

RPAS use in New Zealand





Contents

01.	Background, objectives and method	3 - 6
02.	Summary and conclusions	7 - 9
03.	Incidence of RPAS use among New Zealanders	10 - 14
04.	NZ RPAS users	15 - 51
05.	Overseas visitor RPAS users	52 - 72
06.	Appendices	73 - 96

Background

The CAA have rules in place that Remotely Piloted Aircraft Systems (RPAS) users must abide by. Part 101 rules apply to uncertified RPAS operators; Part 102 rules apply to certified RPAS operators who want to fly their aircraft outside the Part 101 rules. Part 102 operators are required to develop a plan, for CAA approval, demonstrating how they intend to fly their aircraft safely.

Over the past few years the CAA have been informed about an increasing number of RPAS related incidents, many involving recreational users, which on occasion have included tourists who have brought their RPAS to New Zealand to use while on holiday. CAA believes that some Part 101 RPAS users are currently unaware of the rules surrounding RPAS use or are purposely ignoring them.

The Communications and Safety Promotion team at the CAA therefore wishes to engage with RPAS users to increase their awareness of the Part 101 and 102 rules, and to increase compliance with those rules. A campaign is planned for 2018.

Objectives

To help inform the development of the CAA's campaign, research has been conducted with people who use RPAS in New Zealand. This includes both commercial and recreational users (and overseas visitors who use an RPAS while here).

Specifically, the RPAS users research was conducted to help the CAA to identify:

- the size of the RPAS user population in New Zealand (see pages 11 & 53)
- the demographic characteristics of RPAS users (see pages 12, 20, 54, 74-78)
- New Zealanders' intentions to purchase RPAS in the near future (see page 13)
- where RPAS have been purchased from and where they are likely to be purchased from in the future (see pages 14, 21-24)
- how RPAS are currently being used e.g. commercially or recreationally, frequency of use, where being used (see pages 16-19, 55-57)
- the most effective communication channels for RPAS users (see pages 25-35, 58-62)
- when and where RPAS users get information about the rules for flying their aircraft in New Zealand (see pages 36, 38, 63, 79-80, 82-83)
- RPAS users' awareness of the Part 101 and 102 rules (see pages 39-42, 45-47, 65-68, 84-90, 92)
- RPAS users' views on the Part 101 and 102 rules (see pages 44, 49-51, 70-72, 91, 94-96)
- barriers to complying with the Part 101 and 102 rules (see pages 43 & 69)
- RPAS users' awareness and views on the CAA (see pages 37, 48, 64, 81, 93)
- membership in RPAS user groups or organisations (see page 20)

Research programme



A nationally representative online omnibus survey of New Zealanders



An online survey of New Zealand RPAS users



A face to face intercept survey of overseas visitor RPAS users

Research method

01.



Nationally representative online omnibus survey of New Zealanders

- Five questions were placed in one wave of the Colmar Brunton online omnibus survey.
- This survey runs every two weeks, interviewing 1,000 people aged 18 years and over throughout New Zealand.
- Sample is sourced from Colmar Brunton's online panel.
- A 30% response rate was achieved.
- All interviews were completed during the period of 5 to 12 July 2017.
- Maximum margin of error for the total sample of 1,000 interviews is +/- 3.1% at the 95% confidence level.

02.



Online survey of NZ RPAS users

- Online survey of 1,086 New Zealanders aged 18 years and over who own or fly a remotely piloted aircraft, commonly known as a drone.
- Sample was sourced from Colmar Brunton's online panel (around 200,000 members), and our panel partners.
- An open-source link to the survey was also placed on the Airshare website. Entry in to a \$100 prize draw was offered as an incentive.
- A 26% response rate was achieved.
- Average time to complete survey was approximately 10 minutes.
- All interviews were completed during the period of 6 to 23 July 2017.
- Maximum margin of error for the total sample of 1,086 interviews is +/- 3.0% at the 95% confidence level.

03.



Face to face intercept survey of overseas visitor RPAS users

- Intercept survey of 778 overseas visitors at departure lounges at Auckland and Christchurch International Airports.
- Of the 778 overseas visitors that were approached, 47 had used a drone while in New Zealand. Interviewers recorded their age, gender, and country of residence.
- Of the 47 overseas visitor drone users, 31 were aged 18+ years and agreed to take part in the full survey (19 in Auckland, and 12 in Christchurch).
- A 69% response rate was achieved.
- Average interview length for the full survey was 18 minutes.
- All interviews were completed from 12 to 18 July 2017.
- Maximum margin of error for the total sample of 31 overseas visitor RPAS users is +/- 17.6% at the 95% confidence level.

Notes: Only statistically significant differences at the 95% confidence level are reported.

Percentages in the charts may not always add to 100%, this is either because the question was multiple response, or due to rounding. Nett percentages may not always add to the sum of their individual parts displayed in the charts, this is also due to rounding (for example 40.4% and 40.3% both round down to 40% but added together they round up to 81% not 80%).

Summary & Conclusions |

What is the size of the RPAS population in New Zealand?

It is estimated there are around 281,428* New Zealand RPAS users, and that 6 out of every 100 overseas visitors that come to New Zealand will fly a drone while here, this equates to around 199,806* overseas visitor RPAS users per year.

What are the demographic characteristics of RPAS users?

Both NZ and overseas visitor RPAS users tend to be men (around three quarters are), and the majority are under 40 years of age (6 in 10 NZ users and 8 in 10 overseas users). NZ RPAS users are also more likely than average to have school aged children in their household, and to be employed full time.

How many New Zealanders intend to purchase a RPAS in the near future, and where do they intend to purchase from?

An estimated 68,000* New Zealanders are highly likely to get a RPAS within the next three months. Around half intend to purchase their RPAS domestically, with equal proportions planning on using a NZ website or visiting a NZ retail store in person. Trade Me and Noel Leeming are the most likely NZ websites/retail stores that would be used. Around 2 in 10 intend to purchase a RPAS from an overseas source. This purchasing pattern broadly reflects how NZ RPAS users purchased their latest drone, although a slightly higher proportion used a NZ retail store than an NZ website, which suggests that future buyers have shifted towards more online shopping and somewhat away from purchasing in store. Key words potential buyers would type if doing an online search for their next drone (besides drone, drones, NZ and New Zealand) include Dji, camera, quadcopter, phantom and Trade Me.

Why do New Zealanders fly RPAS, how frequently do they fly, and in what locations?

9 in 10 NZ RPAS users fly for recreational reasons i.e. as a hobby or for personal interest, and almost 1 in 10 fly for commercial reasons i.e. for their job or a business. The vast majority of the commercial users do not have a Part 102 certificate. On average recreational users fly fortnightly, and commercial users fly weekly with one third of commercial users flying on multiple days of the week. Recreational users mainly fly at home in their own backyard or in public parks, whereas commercial users are more likely to fly in industrial areas, on farmland, around residential neighbourhoods, and coastal (non-beach) areas.

What are the best communication channels for reaching RPAS users?

All RPAS user groups including NZ recreational and commercial users and overseas visitors are frequent social media users and regularly conduct online searches using Google. Around 7 in 10 access Facebook and do Google searches several times a day, and around 5 in 10 visit YouTube multiple times a day. For NZ RPAS users television, including free to air, pay TV, and streamed TV is the most consumed form of media, but this group also spends a lot of time walking or travelling about, so outdoor forms of communications may work well too. CAA may wish to consider using targeted advertising on Facebook based on the demographic characteristics of RPAS users. Another option is to use Google AdWords so that the CAA or Airshare websites or some other CAA advertisement could be associated with key words that NZ RPAS users commonly type when conducting an online search for a new drone.

“The CAA need more presence online. Get Facebook. Make quirky videos about safe use. Own your role and be proactive. Move beyond a flier that no one reads. It’s 2017.” Recreational user

Summary & Conclusions |

When and where do RPAS users get information about the rules for flying their aircraft in New Zealand?

Over 6 in 10 NZ and overseas visitor RPAS users seek information on the rules for flying a drone in NZ. More NZ RPAS users seek information before getting their RPAS than after. Equal proportions of overseas visitor RPAS users look for information once they're in NZ as before they arrive. Most users do an online search and view a website, the main ones being the CAA and Airshare websites.

When prompted about the types of information sources they are most likely to read after buying a drone, the main sources NZ RPAS users selected are the current methods CAA uses to convey information on the rules i.e. through websites and an information sheet included in the packaging of all NZ bought RPAS. However, just 4 in 10 NZ RPAS users have actually seen CAA's information sheet on the rules for flying drones in NZ, and only 3 in 10 have read at least some of the information on the sheet. The information sheet is clearly not reaching those who purchase RPAS overseas, but it's also being overlooked by some of those who purchase RPAS in New Zealand. In response to an open-ended question some NZ RPAS users suggest a more direct approach could be used with the information sheet, for example changing the wording on the cover to make it more explicit that it's a document about the rules, getting retailers to physically hand over the sheet to buyers at the point of purchase and/or having the rules displayed in store beside the RPAS.

“Purchasers need to be made aware of how serious a breach of the rules is. Most shops don't hand out any rules or information so people just think they can do what they want with them.”
Commercial Part 102 user

How aware are RPAS users of CAA's Part 101 and 102 rules?

Three quarters of NZ users and 7 in 10 overseas visitor RPAS users say they know there are rules in NZ around drone use, and almost 6 in 10 of both groups say they have at least a basic understanding of the rules. When asked about the twelve specific Part 101 rules between 22% and 44% of NZ users and between 19% and 52% of overseas users are unaware of each of the rules. A lack of awareness is the main reason for non-compliance with CAA's Part 101 rules, there is very little evidence of deliberate non-compliance among both NZ and overseas visitor RPAS users. The Part 102 rules are known by less than half of all NZ RPAS users, commercial users have higher levels of awareness and compliance with CAA's rules than recreational users.

“Not a lot of people know the rules, and it was hard for me to find information about the rules as it wasn't clear.” Recreational user

“I can't find anywhere in Airshare or CAA that tells me exactly how to get my Part 102 in Christchurch. Not for lack of trying.” Commercial non-Part 102 user

“CAA have done a poor job of communicating the requirements of both rule 101 and 102 to the NZ public and visiting tourists, as a regular user of drones in a number of high profile tourism areas I'm astounded by the people who have no idea what the rules are or who have misunderstood them completely.” Commercial non-Part 102 user

“Only told when here that [we] couldn't fly a drone in national parks.” Overseas visitor RPAS user

Summary & Conclusions |

What are RPAS users' views on the rules?

While only 6 in 10 NZ and overseas visitor RPAS users believe that drones pose a risk to aviation security, almost all believe the rules around the use of drones in New Zealand are important (9 in 10). The majority of NZ and overseas visitor RPAS users think that CAA's rules are at about the right level of strictness (6 in 10 NZ users and 7 in 10 overseas users).

"I think the CAA rules are generally pretty good and sensible..." Recreational user

"As long as people use them responsibly then everyone can enjoy them, but not everyone does so there needs to be some rules." Overseas visitor RPAS user

How aware are RPAS users of CAA, and what are their views on the effectiveness of its rules?

7 in 10 NZ users and nearly half of all overseas visitor users are aware of CAA. Almost 8 in 10 NZ RPAS users feel confident that the rules and regulations set by CAA around the use of drones will effectively ensure the safety and security of New Zealanders and their property.

