland.
7. ViaStrada, 2021. Safety of People Travelling Outside Vehicles, Deep Dive Review: First and Second Phase.
8. Auckland Council Research and Evaluation Unit (RIMU), communication Dec 2021.
9. Safekids Aotearoa. Position Paper: Child Pedestrian Injury Prevention. Auckland, Safekids Aotearoa, 2017.

Auckland Transport would like to thank the Safety Collective Tāmaki Makaurau and Brian Osborne, Auckland Council Research and Evaluation Unit (RIMU) for their valuable input and comments.

Thank you