



# COVID-19 transport impact in New Zealand

Australian Transport Data Action Network

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New Zealand Government

# Disclaimer

This presentation is based on research currently being undertaken by Ipsos on behalf of Waka Kotahi NZ Transport Agency. In order to support an agile response to the unfolding COVID-19 pandemic, we are releasing regular key insights from the preliminary findings prior to this work being finalised. Please note that these deliverables have not yet been through a formal peer review process and the findings should be considered as draft

While Waka Kotahi provided investment, the research was undertaken independently, and the resulting findings should not be regarded as being the opinion, responsibility or policy of Waka Kotahi or indeed of any NZ Government agency.

For more information on the COVID-19 weekly tracker contact:  
[NZTAresearch@nzta.govt.nz](mailto:NZTAresearch@nzta.govt.nz).

# COVID-19 Transport Impact Study purpose and design

## Description

- Continuously monitor and assess the impacts of COVID-19 on New Zealanders' transport choices
- Investigates how **transport choices**, **attitudes** and **perceptions** are changing
- Help to understand, respond and influence future travel habits

## Study design

- Online 15 minute quantitative survey of a nationally representative sample
- Weekly sample (in alert level 2 and above) of about 1,260 (15+ yr olds), including those with disability

## Surveying weekly, then as needed, 24 waves to date

Since Friday 3 April (alert level 4 began Thursday 26 March)

**Published online:** [www.nzta.govt.nz/covid-19-impacts-on-transport](http://www.nzta.govt.nz/covid-19-impacts-on-transport)



# Report notes (i)

## Key information to note for this report

- This report is based on twenty-four waves of fieldwork, see table ►
- The sample for this report is presented in a number of ways, including as a combined sum of fieldwork for specific alert levels, as well as individual waves where appropriate.
- The focus of this report is tracking trends and changes over time and how New Zealanders have adjusted their use of transport and travel behaviour. As this study was not conducted prior to level 4 restrictions, respondents were asked to recall their transport and travel behaviour prior to level 4 restrictions based on a 'normal week' ie in February this year.
- At a total population level, significance testing indicated in this report is based on a statistically significant shift of results between waves 1 to 24, as well as statistically significant shifts between combined alert levels.
- At a sub-population level, significance testing indicates a statistically significant difference between the sub-population and the base or total population. The total population benchmark is based on the total sample base collected across the first four waves of data.

Wave	Dates of fieldwork	Alert level
1	Friday 3 April to Wednesday 8 April	Alert level 4
2	Thursday 9 April to Tuesday 14 April	
3	Thursday 16 April to Monday 20 April	
4	Thursday 23 April to Sunday 26 April	
5	Thursday 30 April to Sunday 3 May	Alert level 3
6	Thursday 7 May to Sunday 10 May	
7	Thursday 14 May to Sunday 17 May	Alert level 2
8	Thursday 21 May to Sunday 24 May	
9	Thursday 28 May to Monday 1 June	
10	Thursday 4 June to Sunday 7 June	Alert level 1
11	Thursday 11 June to Sunday 14 June	
12	Thursday 18 June to Sunday 21 June	
13	Thursday 25 June to Sunday 28 June	
14	Thursday 2 July to Sunday 5 July	
15	Thursday 16 July to Sunday 19 July	
16	Thursday 30 July to Sunday 2 August	Alert Level 3 (AKL) Alert level 2 (Rest of NZ)
17	Thursday 20 August to Sunday 23 August	
18	Thursday 27 August to Sunday 30 August	Alert Level 2.5 (AKL) Alert level 2 (Rest of NZ)
19	Thursday 3 September to Sunday 6 September	
20	Thursday 17 September to Sunday 20 September	Alert level 2 (AKL) Alert level 1 (Rest of NZ)
21	Thursday 24 <sup>th</sup> September to Sunday 27 September	
22	Thursday 15 <sup>th</sup> October to Sunday 18 <sup>th</sup> October	Alert level 1
23	Thursday 12 <sup>th</sup> November to Sunday 15 <sup>th</sup> November	
24	Thursday 4 <sup>th</sup> March to Monday 8 <sup>th</sup> March*	Alert Level 3 (AKL) Alert Level 2 (Rest of NZ)

\*Please note: During the fieldwork period, on the 7<sup>th</sup> March AKL dropped to Alert Level 2 and the rest of New Zealand moved to Alert Level 1.

# Sample structure and further definitions

	Definition	Waves 1-4		Waves 5-6		Waves 7-10		Waves 11-16		Waves 17-18		Waves 19-20		Wave 21		Wave 22		Wave 23		Wave 24	
		Sample	MoE*	Sample	MoE*	Sample	MoE*	Sample	MoE*	Sample	MOE*	Sample	MOE*	Sample	MOE*	Sample	MOE*	Sample	MOE*	Sample	MOE*
Total		n=5,060	1.38	n=2,532	1.95	n=5,043	1.38	n=7,561	1.13	n=2,455	1.98	n=2,626	1.91	n=1,253	2.77	n=1,220	2.81	n=1,247	2.77	n=1,232	2.79
Auckland	All in Auckland Region, including city and surrounding rural areas	n=1,324	2.69	n=662	3.81	n=1,324	2.69	n=1,964	2.21	n=661	3.81	n=676	3.77	n=331	5.39	n=331	5.39	n=331	5.39	n=331	5.39
Tauranga	All living in the city of Tauranga	n=400	4.9	n=200	6.93	n=400	4.9	n=599	4.0	n=200	6.93	n=197	6.98	n=100	9.8	n=97	9.95	n=86	10.57	n=67	11.97
Hamilton	All living in the city of Hamilton	n=400	4.9	n=200	6.93	n=400	4.9	n=600	4.0	n=200	6.93	n=217	6.65	n=100	9.8	n=101	9.75	n=100	9.8	n=100	9.8
Wellington	All in Wellington Region, including city and surrounding rural areas	n=684	3.75	n=418	4.79	n=799	3.47	n=1,129	2.92	n=311	5.56	n=357	5.19	n=175	7.41	n=156	7.85	n=165	7.63	n=161	7.72
Christchurch	All living in the city of Christchurch	n=400	4.9	n=200	6.93	n=400	4.9	n=601	4.0	n=200	6.93	n=200	6.93	n=100	9.8	n=100	9.8	n=100	9.8	n=100	9.8
Dunedin	All living in the city of Dunedin	n=398	4.91	n=200	6.93	n=392	4.95	n=607	3.98	n=200	6.93	n=208	6.79	n=87	10.51	n=93	10.16	n=100	9.8	n=100	9.8
Rest of NZ	All living in areas outside of those noted above	n=1,454	2.57	n=652	3.84	n=1,328	2.69	n=2,061	2.16	n=683	3.75	n=771	3.53	n=360	5.16	n=342	5.3	n=365	5.13	n=373	5.07
<b>Disability, Vulnerability and COVID-19**</b>																					
Any Disability	See previous page	n=550	4.18	n=297	5.69	n=611	3.96	n=866	3.33	n=284	5.82	n=323	5.45	n=132	8.53	n=130	8.6	n=142	8.22	n=142	8.22
COVID-19 Vulnerable	See previous page	n=1,230	2.79	n=597	4.01	n=1,139	2.9	n=1,640	2.42	n=584	4.06	n=617	3.95	n=317	5.5	n=299	5.67	n=305	5.61	n=297	5.69
Aged 70+ years	All indicating that they are considered higher risk for COVID-19 as they are aged 70 or over	n=618	3.94	n=315	5.52	n=627	3.91	n=830	3.4	n=266	6.01	n=293	5.73	n=162	7.7	n=131	8.56	n=141	8.25	n=160	7.75

\*Margin of error is calculated at 95% confidence level based upon an estimated population of 4,978,388 as at Thursday 16 April 12:44pm.

\*\*Sub-groups are *not mutually exclusive* as individuals may fit into more than one category (for example, some may be aged over 70 and also have a chronic respiratory condition that makes them more vulnerable to COVID-19) any such respondents within the sample would be counted in *both* applicable groups.

# Key insights

1. Covid concerns – high level of concern continues
2. Transport behaviour – public transport slow to recover, reasons why
3. Working from home – settling at around twice as many



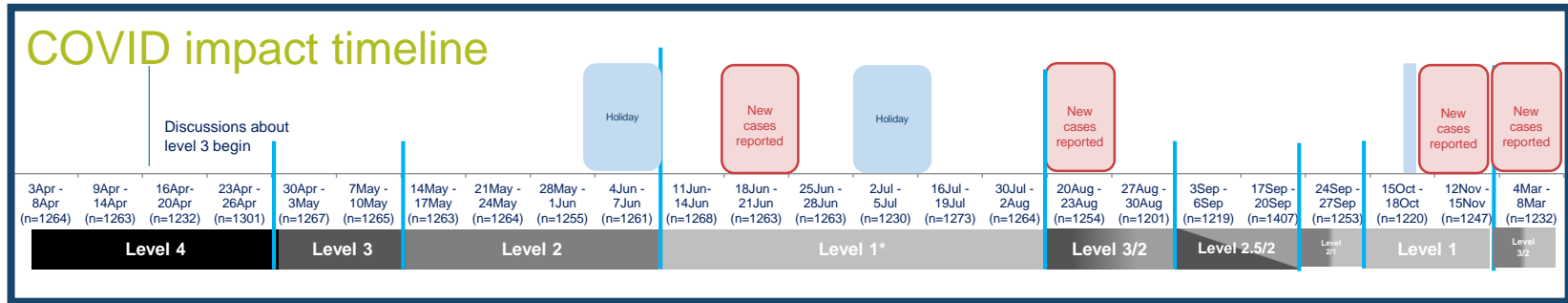
Many other topics – disability, Covid-19 vulnerable, domestic tourism, active modes, self-isolation, re-introducing of fares for public transport, modal shift patterns and journey barriers and lost journeys