"I trust the rules and the CAA, what I don't trust are idiots... the rules are right but we seem to have a few idiots about that wreck things for sensible people." Recreational user

"It's good to have rules but they are hard to enforce." Overseas visitor RPAS user

"I think drones are safe if the current rules are followed..." Recreational user



Incidence of RPAS use among New Zealanders

HOW MANY RPAS USERS ARE THERE IN THE NEW ZEALAND POPULATION?

281,428

New Zealanders are estimated to own or fly a remotely piloted aircraft system (RPAS), commonly known as a drone.

8%

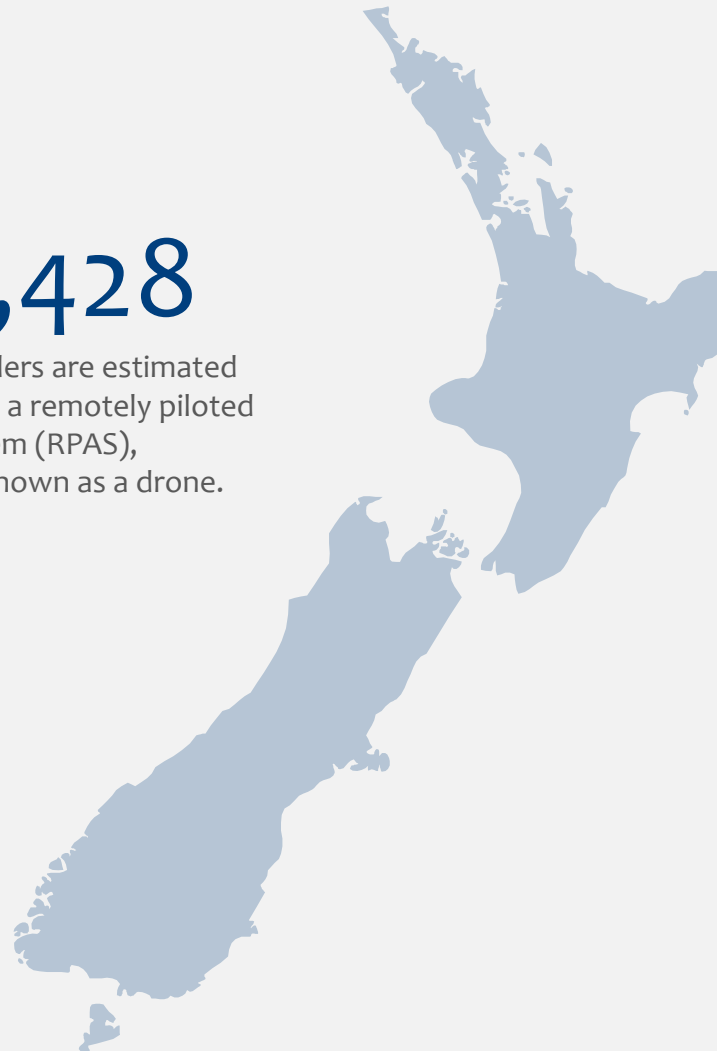


of New Zealanders aged 18+ years are RPAS users.

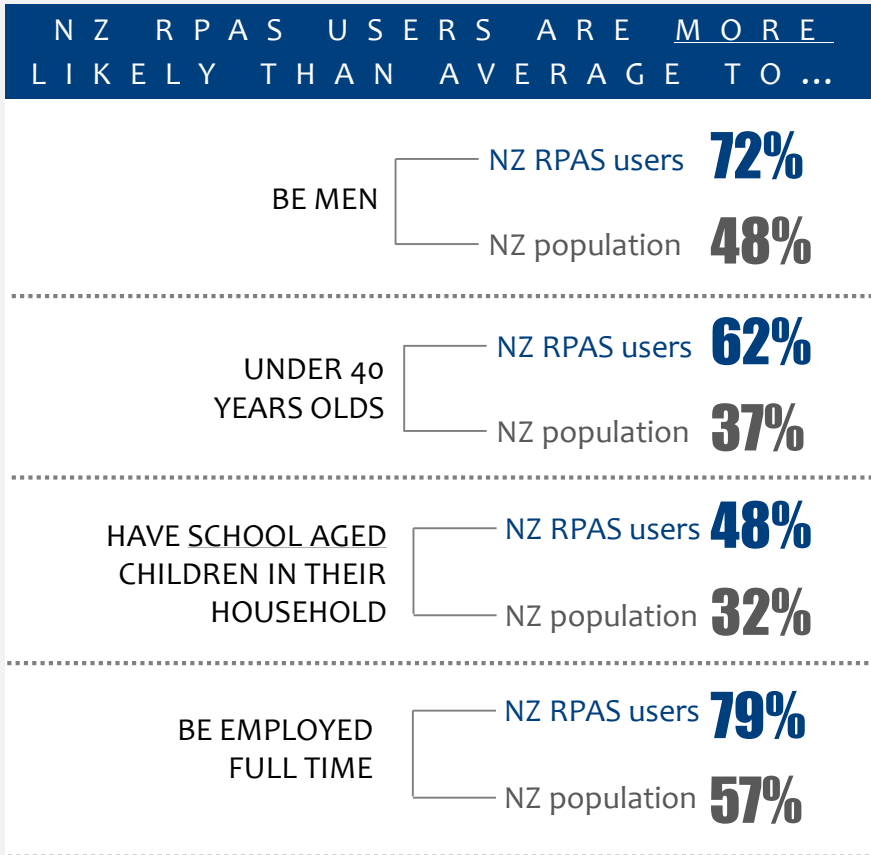
11%



of New Zealand households have at least one RPAS user.



HOW ARE NEW ZEALAND RPAS USERS DEMOGRAPHICALLY DIFFERENT FROM THE NEW ZEALAND POPULATION?



As shown in the table to the left, NZ RPAS users are more likely than average to be men, under 40 years of age, have school aged children in their household, and be employed full time.

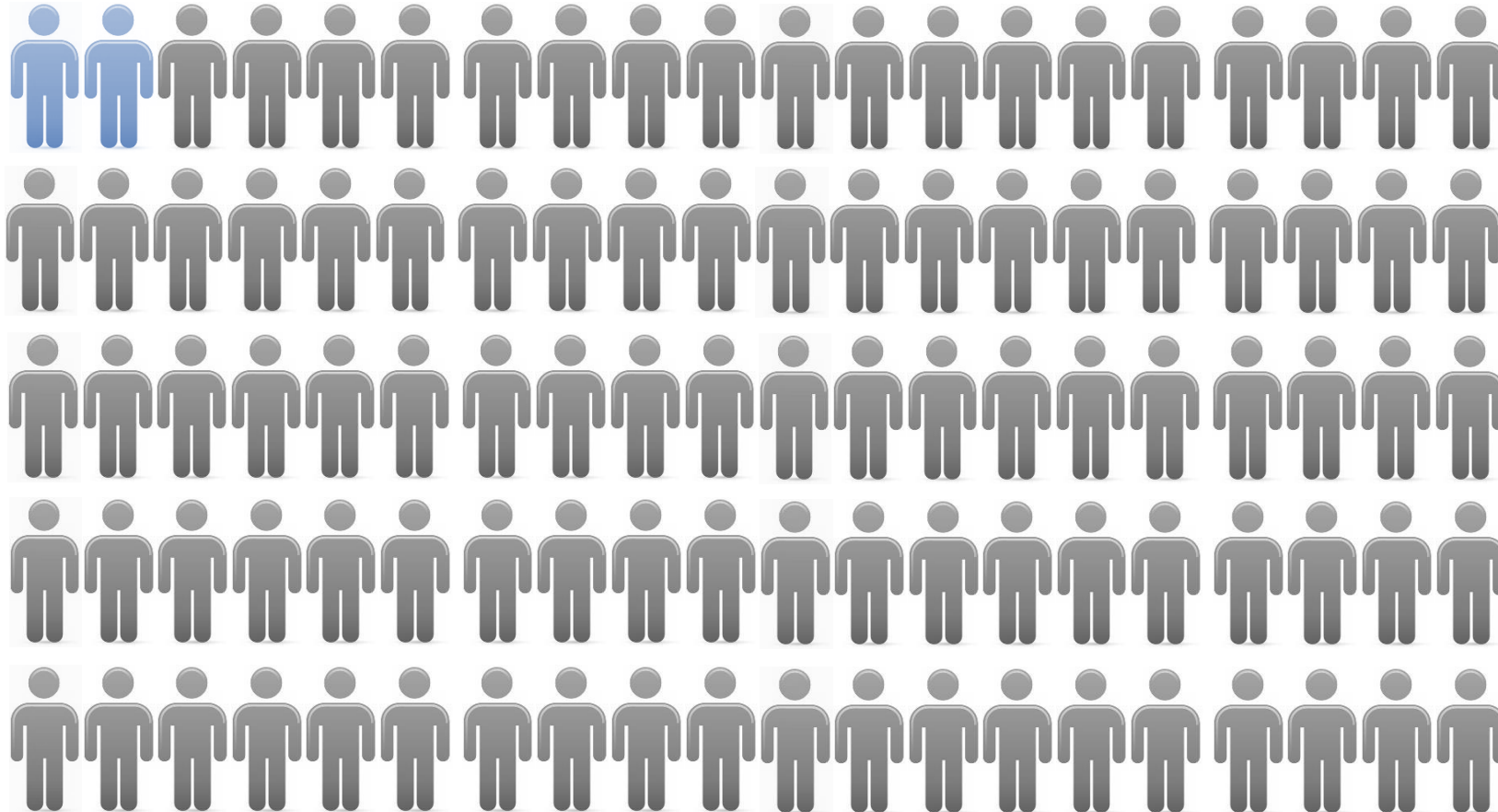
NZ RPAS users are also over-represented in certain occupations. However, this reflects the fact that those occupations are predominantly undertaken by men, and most RPAS users are men.

There are no notable differences between RPAS users and the New Zealand population in terms of ethnicity, region, area type or household income.

An infographic displaying the detailed demographic results for NZ RPAS users, non-users and the New Zealand population is provided in the appendix (see pages 74-75).

HOW MANY NEW ZEALANDERS INTEND TO PURCHASE AN RPAS IN THE NEAR FUTURE?

It is estimated that approximately **2 out of every 100 New Zealanders** aged 18+ years are highly likely to get a new drone within the next three months.



Overall, 2.1%* are likely to get a drone during this time (either through purchasing one themselves or having someone else purchase one for them).

This is equivalent to around **68,000** of all 3,198,501 New Zealanders aged 18 years or over.

* This proportion was gained by multiplying the percentages who said 'extremely likely' and 'very likely' to get a drone by a factor that has been calibrated in other 'likelihood to purchase research'.

WHERE ARE RPAS LIKELY TO BE PURCHASED FROM IN THE FUTURE?

Where are you most likely to buy your next drone from?



New Zealanders are more likely to plan on purchasing their next drone domestically (51%), than from an overseas source (16%). Those who intend to purchase domestically are equally likely to purchase from a New Zealand website (26%) as they are from a New Zealand retail store in person (26%). The main NZ websites/NZ retailers are Trade Me (9% intend to purchase from here) and Noel Leeming (18% intend to purchase from here).