# New Zealand COVID-19 Alert Levels Summary

Alert level	Travel restrictions
<b>4 Lockdown</b>	Stay home in bubble, only essential movement e.g. essential workers, grocery, medical Safe recreational activity, local area only Public venues, non-essential businesses, schools and universities closed
<b>3 Restrict</b>	Stay home in bubble, only essential movement Physical distancing two metres outside home, one metre workplaces- where open Businesses can open, but no close personal contact (e.g. offering "click and collect") Gatherings up to 10 people for weddings, funerals and tangihanga only
<b>2 Reduce</b>	Can socialise with people outside of household bubbles Non-essential journeys permitted Businesses opened provided physical distancing and contact tracing are practiced Schools reopened Face coverings required on public transport and aircraft Gatherings limited to 100 people Inter-regional domestic travel permitted
<b>1 Prepare</b>	Schools and workplaces open in full but must operate safely No restrictions on personal movement domestically, contact tracing encouraged No restrictions on gatherings, contact tracing encouraged Face masks are required on public transport upon return to level 1 in October 2020



# New Zealand's COVID-19 transport impact survey timing



## Alert level

**4 Lockdown**

**3 Restrict**

**2 Reduce**

**1 Prepare**

Note diminishing frequency of research waves

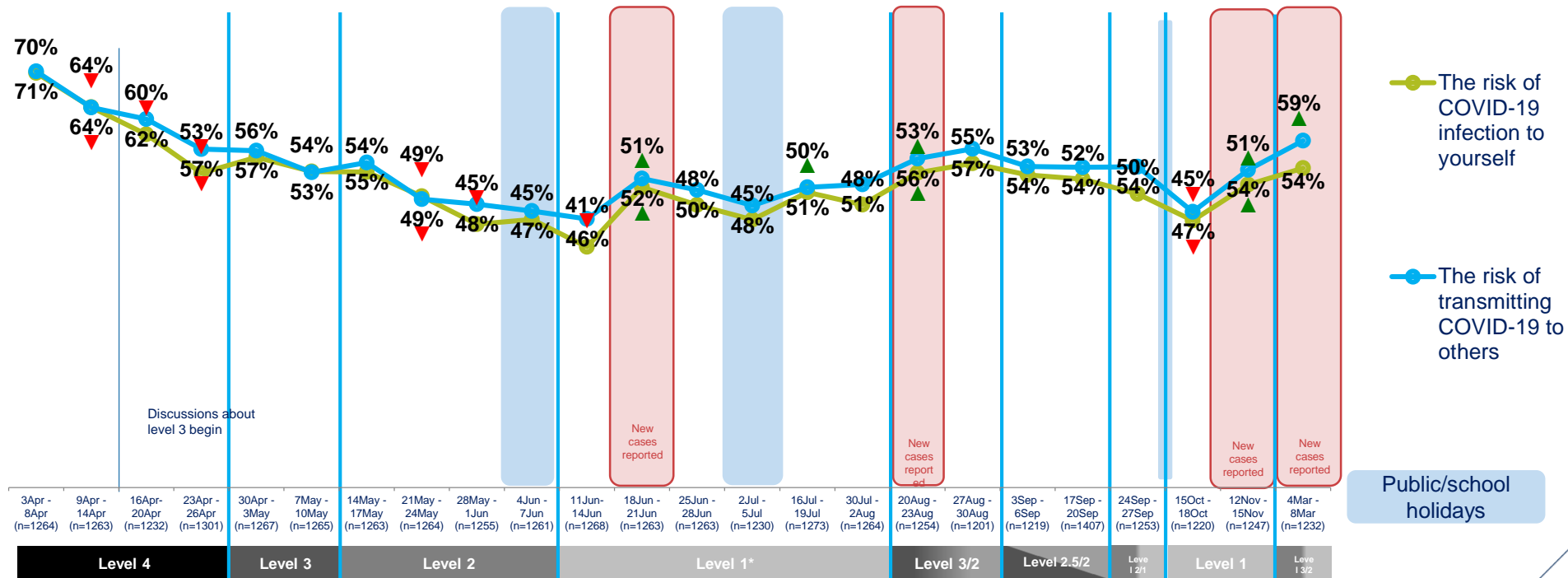


# Concerns



# Nationally, concerns about transmission increase significantly each time new cases are reported in the community, especially during the latest March travel restrictions

COVID-19 concerns (NETT all concerned)



QPTUSE3. How personally concerned are you about each of the following?

Base: all adults 15+ in New Zealand \*fieldwork frequency decreased from weekly during level 1



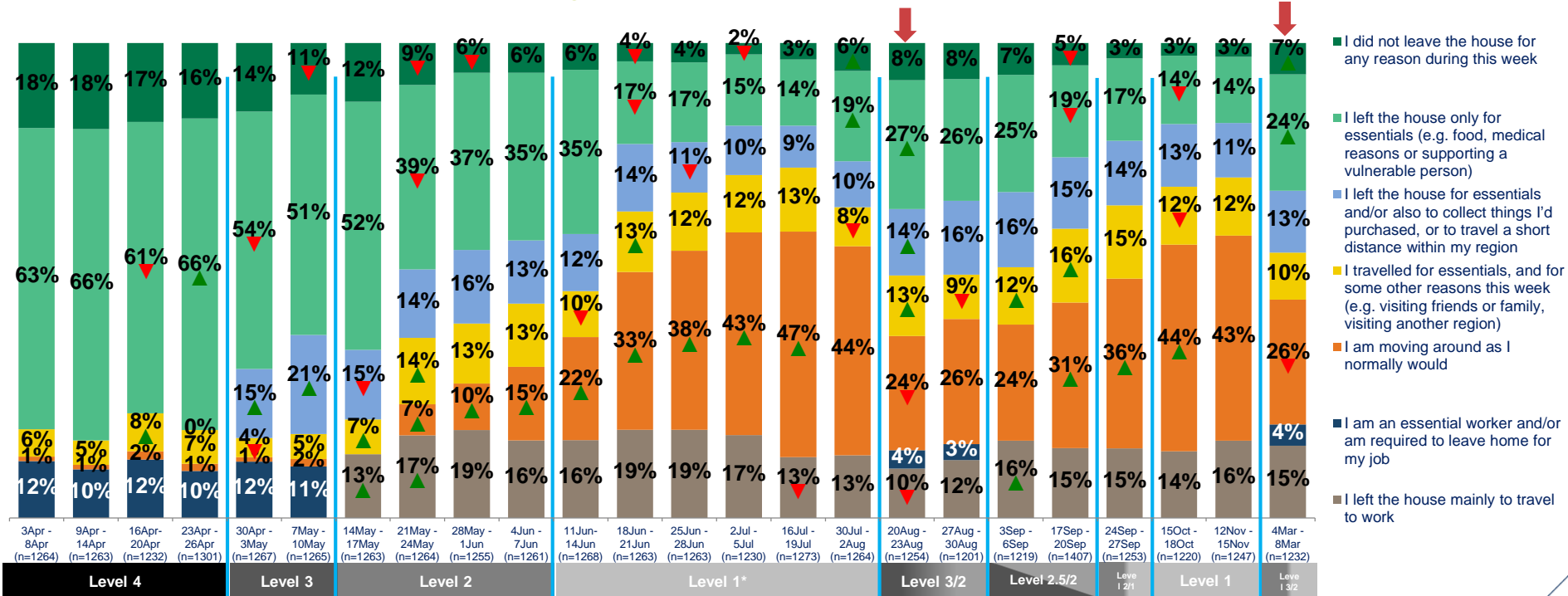
Indicates a statistically significant increase from previous time period



Indicates a statistically significant decrease from previous time period

# March alert level rises increased self-isolation, with the general profile of behaviours similar to the higher alerts in August

*Reported activity and movement during the past seven days by wave, excludes exercise*



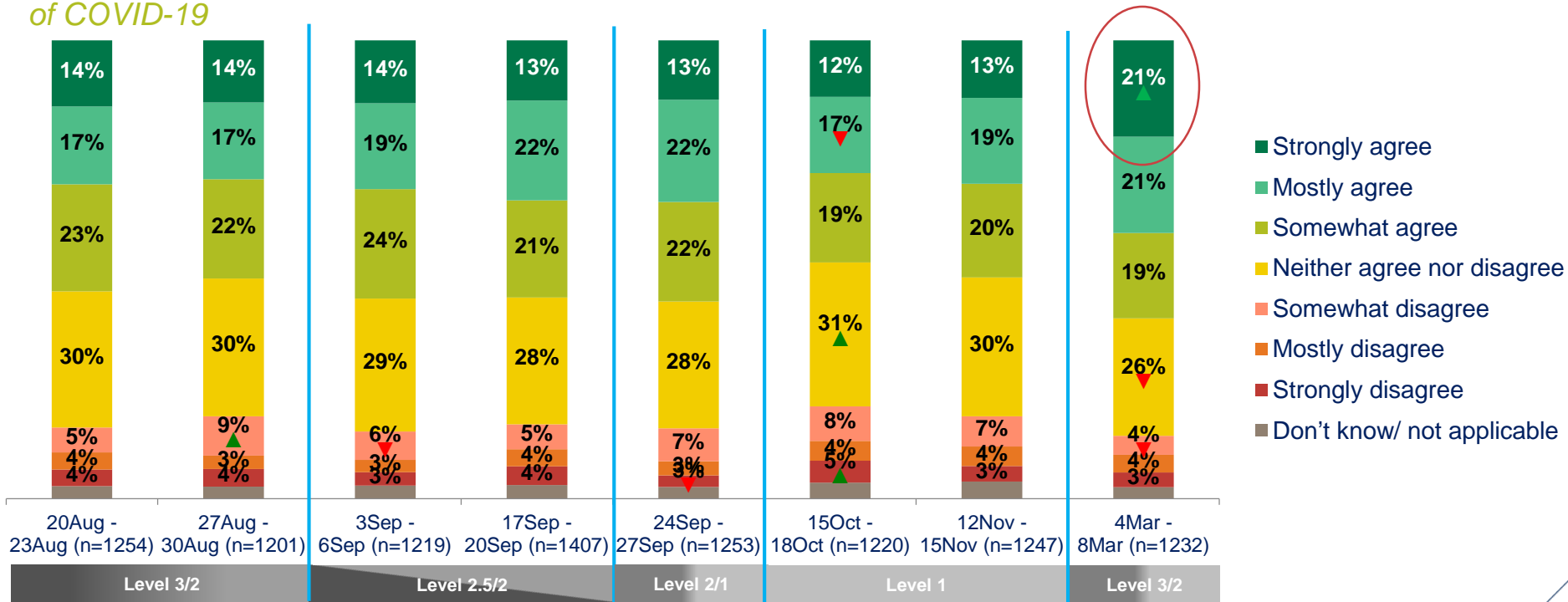
ISO\_1\_TRAVEL. Which, if any of the following best describes your approach to leaving the house over the last week, excluding for exercise?