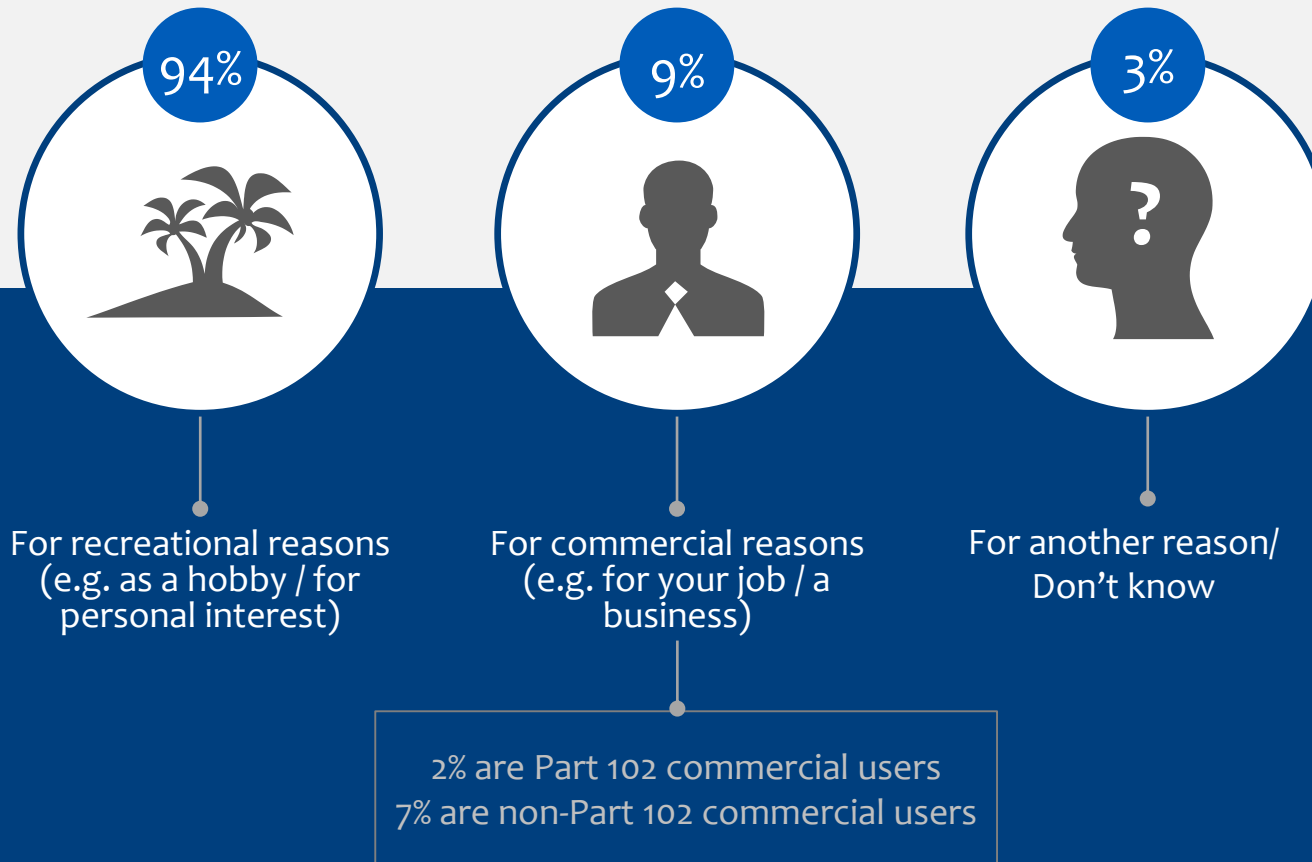
These findings indicate that CAA's information sheet that is included in the packaging of all new RPAS in NZ could be missed by up to 2 in 10 RPAS users, including those who intend to purchase from overseas sources, and some of those intending to purchase second hand or parallel imported through Trade Me. For further insight into New Zealand RPAS users who buy drones from overseas sources see page 46.

Three in ten don't currently know where they would buy their next drone from, this suggests some may need to search for the available options. For insight into the key words that people would type when searching for a new drone online see page 24.



NZ RPAS users

REASONS THAT NZ RPAS USERS OPERATE A DRONE



HOW DO COMMERCIAL AND RECREATIONAL NZ RPAS USERS DIFFER?



Commercial RPAS users are more likely than recreational RPAS users to have seen and read CAA's information sheet on the NZ drone use rules. Generally, commercial NZ RPAS users are more aware and compliant with the New Zealand drone use rules than recreational NZ RPAS users.



Comments from recreational RPAS users

Drone flying is not a one-size-fits-all subject and I am very worried that someone is going to make a decision that makes my hobby inaccessible, or forces me to break the law constantly with activities that I know to be safe in spirit. I do not believe enough consideration is being given to the spectrum of users that these rules affects, and would like to see better thought going into the creation of rules.

Any potential problems tend to be caused by idiots and tourists. Idiots just ignore the rules, tourists are often unaware and don't bother to find out, then they go home before they can get caught for any wrong doing. The rest of us are left taking the blame.



Comments from commercial RPAS users

Most commercial operators use drones very safely. The people who use them dangerously are the general public with easily accessible drones bought in-store. These pose the greatest threat. There is very little consequence for people who blatantly defy the regulations to make some pretty video for social media.

Commercial users of drones would like to restrict hobby users. Regulations will not ensure the safety of general or commercial aviation - the risk is generally from users who do not read or obey regulations.

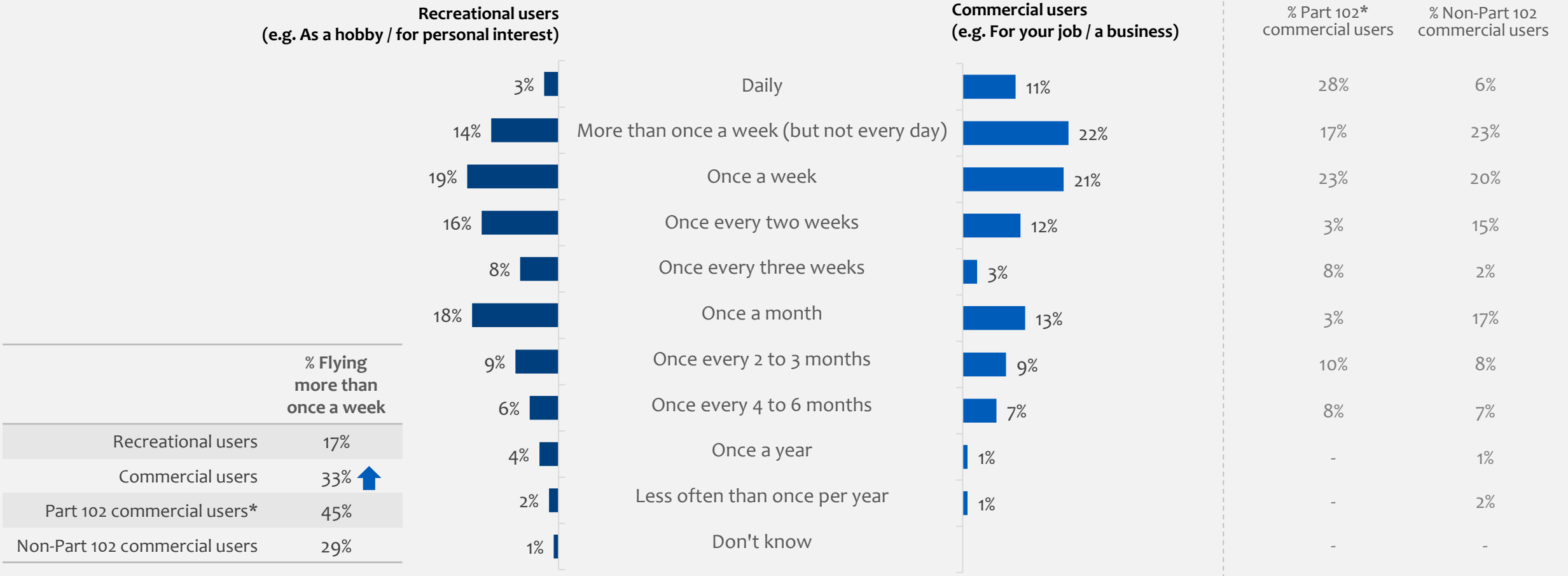


The majority of the NZ RPAS users section in this report focusses on the overall picture for all NZ RPAS users. If results for commercial versus recreational users are not presented in the main body of the report additional charted results for both recreational and commercial RPAS users (including columns of data for the Part 102 commercial group and the non-Part 102 commercial group) can be found in the appendix.

Where the commercial users' results are significantly higher or lower than the recreational users group a blue arrow is shown beside the result to indicate the direction of the difference (↓↑).

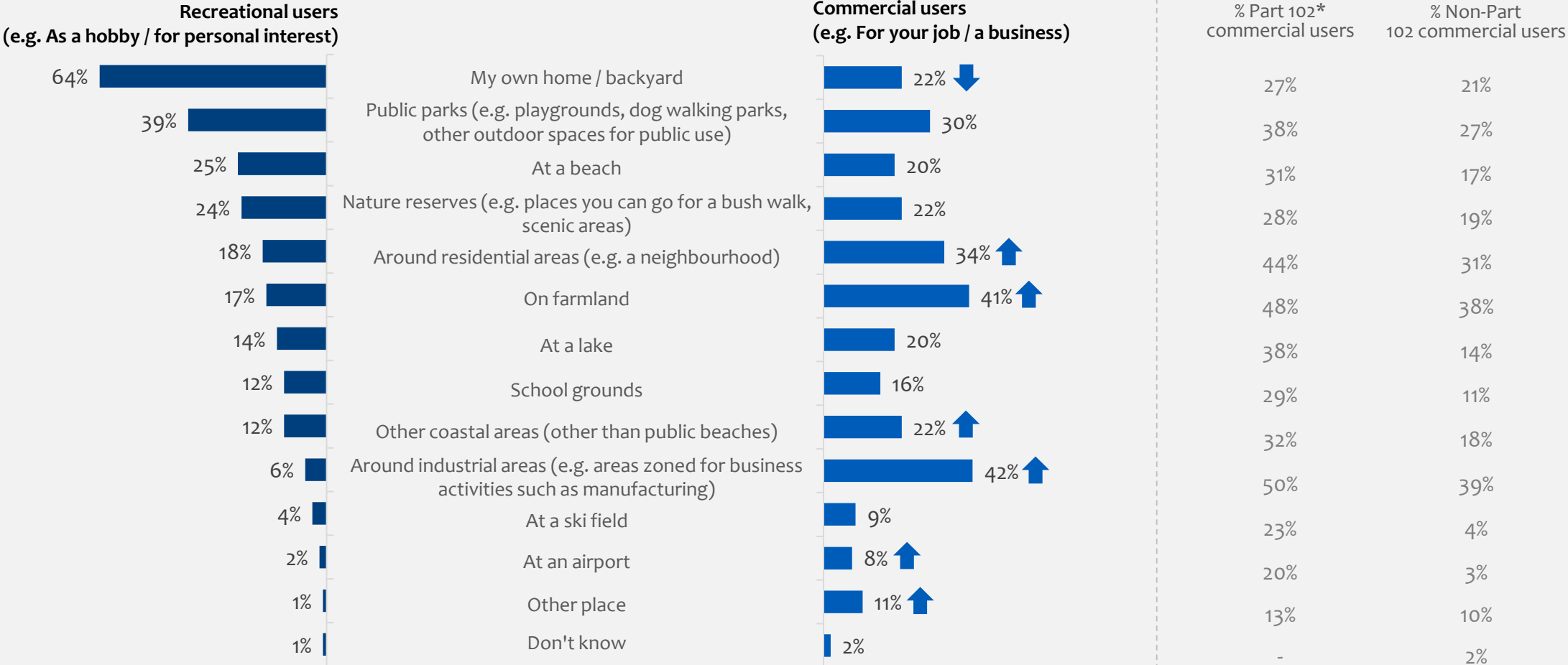
HOW FREQUENTLY DO COMMERCIAL VS. RECREATIONAL NZ RPAS USERS FLY THEIR RPAS?