Base: all adults 15+ in New Zealand \*fieldwork frequency decreased from weekly during level 1



# Indications of greater confidence and comfort with restrictions, a fifth of New Zealanders *strongly* agree that they are better able to adjust to restrictions

*I was able to adjust better to travel restrictions and get the things I need than I was following the first outbreak of COVID-19*



QATT. To what extent do you agree or disagree with the following statements?

Base: all adults 15+ in New Zealand \*fieldwork frequency decreased from weekly during level 1, statement suppressed for most waves during this time period



Indicates a statistically significant increase from previous time period



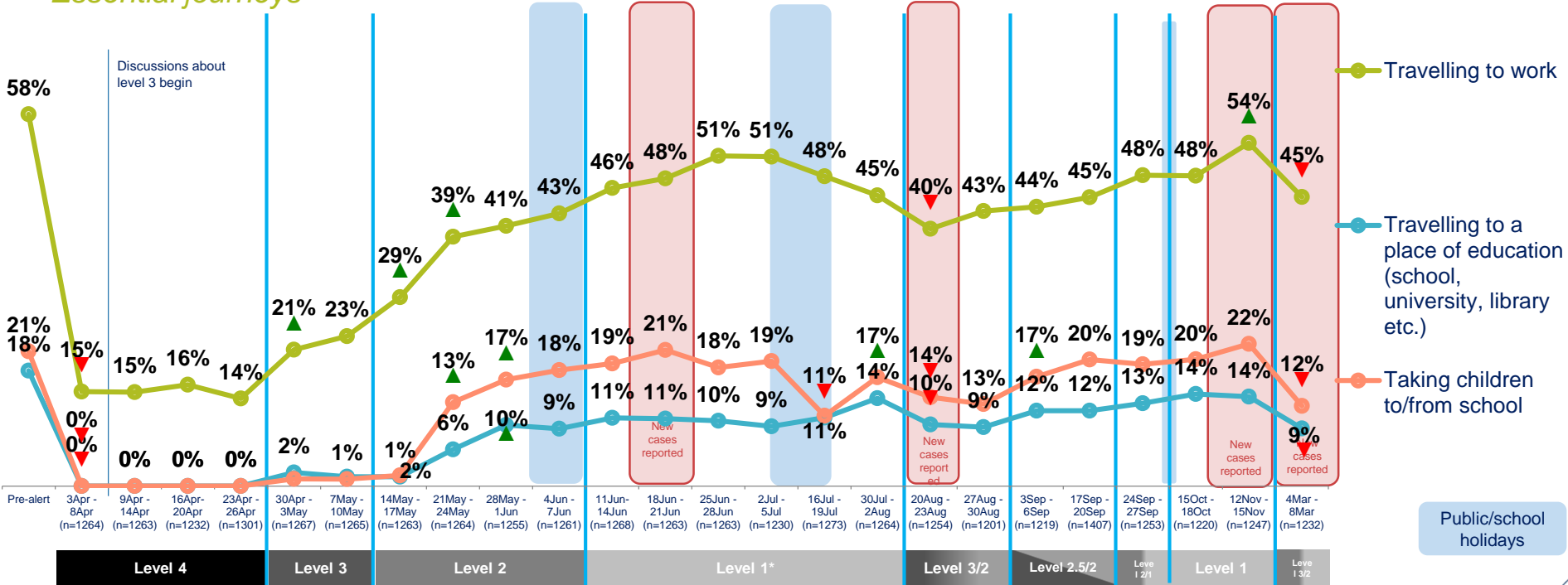
Indicates a statistically significant decrease from previous time period

# Impact on behaviour



# Alert level increases significantly decrease most essential journeys. But March work journeys were five points higher than August indicating better adaption to restrictions

## Essential journeys

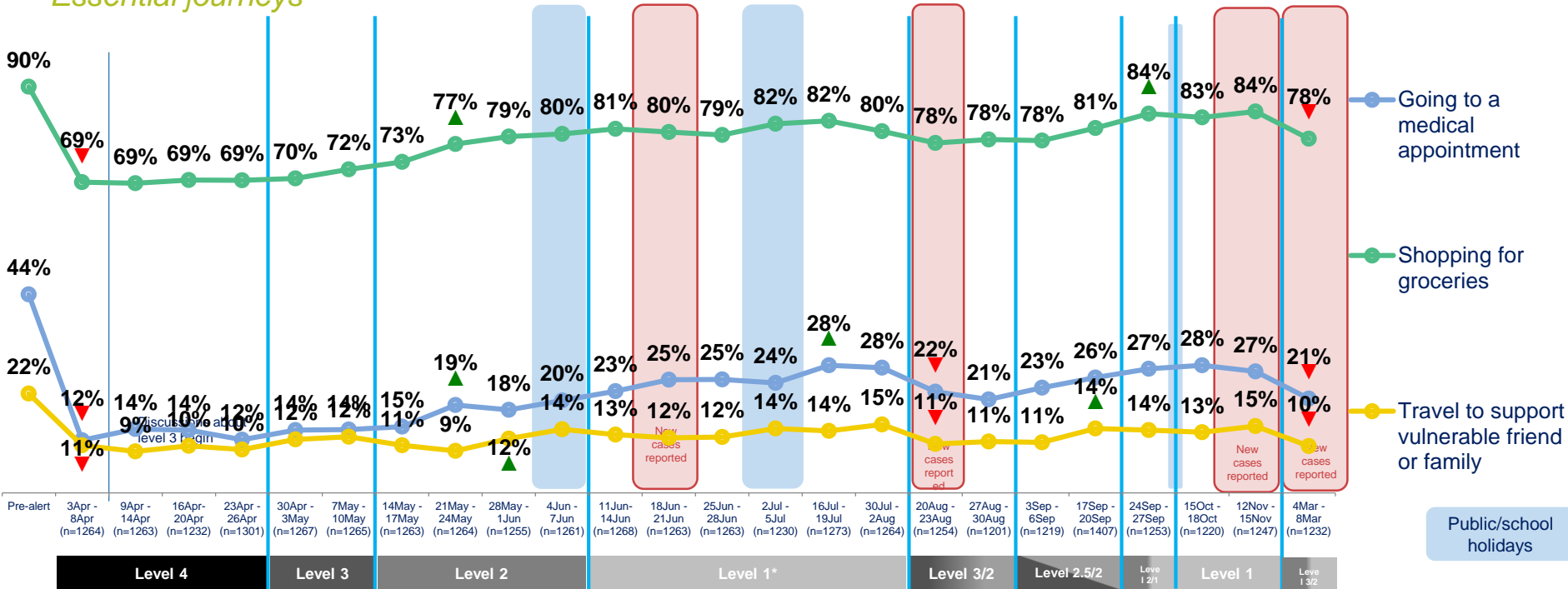


QJOURNEY1/QJOURNEY. Which, if any of the following types of journeys would you have made in a normal week (eg in February this year)? And which, if any of the following types of journeys did you make during the last seven days? Base: all adults 15+ in New Zealand Base: all adults 15+ in New Zealand in Benchmark: (n=3,759); Wave 1 – 20 (n= between 1,230 – 1,300)



# Less frequent essential journeys also drop significantly when alert levels rise. Impact of travel restrictions on essential journeys in March roughly matches August

## Essential journeys

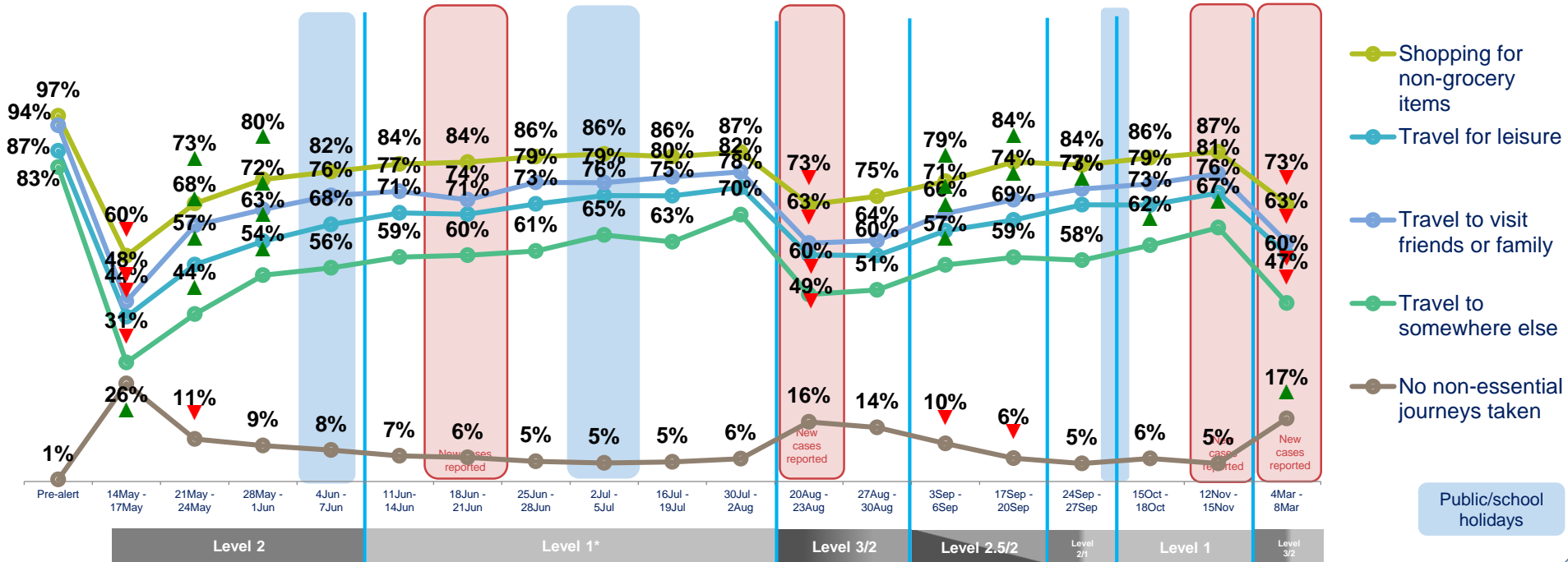


QJOURNEY1/QJOURNEY. Which, if any of the following types of journeys would you have made in a normal week (eg in February this year)? And which, if any of the following types of journeys did you make during the last seven days? Base: all adults 15+ in New Zealand Base: all adults 15+ in New Zealand in Benchmark: (n=3,759); Wave 1 – 20 (n= between 1,230 – 1,300)



# A similar pattern can be seen with non-essential journeys, with falls seen during the August and March travel restrictions

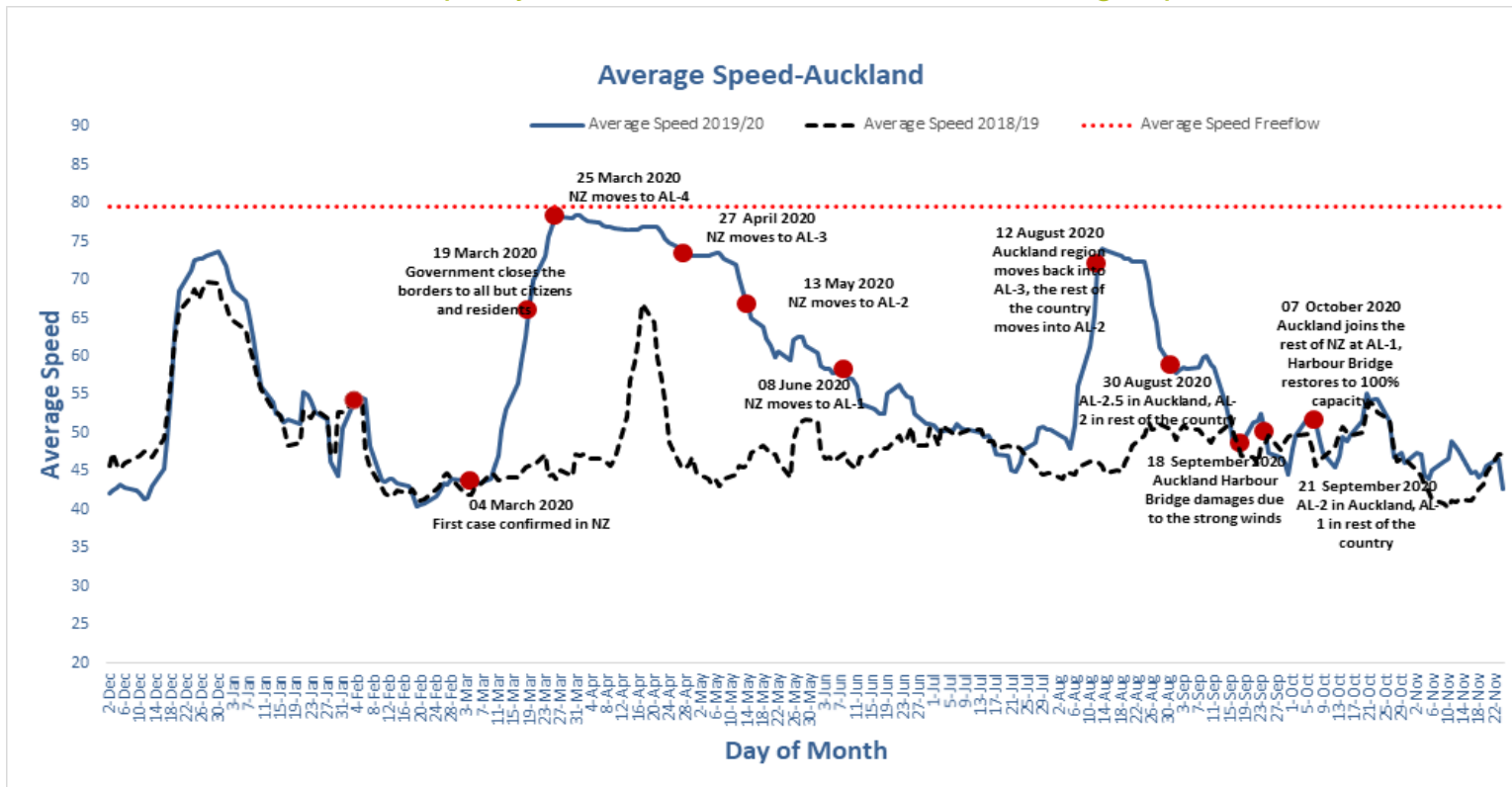
## Non-essential journeys



QMODE1A/2A. How would you normally make each of the following types of journeys? And thinking about other types of journeys you might have made in the past seven days. How, if at all did you make each of the journeys listed below in the past seven days?  
 Base: all adults 15+ interviewed during level 2, level 1, level 3/2 and level 2.5/2 in New Zealand (c. 1,200 per wave)

# Speeds on key urban routes

Use of Tomtom data as a proxy for travel demand based on average speeds

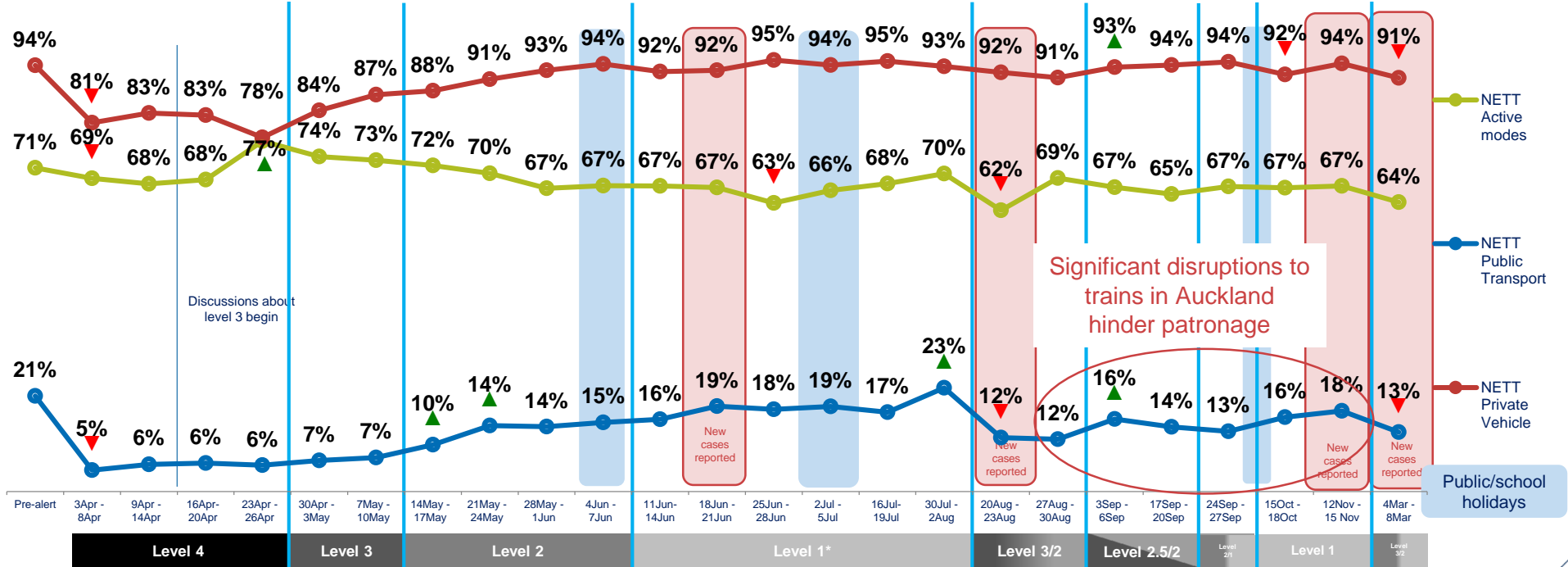


# Public transport usage



# Public transport modes are the most affected form of transportation. When New Zealand moves up alert levels public transport use significantly decreases