Commercial users tend to fly their RPAS more frequently than recreational users, with a higher proportion flying on multiple days of the week.



WHERE DO COMMERCIAL VS. RECREATIONAL USERS OPERATE A RPAS?

Commercial users are more likely than recreational users to fly a RPAS around residential and industrial areas, on farm land, at airports, and around other (non-beach) coastal areas, they are less likely than recreational users to fly a RPAS at home.



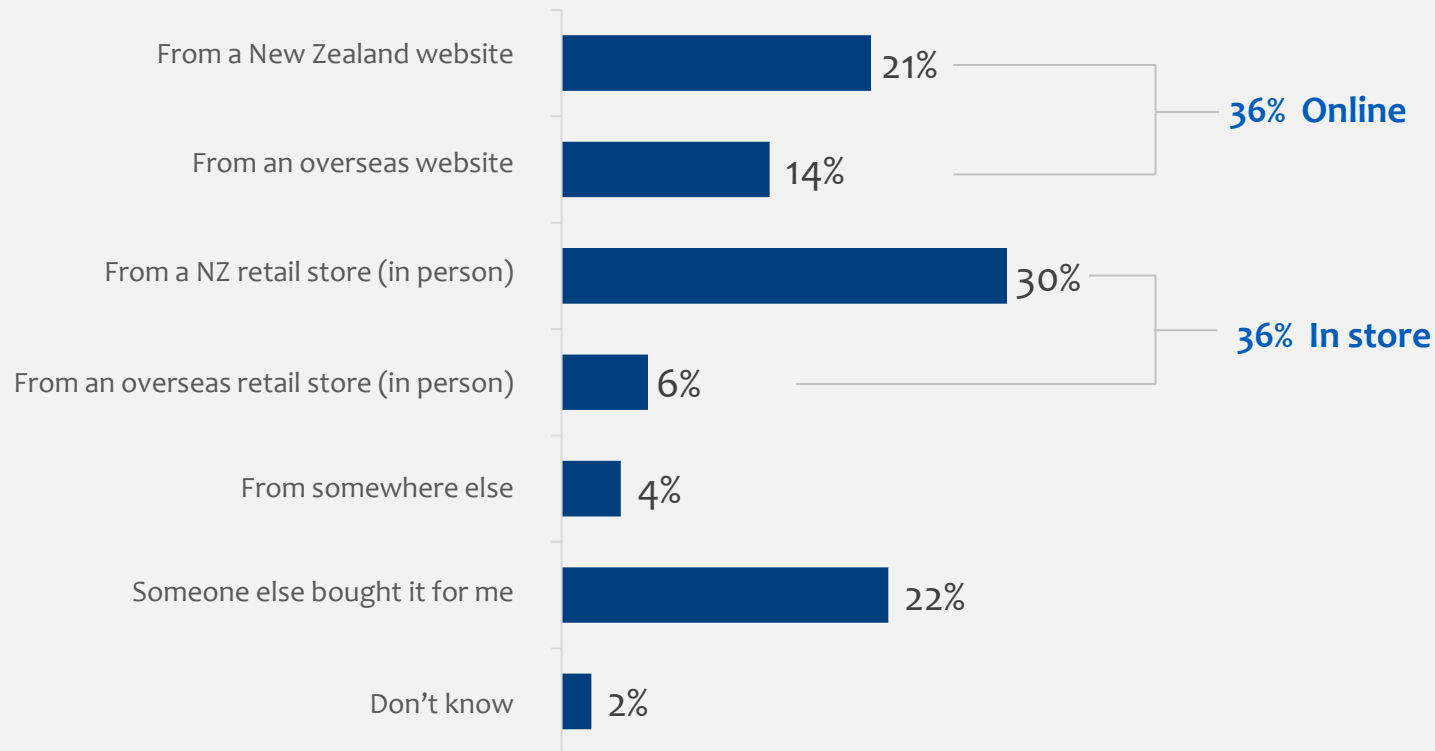
DEMOGRAPHIC CHARACTERISTICS OF COMMERCIAL VS. RECREATIONAL NZ RPAS USERS

Commercial users are more likely than recreational users to be men, own more than one drone, be a member of a drone user group, and have a Part 102 certificate. Additional demographic results for these groups can be found in the appendix (see pages 76-78).



WHERE HAVE NZ RPAS USERS PURCHASED RPAS FROM?

Where did you buy your latest drone from?



NZ RPAS users are more likely to have purchased their latest drone domestically (52%), than from an overseas source (20%). The rest either received their drone as a gift (22%), or obtained it some other way (4%).

Of those who purchased domestically, a higher proportion did so by visiting a New Zealand retail store (30%) than by ordering from a New Zealand website (21%). The main NZ retailers/NZ websites that were used are Noel Leeming (9% purchased there), and Trade Me (7% purchased there).

These findings suggest that CAA's information sheet that is included in the packaging of all new RPAS in NZ was missed by the 2 in 10 NZ RPAS users who purchased overseas, and may also have been missed by those who bought a second hand or parallel imported drone through Trade Me. Awareness of CAA's information sheet, by source of purchase, is covered on page 33.

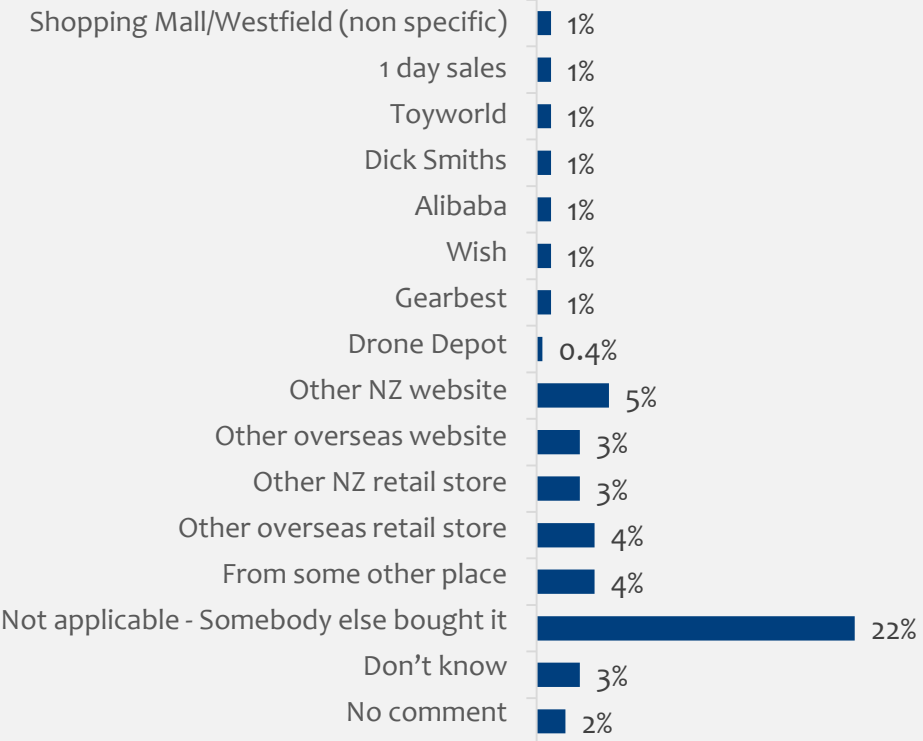
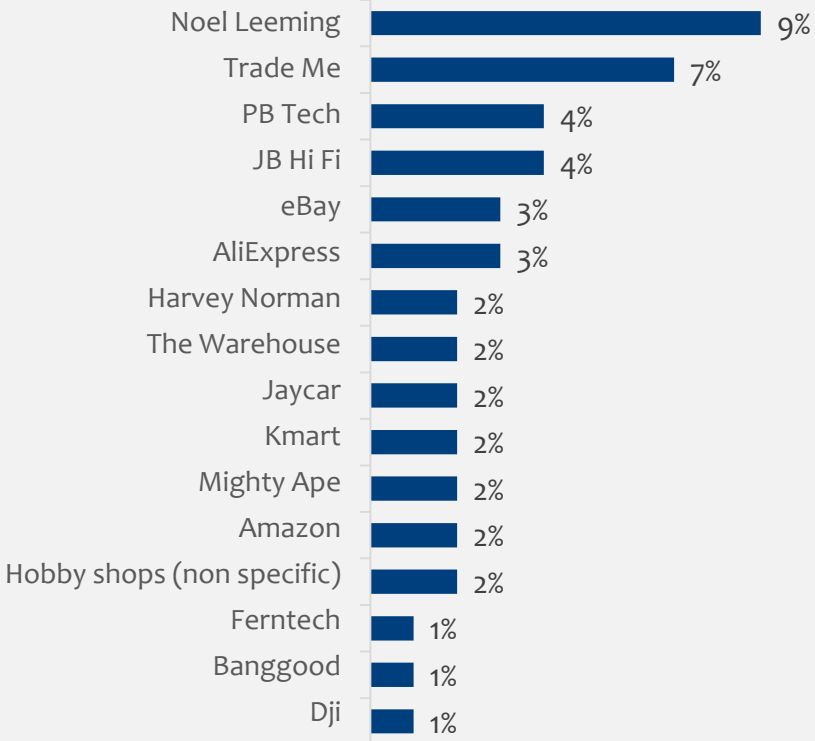
The full range of places that NZ RPAS users got their drones from is presented on the next two pages.

Source: B2

Base: All NZ RPAS users (n=1,086)

Note: Due to rounding, percentages in the chart may not add to 100%, and the nett percentages may not add to the sum of their parts that are shown in the chart

SPECIFIC PLACES NZ RPAS USERS PURCHASED THEIR LATEST DRONE FROM



SPECIFIC PLACES NZ RPAS USERS PURCHASED THEIR LATEST DRONE FROM - WITHIN EACH PURCHASE METHOD

NZ website

Trade Me	31%
Mighty Ape	11%
PB Tech	8%
1 day sales	6%
Ferntech	5%
The Warehouse	2%
JB Hi Fi	2%
Noel Leeming	1%
Dji	1%
eBay	1%
Amazon	1%
Harvey Norman	1%
Other NZ website	23%
No comment	4%
Don't know	1%

Overseas website

AliExpress	22%
eBay	15%
Amazon	15%
Banggood	6%
Hobby shops (non specific)	5%
Dji	4%
Alibaba	4%
Wish	4%
Gearbest	3%
Other overseas website	20%
Don't know	2%

NZ retail store in person

Noel Leeming	28%
JB Hi Fi	11%
PB Tech	8%
Jaycar	7%
Harvey Norman	6%
Kmart	6%
The Warehouse	4%
Shopping Mall/Westfield (non specific)	4%
Hobby shops (non specific)	3%
Toyworld	3%
Dji	2%
Dick Smiths	2%
Other NZ retail store in person	12%
Ferntech	1%
Drone Depot	1%
No comment	1%
Don't know	1%

Overseas retail store in person

Hobby shops (non specific)	4%
JB Hi Fi	3%
Shopping Mall	2%
Dji	2%
Other overseas retail store in person	77%
No comment	8%
Don't know	4%

WHAT ARE THE BEST COMMUNICATION CHANNELS FOR NZ RPAS USERS?