## Changes in mode usage by wave – national

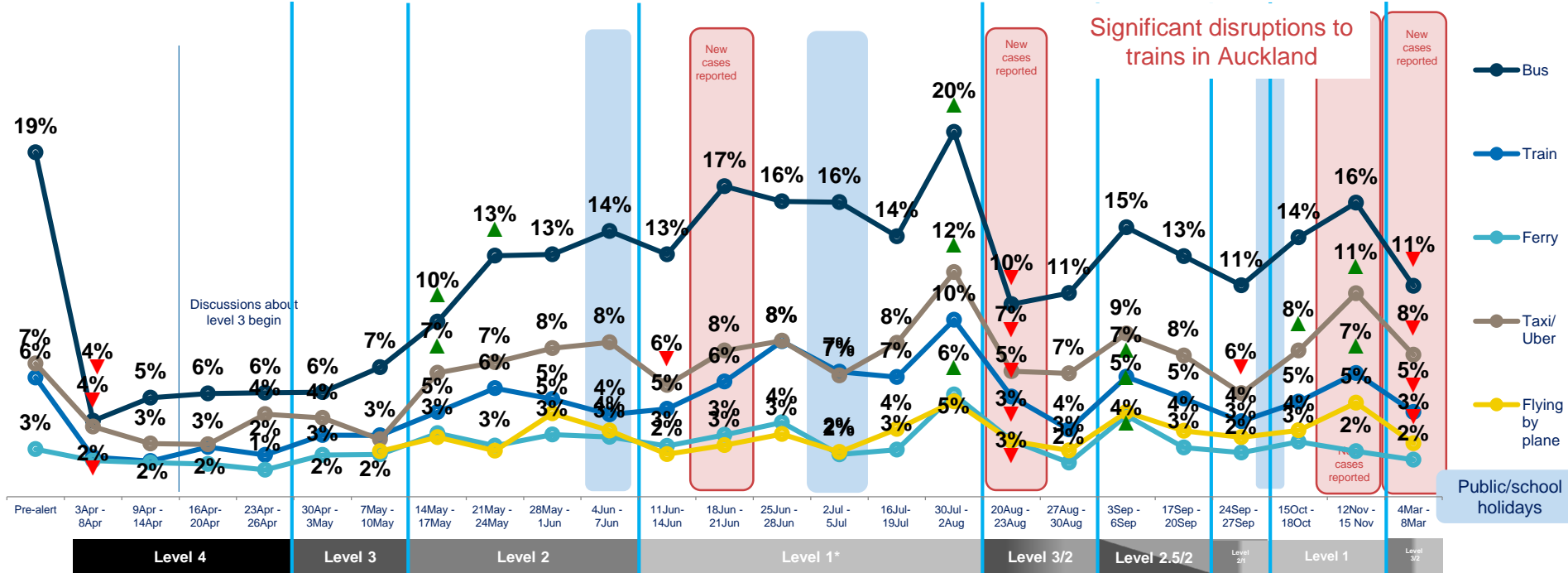


QFREQ1/QFREQ2 –And in the course of a normal week, on how many days would you normally travel via each of the methods listed below? And during the past seven days, on how many days have you travelled via each of the modes listed below? QJOURNEY1-2. Which, if any of the following types of journeys would you have made in a normal week (eg in February this year)? And which, if any of the following types of journeys did you make during the last seven days? Base: all adults 15+ in New Zealand



# All public transport modes are impacted, with stated weekly usage of each similar in both March and August travel restrictions. Train recovery suppressed.

## Changes in mode usage by wave – national



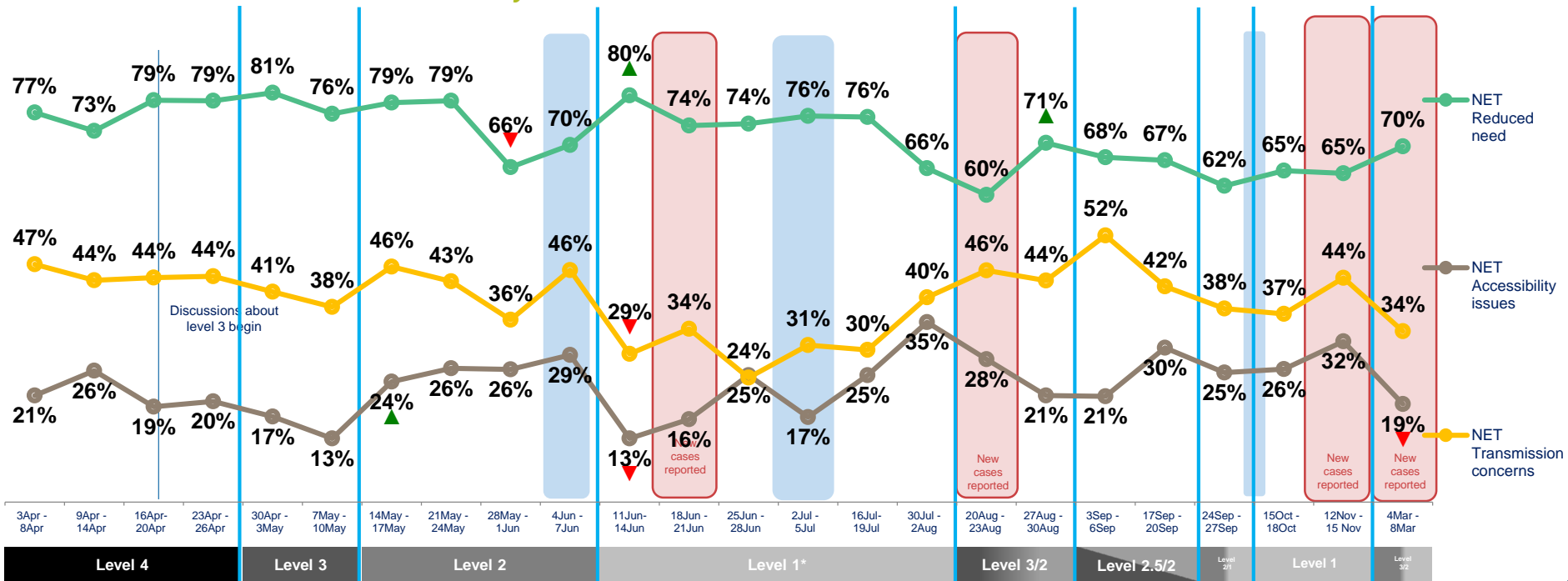
QFREQ1/QFREQ2 –And in the course of a normal week, on how many days would you normally travel via each of the methods listed below? And during the past seven days, on how many days have you travelled via each of the modes listed below? QJOURNEY1-2. Which, if any of the following types of journeys would you have made in a normal week (eg in February this year)? And which, if any of the following types of journeys did you make during the last seven days? Base: all adults 15+ in New Zealand





# Transmission concerns continue to be a key concern on public transport, but around seven in ten have reduced need compared to before the pandemic

## Reasons for decrease in PT activity



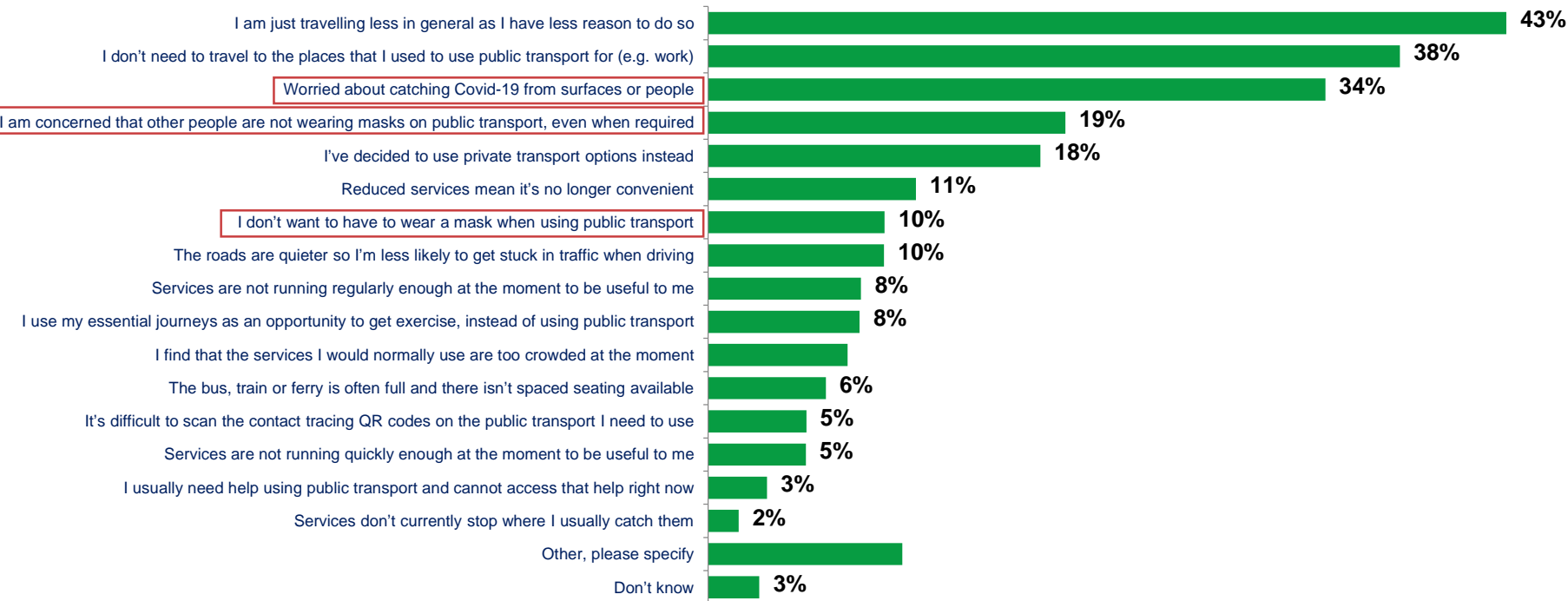
For which, if any of the following reasons, has your use of public transport decreased?  
 Base: decreasing PT usage in past week; current alert level: level 1 (2<sup>nd</sup>)