The places that capture this group's time and attention the most are....



Free to air and pay television



Online music/videos and television



The outdoors

When asked to select the information source they are most likely to read after purchasing a drone, the current methods CAA use to distribute information about the rules for flying drones in NZ, i.e. information provided in drone packaging and provided on websites are the main ones chosen by NZ RPAS users. However, in response to an open-ended question users also suggest that retailers could directly convey information to drone buyers at the point of purchase. This could include handing over an information sheet, talking about the rules with the buyer, and/or having information located where the drones are being displayed in store.



+



+



Details are shown on the following six pages.

EXTENT TO WHICH GOOGLE AND OTHER SEARCH ENGINES ARE USED BY NZ RPAS USERS

How often do you use the following search engines?

At least sometimes

Google



Other search engine



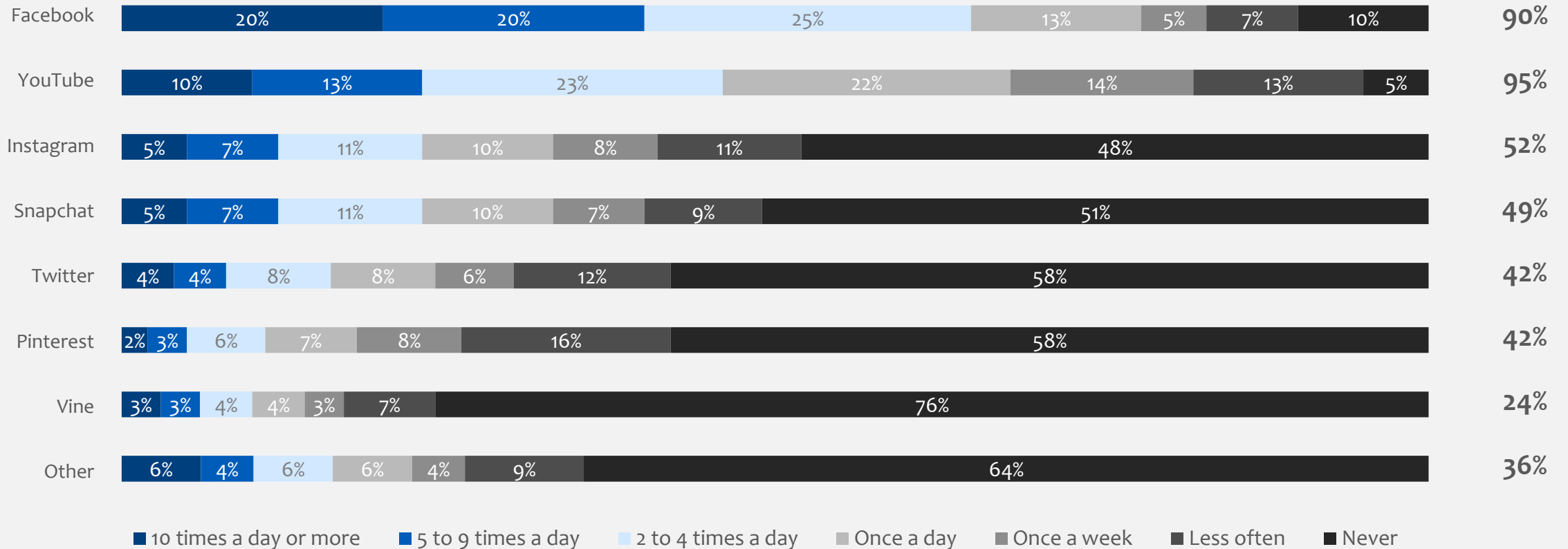
- Several times a day
- Once a day
- Several times a week
- Fortnightly
- Once a month
- Less than once a month
- Never

There are no notable differences in the commercial vs. recreational user results.

EXTENT TO WHICH VARIOUS FORMS OF SOCIAL MEDIA ARE USED BY NZ RPAS USERS

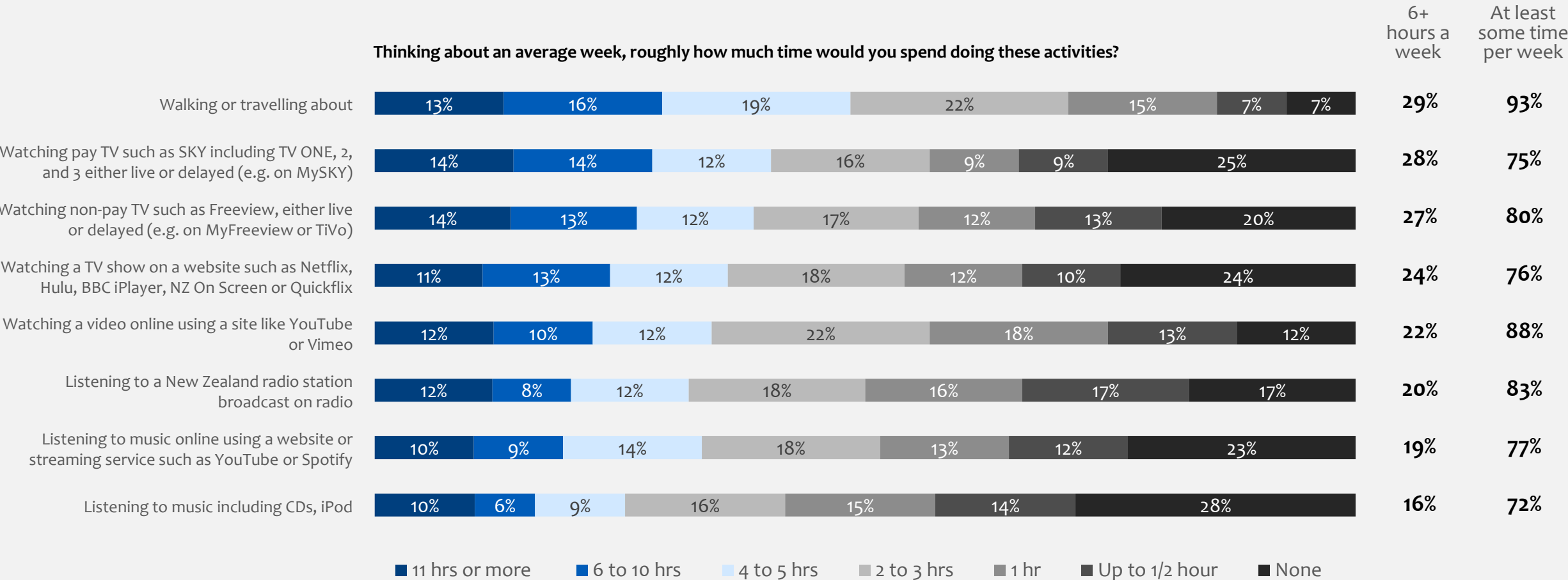
How frequently do you use these sites?

At least sometimes



There are no notable differences in the commercial vs. recreational user results.

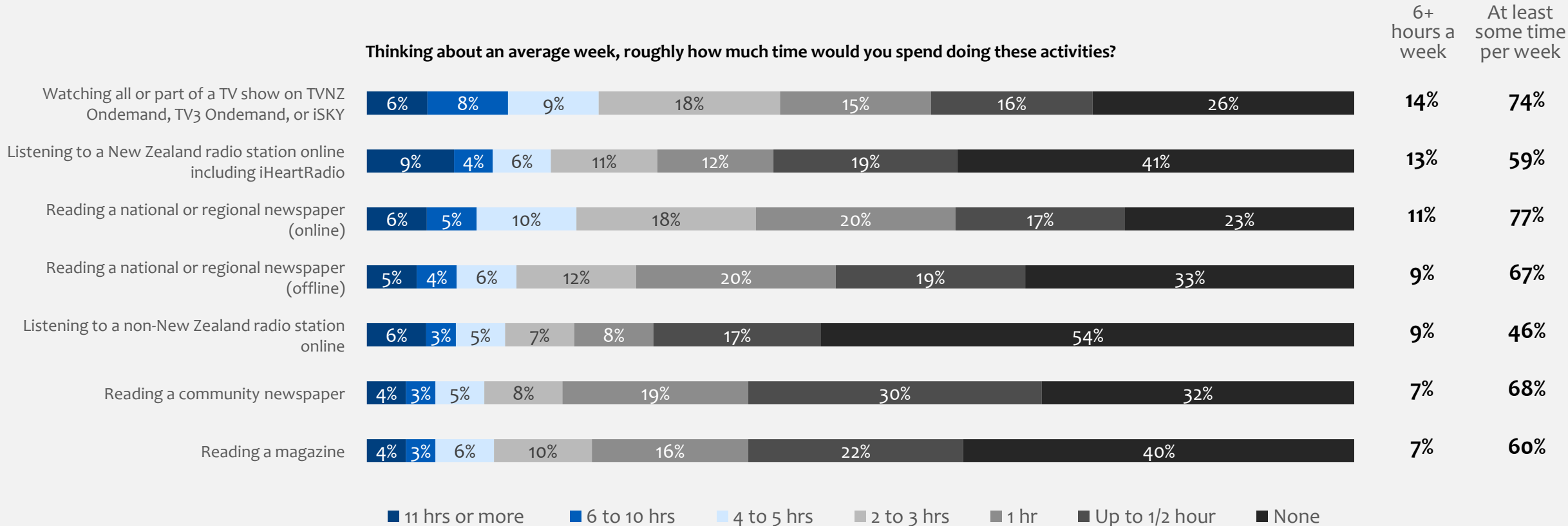
TIME NZ RPAS USERS SPEND CONSUMING VARIOUS TYPES OF MEDIA DURING AN AVERAGE WEEK



There are no notable differences in the commercial vs. recreational user results.