Public/school holidays



# While top barriers relate to reduced need, one in five express concern about others not wearing masks as required and a third are explicitly worried about transmission

## Reasons for decrease in PT activity (March 2021)

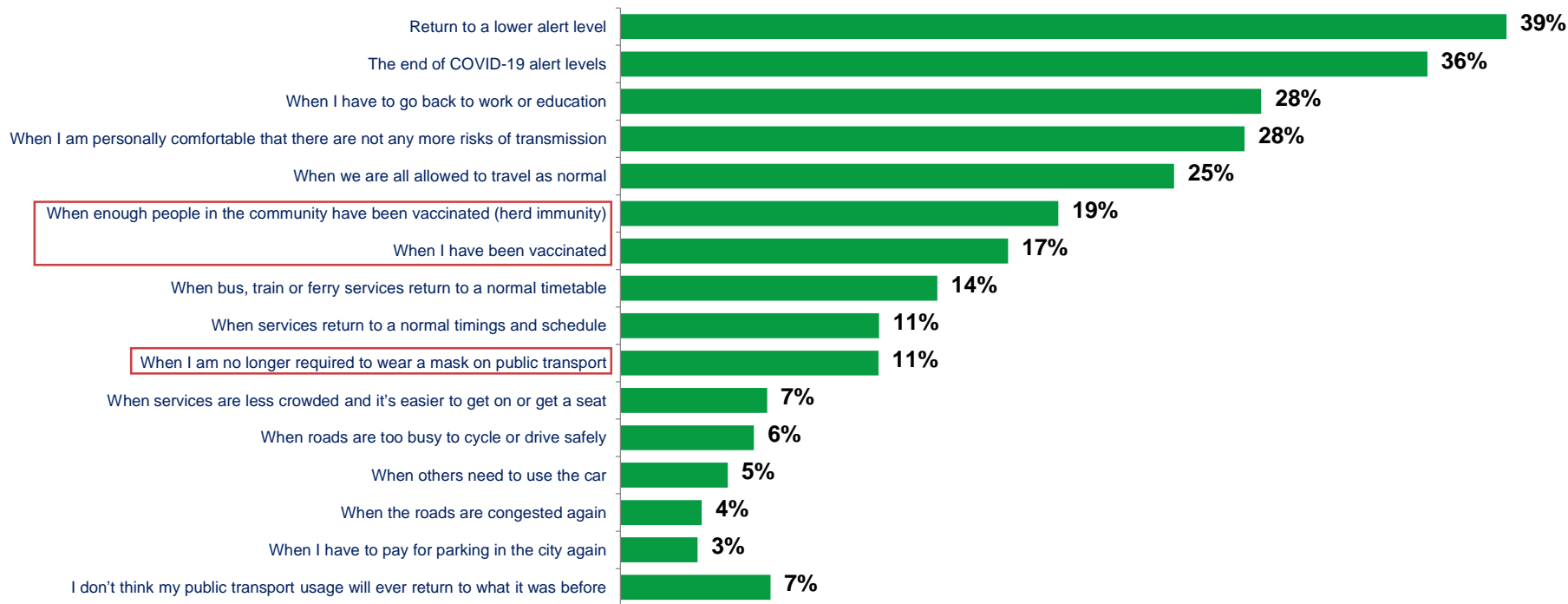


For which, if any of the following reasons, has your use of public transport decreased?

Base: decreasing PT usage in past week (n=211)

# Many are waiting for normal travel without alert levels to resume before they will return to using public transport like they used to

## Triggers for return to PT activity (March 2021)



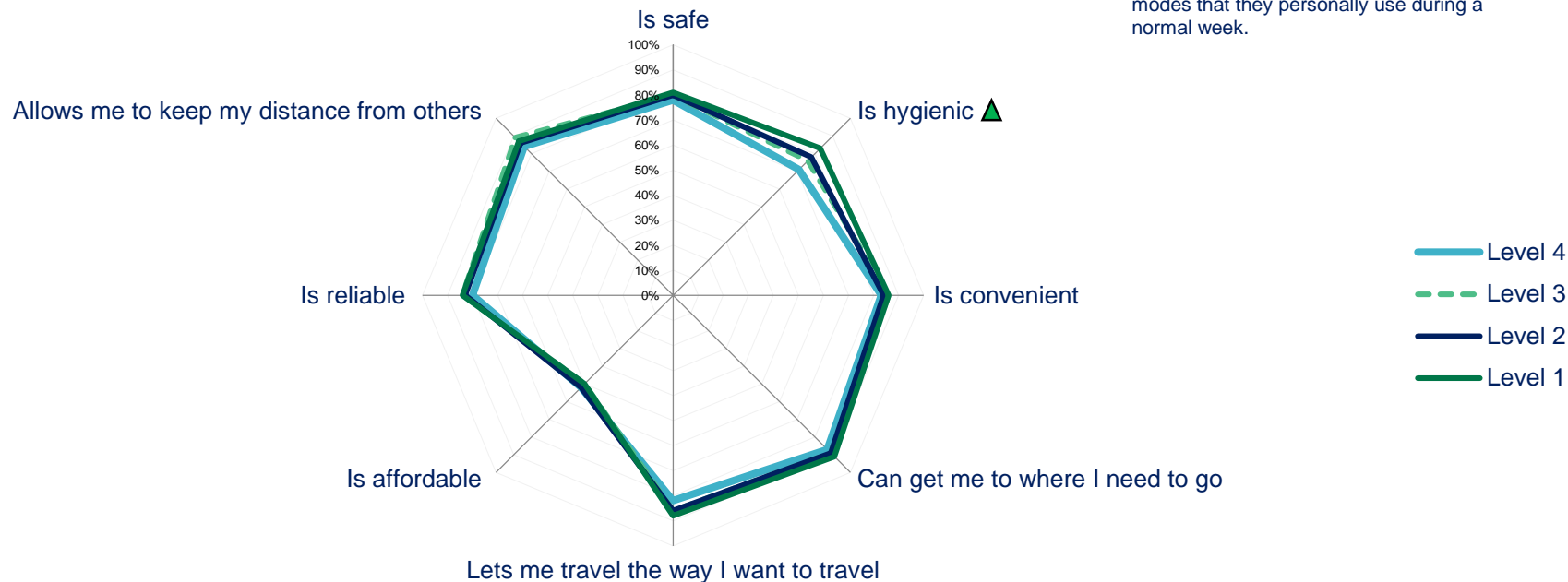
Which, if any of the following would encourage you to start using public transport as much as you used to?

Base: decreasing PT usage in past week (n=211)

# Perceptions of travelling by car have been stronger than other modes and the least likely to change from level to level

## Perceptions of car / van

**NB:** users were only asked about transport modes that they personally use during a normal week.

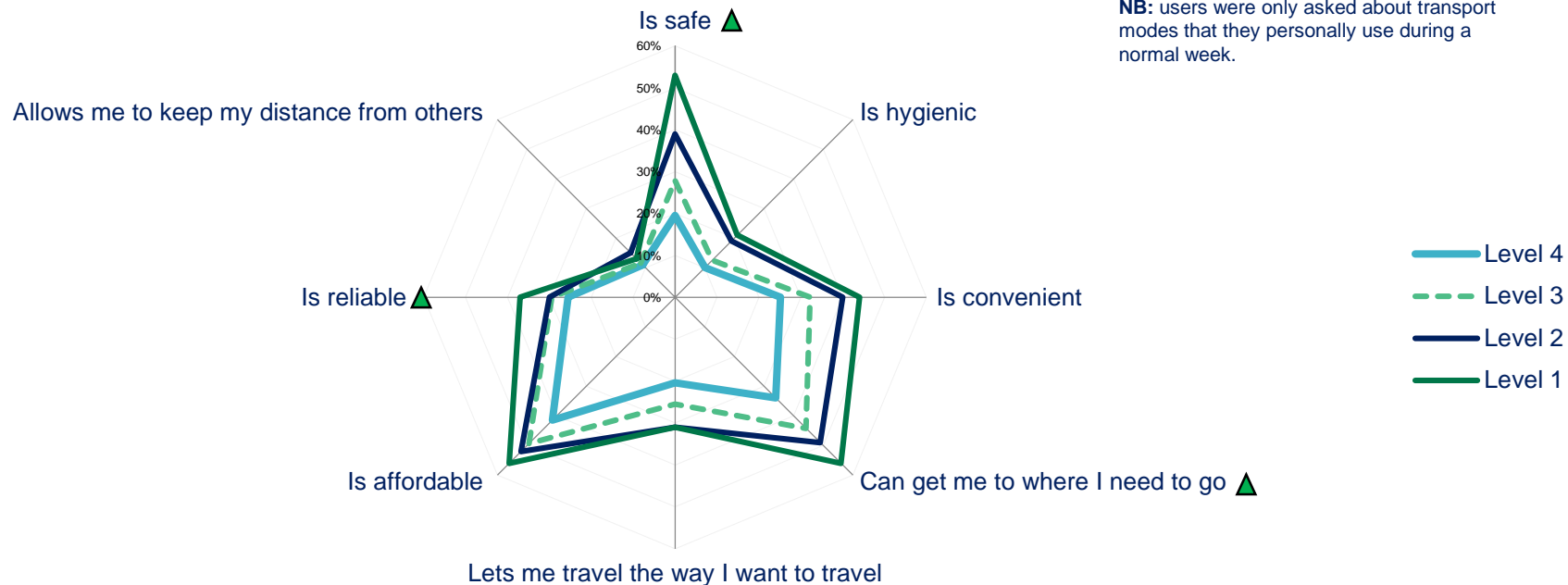


QPTIMAGE. Image Statements – And which transportation methods would you currently associate with each of the following qualities?  
 Base: New Zealanders who normally travel by Car / Van: level 4 (n=1,453), level 3 (n=746); level 2 (n=1,584); level 1 (n=1,861)