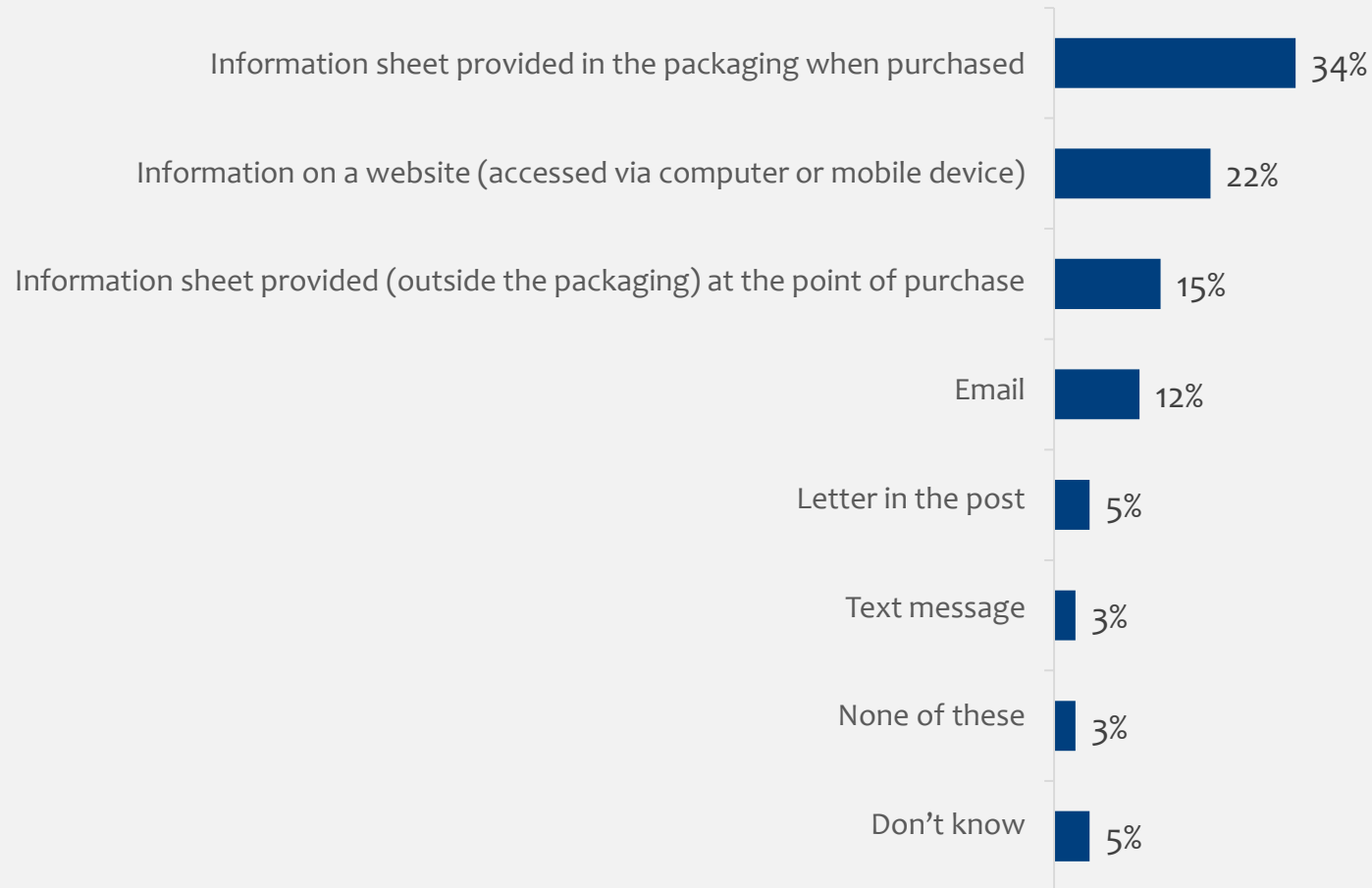
TIME NZ RPAS USERS SPEND CONSUMING VARIOUS TYPES OF MEDIA DURING AN AVERAGE WEEK - CONTINUED

Thinking about an average week, roughly how much time would you spend doing these activities?



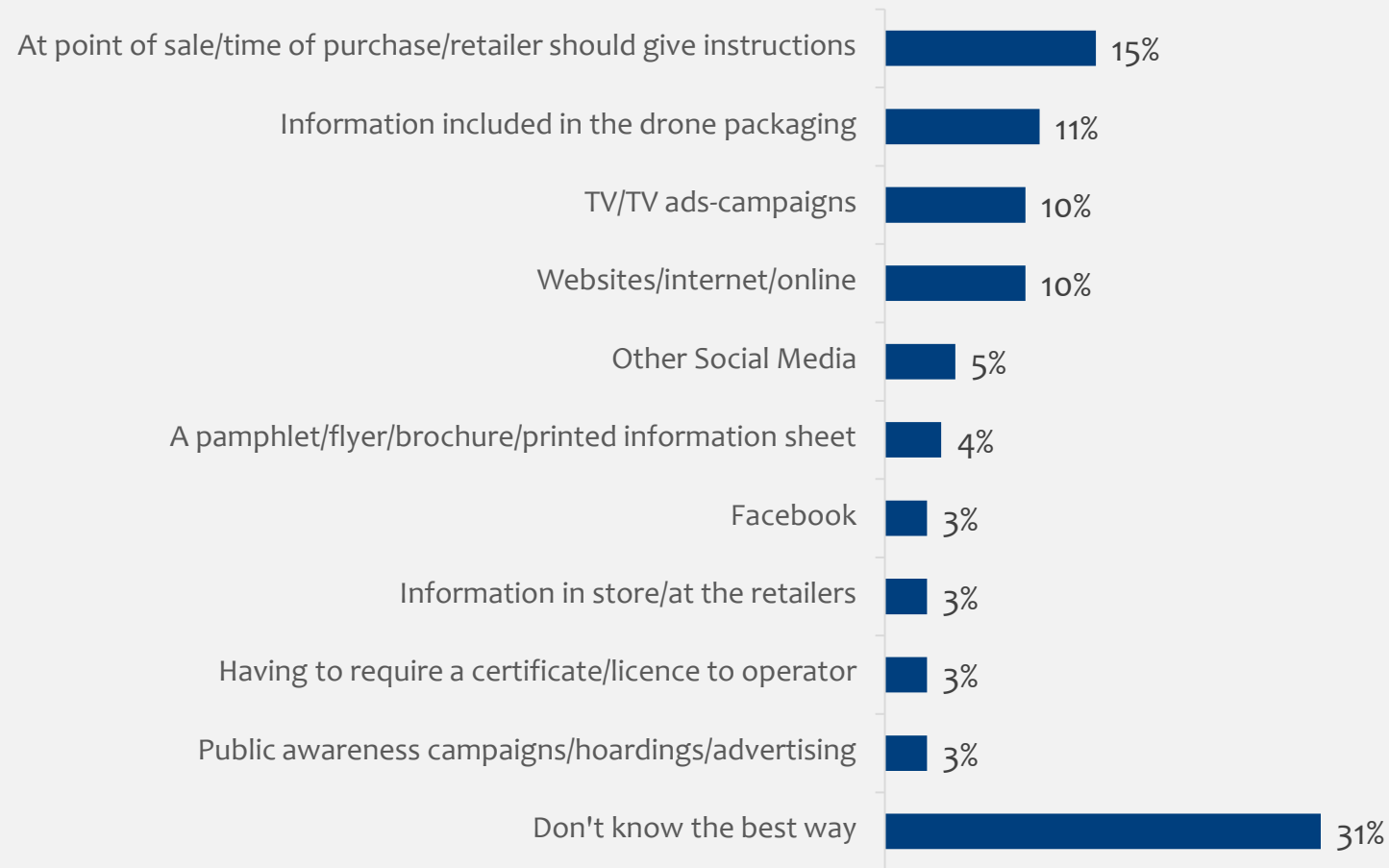
There are no notable differences in the commercial vs. recreational user results.

SOURCE OF INFORMATION ABOUT NZ DRONE USE RULES THAT NZ RPAS USERS SAY THEY ARE MOST LIKELY TO READ



There are no notable differences in the commercial vs. recreational user results.

NZ RPAS USERS' UNPROMPTED SUGGESTIONS FOR HOW BEST TO INFORM THEM OF THE NZ DRONE USE RULES



Results for commercial and recreational RPAS users are largely similar, the only exceptions are that a higher proportion of commercial users suggest...

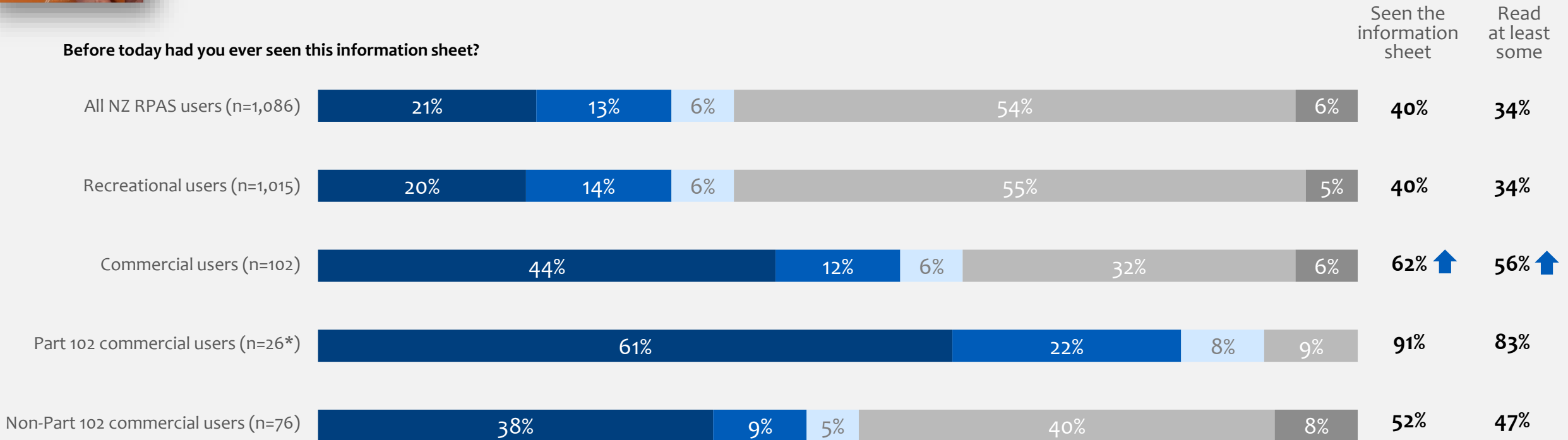
- Mandatory testing/training (6% vs. 1% of recreational users)
- Having greater publicity for tourists/at airports/customs (6% vs. 1% of recreational users)
- Using other forms of social media (10% vs. 5% of recreational users)



HOW MANY NZ RPAS USERS HAVE SEEN AND READ CAA'S INFORMATION SHEET ON NZ DRONE USE RULES?

Only 4 in 10 NZ RPAS had seen CAA's information sheet before, and just 3 in 10 had read at least some of it. Commercial users are more likely than recreational users to have seen the sheet and to have read all of it.

Before today had you ever seen this information sheet?

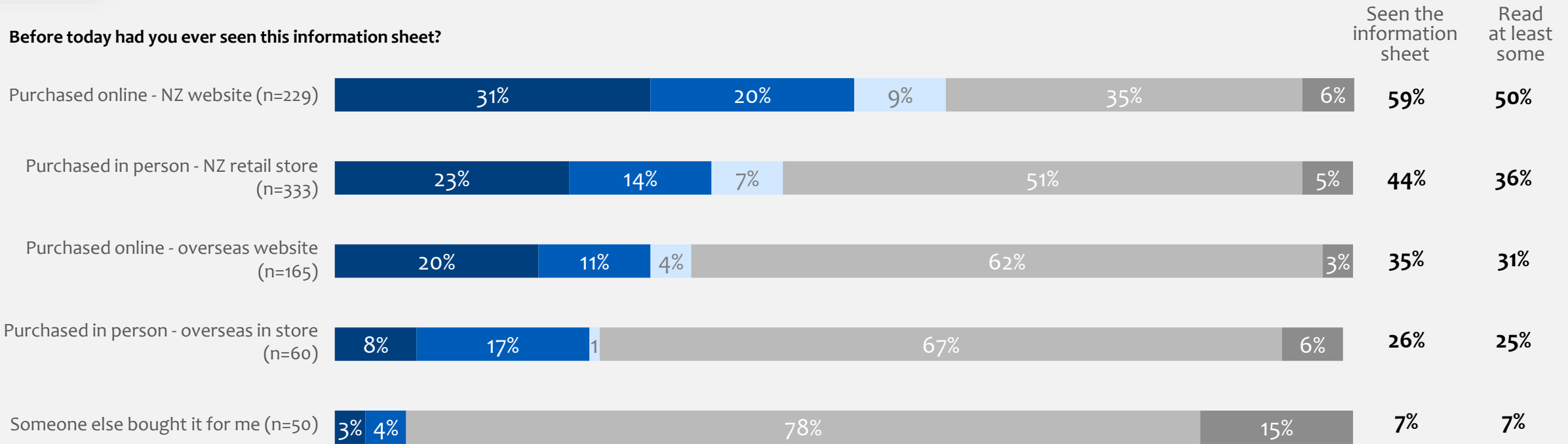


- Yes, and I read all of it
- Yes, but I only read some of it
- Yes, but I didn't read any of it
- No, I've never seen the information sheet before
- Can't remember



DO THE RESULTS DIFFER BY SOURCE OF DRONE PURCHASE?

NZ RPAS users who purchased their latest drone from a New Zealand source are more likely to have seen CAA's information sheet than those who bought their drone from an overseas source. Only half of those who purchased from a NZ website had read at least some of the information on the sheet. A far lower proportion of all the other groups had done so, including those who purchased from a NZ retail store.

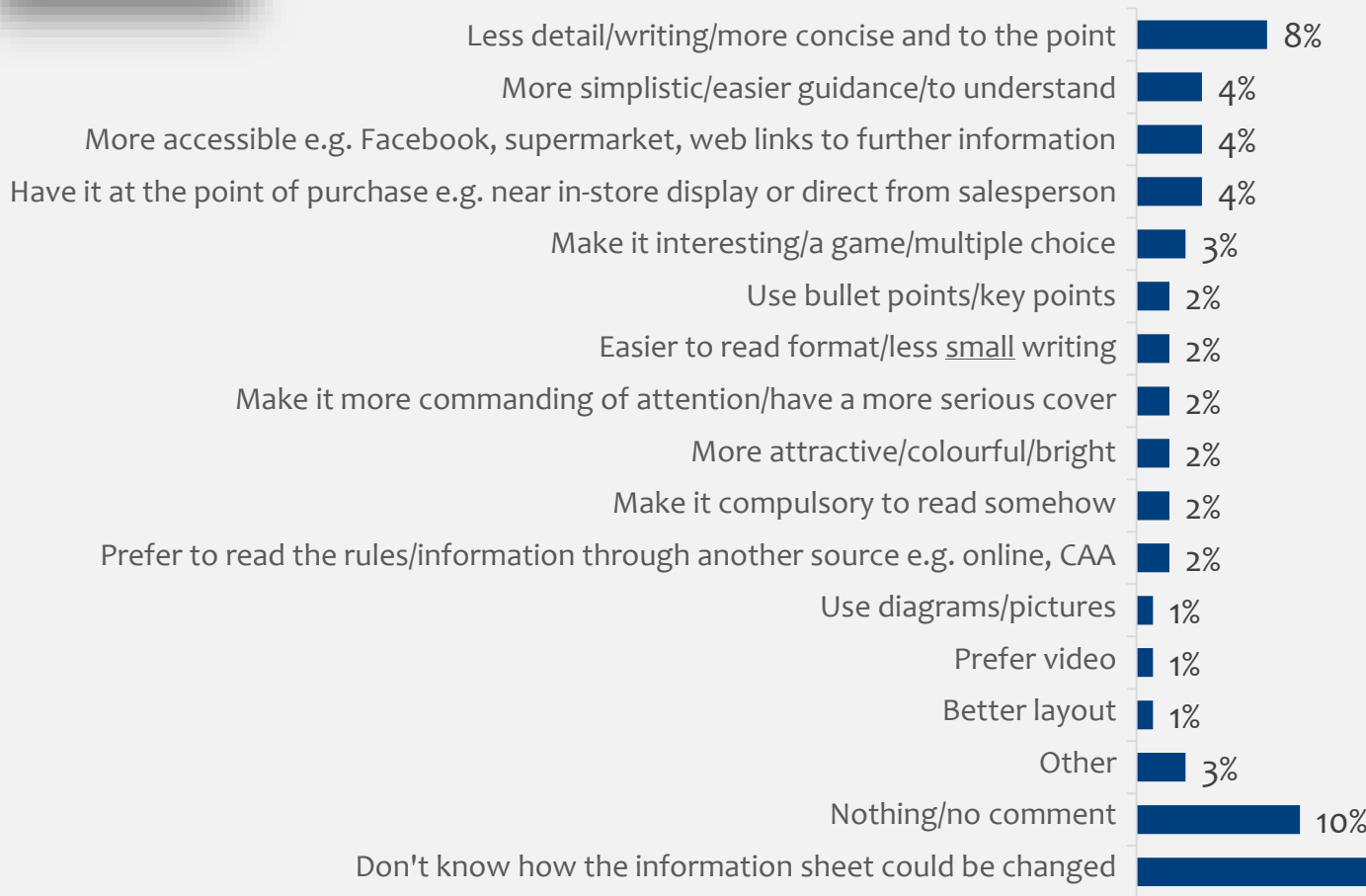


“ The pamphlet was not in the new drone I bought this week from Kmart. Recreational user ”

- Yes, and I read all of it
- Yes, but I only read some of it
- Yes, but I didn't read any of it
- No, I've never seen the information sheet before
- Can't remember



NZ RPAS USERS' UNPROMPTED SUGGESTIONS FOR CHANGING THE INFORMATION SHEET TO MAKE THEM MORE LIKELY TO READ IT



“ Example comments

Just use key points - dos and don'ts.

Use bullet points. It's very long winded.

Short and concise.

Simple language.

Bigger fonts and better layout.

In simple sections, with diagrams.

Information could be [a] tad more clear.

Post it on Facebook.

Put it next to the drone display stands in retail shops e.g. Noel Leeming.

When you buy the drone instead of the information sheet in the box have the salesman hand [it] to you and tell you to have [a] read of it.

Multiple choice questions on [the rules] as scratchy answers.

Turn it into a game somehow. Like a true or false game.

Have a more serious cover as in: LAWS OF FLYING A DRONE IN NZ - ALL RULES MUST BE FOLLOWED/COMPLIED WITH OR YOU MAY BE PROSECUTED AND LEGAL PROCEEDINGS MAY BE USED AGAINST YOU.

Put 'must read' words on it.

More attention grabbing on the front.

...I was just too excited and wanted to fly, but will read and study the rest in the next few days.

”



HOW EASY DO NZ RPAS USERS WHO HAVE READ CAA'S INFORMATION SHEET THINK IT IS TO UNDERSTAND?

95% of the NZ RPAS users who had read at least some of CAA's information sheet found it easy to understand

4% didn't find it easy to understand



■ Extremely easy to understand

■ Very easy to understand

■ Quite easy to understand

■ Not that easy to understand

■ Not at all easy to understand

■ Don't know

“ Reasons given for why the sheet was not considered easy to understand:

*Too many [rules] to remember them all.
It's way too long.*

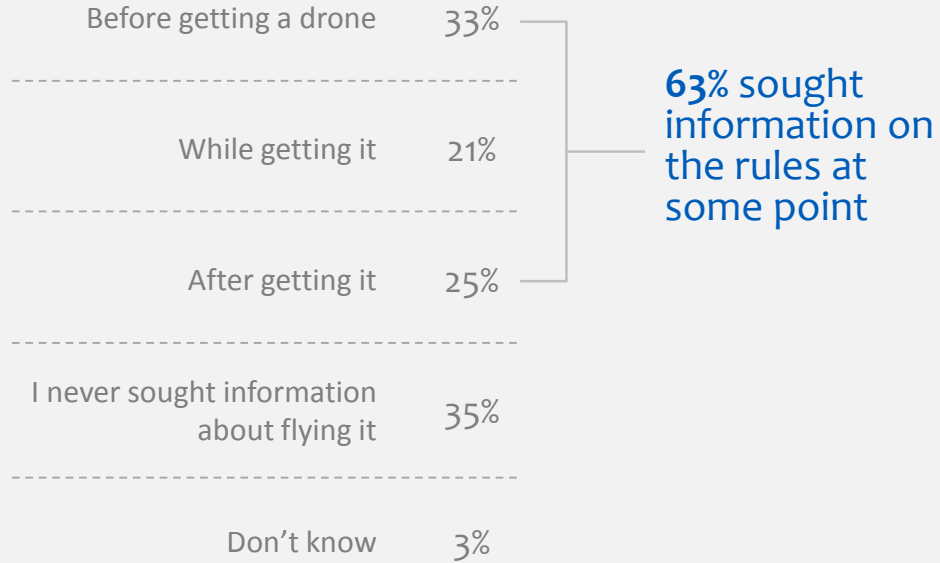
Poorly written.

The regulation is too strict.

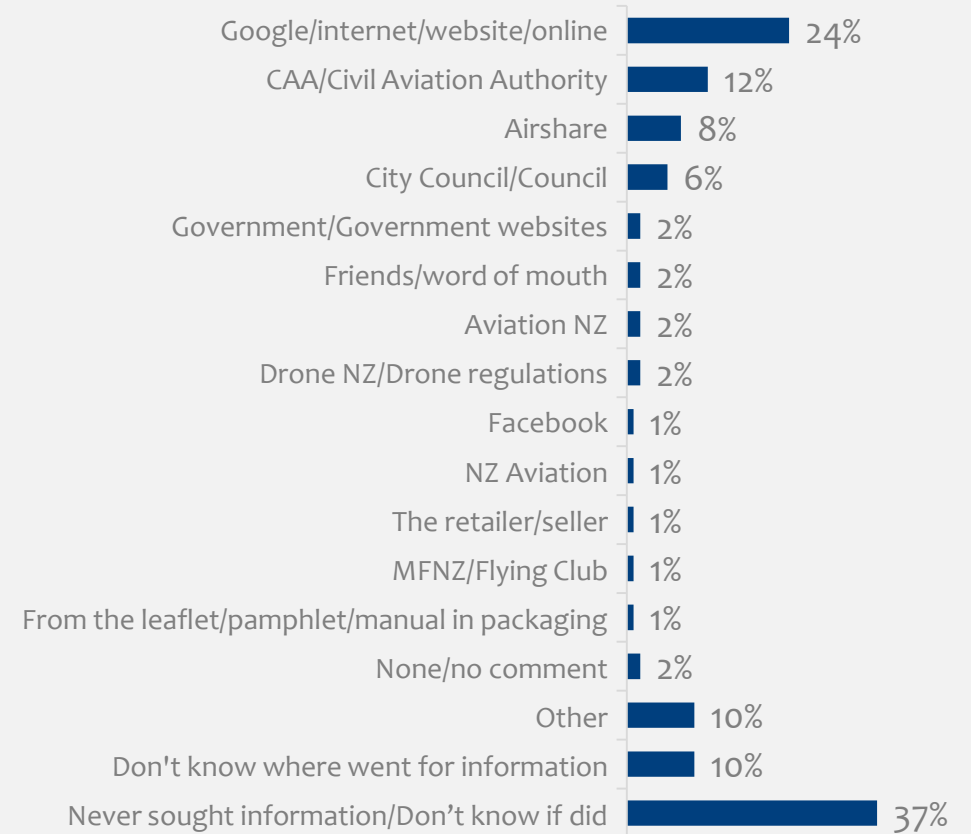


WHEN DO NZ RPAS USERS LOOK FOR INFORMATION ON THE RULES FOR FLYING DRONES IN NZ? WHAT SOURCES DO THEY USE?