# With each COVID-19 alert level, the proportion saying that buses are safe, convenient and can get them where they need has increased

## Perceptions of the bus

**NB:** users were only asked about transport modes that they personally use during a normal week.

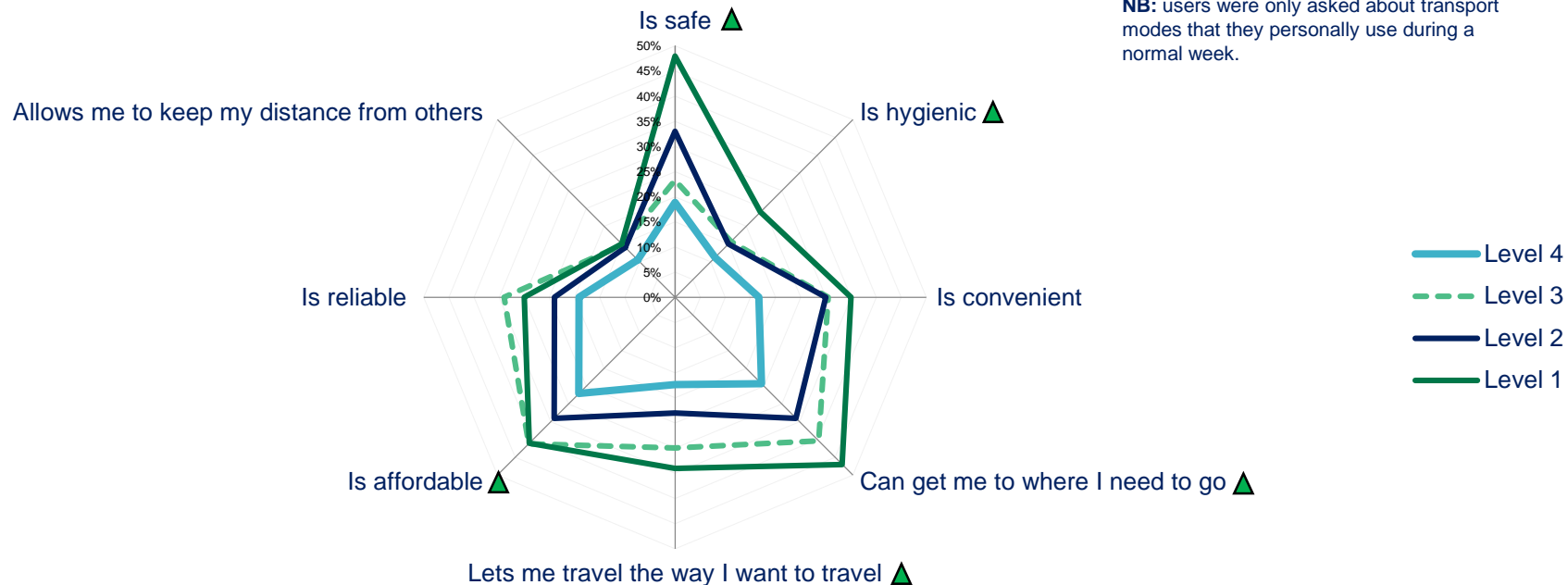


QPTIMAGE. Image Statements – And which transportation methods would you currently associate with each of the following qualities?  
Base: New Zealanders who travel by Bus normally: level 4 (n=943), level 3 (n=452); level 2 (n=979); level 1 (n=1,192)

# Perceptions of travel by train are broadly better overall in level 1, with the exception of reliability and capacity for social distancing

## Perceptions of the train

**NB:** users were only asked about transport modes that they personally use during a normal week.

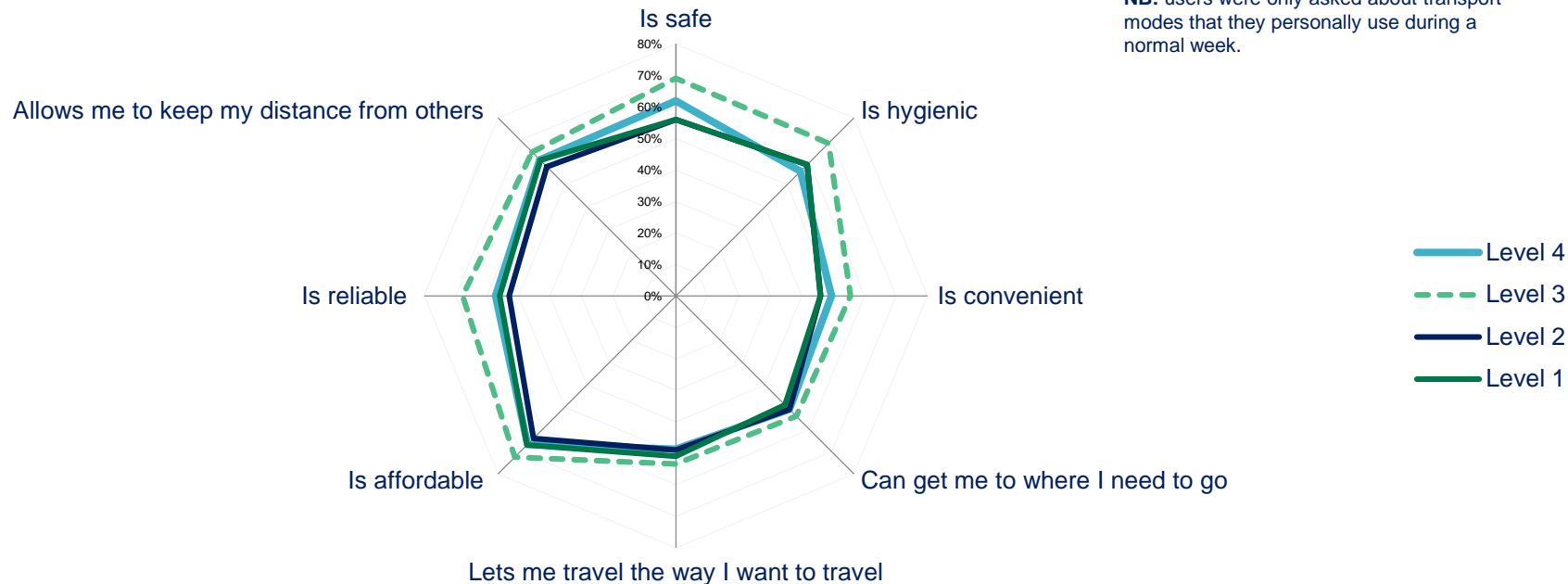


QPTIMAGE. Image Statements – And which transportation methods would you currently associate with each of the following qualities?  
Base: New Zealanders who travel by train normally: level 4 (n=323), level 3 (n=160); level 2 (n=405); level 1 (n=443)

# Perceptions of cycling as a transport mode generally weakened since level 3 and changed little since level 2

## Perceptions of bicycle including e-bike

**NB:** users were only asked about transport modes that they personally use during a normal week.

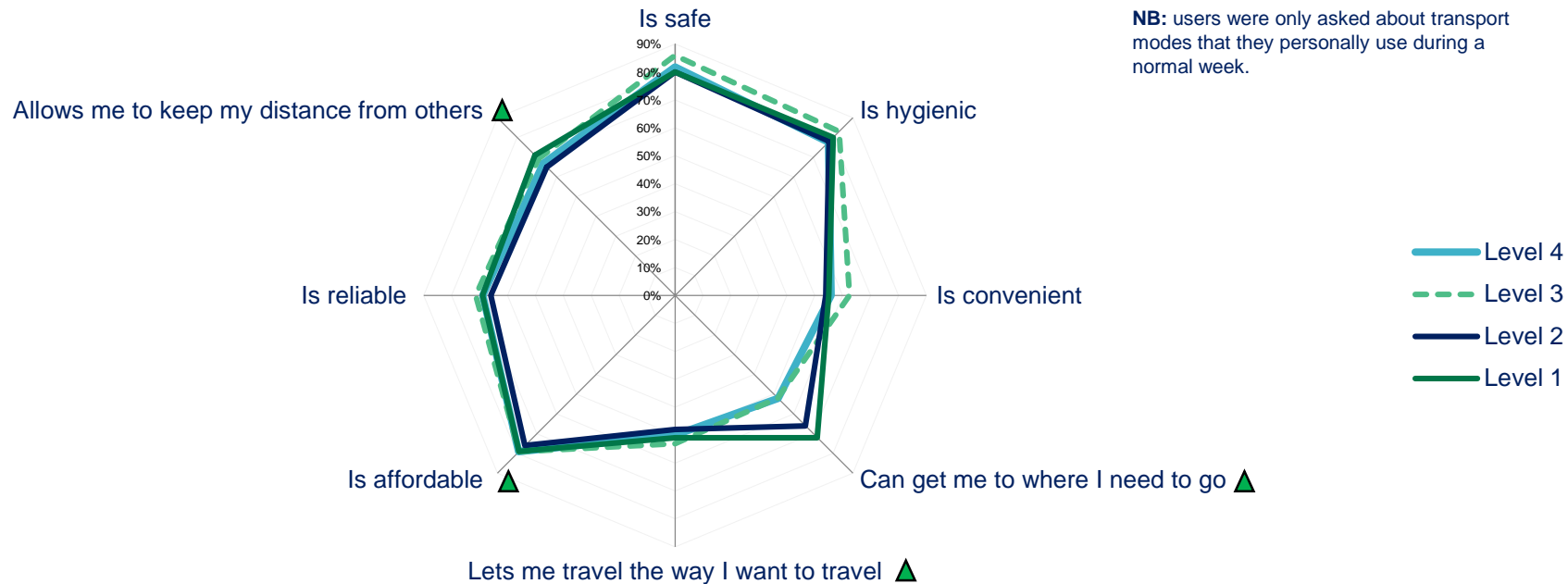


QPTIMAGE. Image Statements – And which transportation methods would you currently associate with each of the following qualities?  
Base: New Zealanders who travel by bike normally: level 4 (n=782), level 3 (n=419); level 2 (n=795); level 1 (n=856)



# Walking is stable throughout the levels, but in level 1 there is a significant increase in 'walking can get where need to go' and 'travel how I want'

## Perceptions of walking



QPTIMAGE. Image Statements – And which transportation methods would you currently associate with each of the following qualities?  
 Base: New Zealanders who normally use walking as a means of travel: level 4 (n=1,445), level 3 (n=736); level 2 (n=1,579); level 1 (n=1,840)

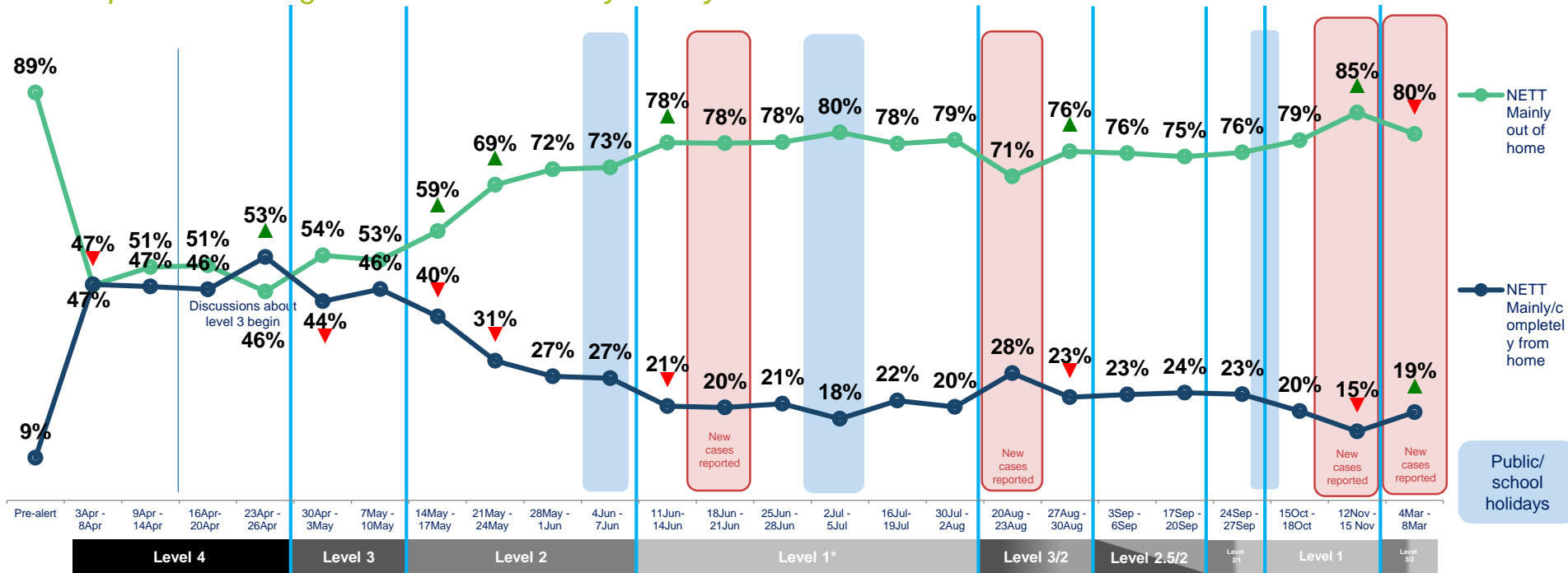


# Working from home



# Working from home increased significantly during the August and March restrictions, but was nine points lower in March

*Proportion working in and out of home by survey wave*



QWORK1A/QWORK2A: And prior to any public health alert or lockdown, where did you mainly work? And where do you *currently* work?

Base: all adults 15+ who are usually working



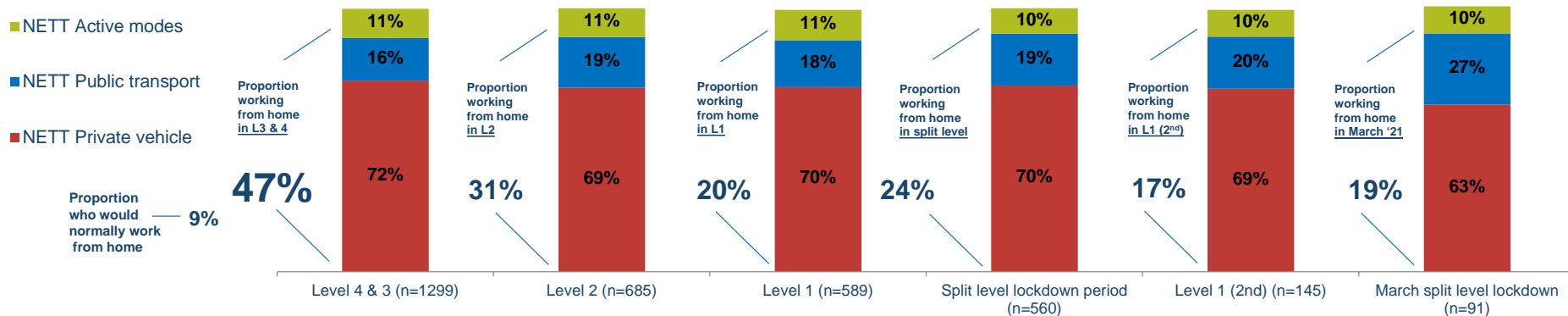
Indicates a statistically significant increase from previous time period



Indicates a statistically significant decrease from previous time period

# As has often been the case, public transport is most impacted by the increase in commuters

## Proportion of commuters working from home who would normally travel by each mode



## Proportion of each commuter type working from home

Proportion WFH by level	47%	31%	20%	24%	17%	19%
Within active mode commuters	53%	31% ▼	17% ▼	18%	12%	15%
Within private vehicle commuters	43%	25% ▼	13% ▼	16% ▲	11% ▼	13%
Within public transport commuters	62%	42% ▼	24% ▼	36% ▲	19% ▼	29%

QWORK1A/QWORK2A: And prior to any public health alert or lockdown, where did you mainly work? And where do you *currently* work? By QMODE1\_1 How would you normally make each of the following types of journeys listed below? – travelling to work

Base: all adults 15+ in New Zealand who normally commute by Active modes in L4&3 (n=292)/L2 (n=256)/ L1 (n=402)/March (n=69\*) split level (n=324) 2<sup>nd</sup> L1 (n=141)| Private vehicle L4&3 (1,748)/L2 (n=2,916)/split (n=2,390)/ 2<sup>nd</sup> L1 (n=895)/March (n=464)| Public transport L4&3 (n=323)/L2(n=295)/L1(n=436)/split(n=314)/ 2<sup>nd</sup> L1 (n=152)/March (n=83\*) \*low base, interpret with caution



# Uses of Transport Impact research integrated with data



# Wrap-up & next steps

## Take home messages

### 1. The New Zealand transport system recovery is still evolving, so it's too early to be sure about enduring changes.

- Clear patterns of behaviour are occurring with movements through COVID alert levels
- New Zealanders and businesses are developing more capability to adapt to alert changes
- A high level of COVID concern prevails, similar to the initial lockdown levels

### 2. **Public transport:** Return to public transport has been slower than other modes. People are travelling less overall, and have COVID concerns. Our largest city, Auckland, has had many issues with train line closures and slower train speeds - reducing patronage since August 2020.

### 3. **Working from home:** Twice as many New Zealanders now work from home, around 20%. Many wish to continue working from home, but we don't know how enduring this trend will be yet. More of those working from home were using public transport, contributing to the erosion of patronage.

**Next Steps:** To determine the enduring changes in New Zealand's transport system, there will be four to six more waves of research, some of the waves will be while there are no travel restrictions or alert levels.



# Acknowledgements

- **Ipsos:** Bart Langton, Tom Magill, Cameron Robinson, Marise Russo & Carin Hercock.
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- **MoT:** Carolina Lukkien & Bryce Hartell, Brittany Farrent-Smith.

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**Published online:** [www.nzta.govt.nz/covid-19-impacts-on-transport](http://www.nzta.govt.nz/covid-19-impacts-on-transport)

Reports are available on many other topics including – disability, COVID-19 vulnerable, domestic tourism, active modes, self-isolation, re-introducing of fares for public transport, modal shift patterns and volume of mode usage, journey barriers and lost journeys, perceptions of travel modes.