Stages at which information on the rules in New Zealand around the use of drones is sought

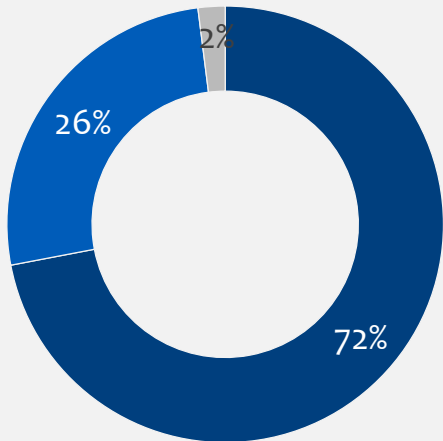


Where NZ RPAS users seek information



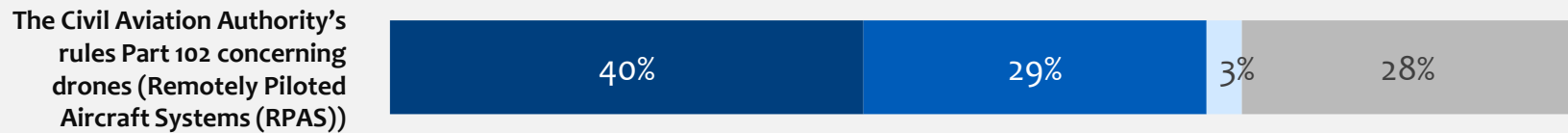
BEFORE TAKING PART IN THIS SURVEY AROUND 7 IN 10 NZ RPAS USERS HAD HEARD OF THE CIVIL AVIATION AUTHORITY, 4 IN 10 HAD HEARD OF THE TERMS ‘CIVIL AVIATION AUTHORITY RULES PART 101 & PART 102’, AND ONE THIRD KNEW HOW TO CONTACT CAA’S RPAS STAFF

Awareness of the Civil Aviation Authority



- Yes, I was aware of this
- No, I wasn't aware of this
- Don't know

Were you aware of these before starting the survey?

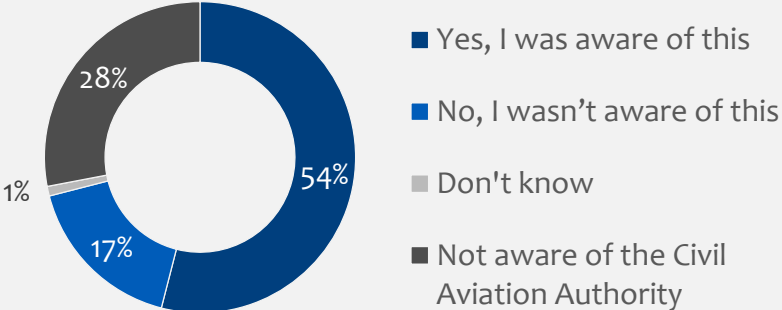


- Yes, I was aware of this
- No, I wasn't aware of this
- Don't know
- Not aware of the Civil Aviation Authority

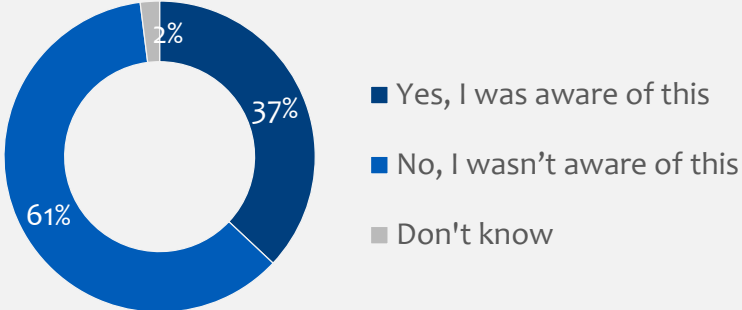
CAA'S WEBSITE IS KNOWN BY AROUND HALF OF ALL NZ RPAS USERS, AND NEARLY 4 IN 10 ARE AWARE OF THE AIRSHARE WEBSITE. JUST UNDER 5 IN 10 NZ RPAS USERS HAVE READ AT LEAST A BIT OF THE NZ DRONE USE RULES ON THE CAA WEBSITE, AND ONE THIRD HAVE READ AT LEAST A BIT OF THE NZ DRONE USE RULES ON THE AIRSHARE WEBSITE.

Awareness of websites

The Civil Aviation Authority website (www.caa.govt.nz)



The Airshare website (www.airshare.co.nz)



Extent to which information on these websites about the rules around drone use in New Zealand is read

The Civil Aviation Authority website (www.caa.govt.nz)



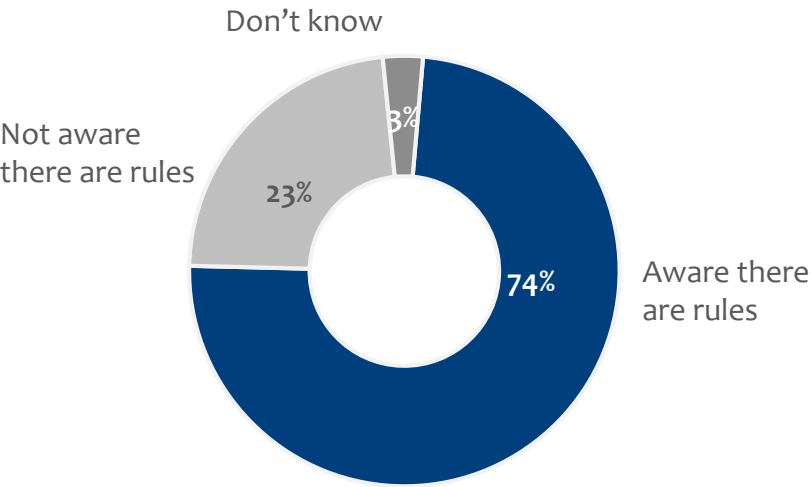
The Airshare website (www.airshare.co.nz)



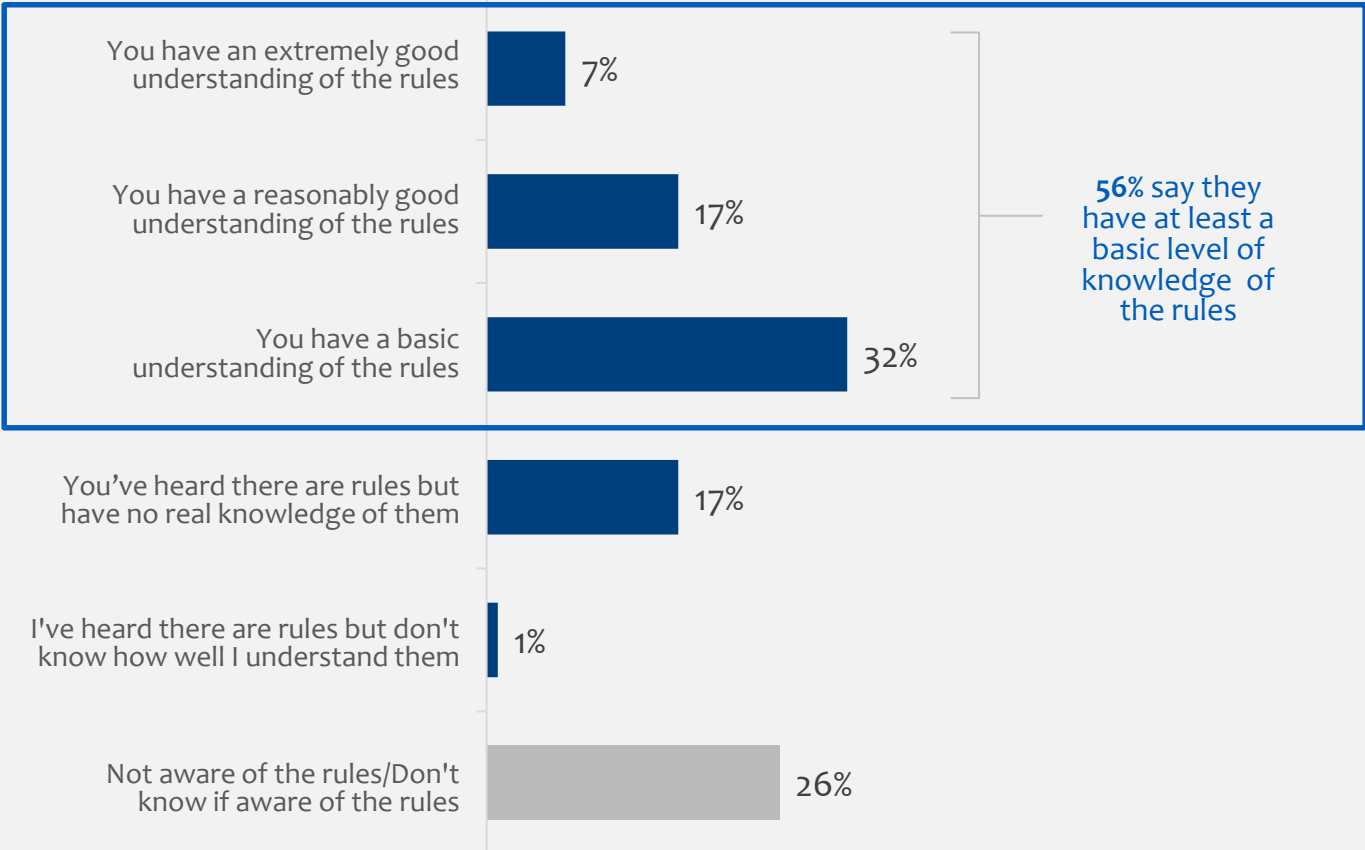
Legend: ■ All of it ■ Most of it ■ A bit of it ■ None of it ■ Can't remember ■ Not aware of website

ALMOST THREE QUARTERS OF NZ RPAS USERS SAY THAT THEY ARE AWARE THERE ARE DRONE USE RULES IN NZ. NEARLY SIX IN TEN SAY THEY HAVE AT LEAST A BASIC LEVEL OF KNOWLEDGE ABOUT THE RULES

Awareness that there are rules in New Zealand around the use of drones among NZ RPAS users



How much NZ RPAS users say they know about the rules



Comments from those who were unaware

I honestly had no idea there were rules for flying and am a little embarrassed I didn't know. Recreational user

I had no idea that there was rules about this, good to know we haven't been breaking them, as we used common sense, but yeah, we didn't know. Recreational user

NZ RPAS USERS' AWARENESS OF AND COMPLIANCE WITH THE PART 101 RULES

Each rule is known by almost 6 to 8 in 10 NZ RPAS users, and the proportion of NZ RPAS users who always or usually comply with each of the rules ranges from 5 in 10 up to 7 in 10. There is some evidence of deliberate non-compliance i.e. being aware of a rule but still rarely/never complying with it, but non-compliance is largely due to a lack of awareness of the rules.

Rules that are most commonly known and complied with include...

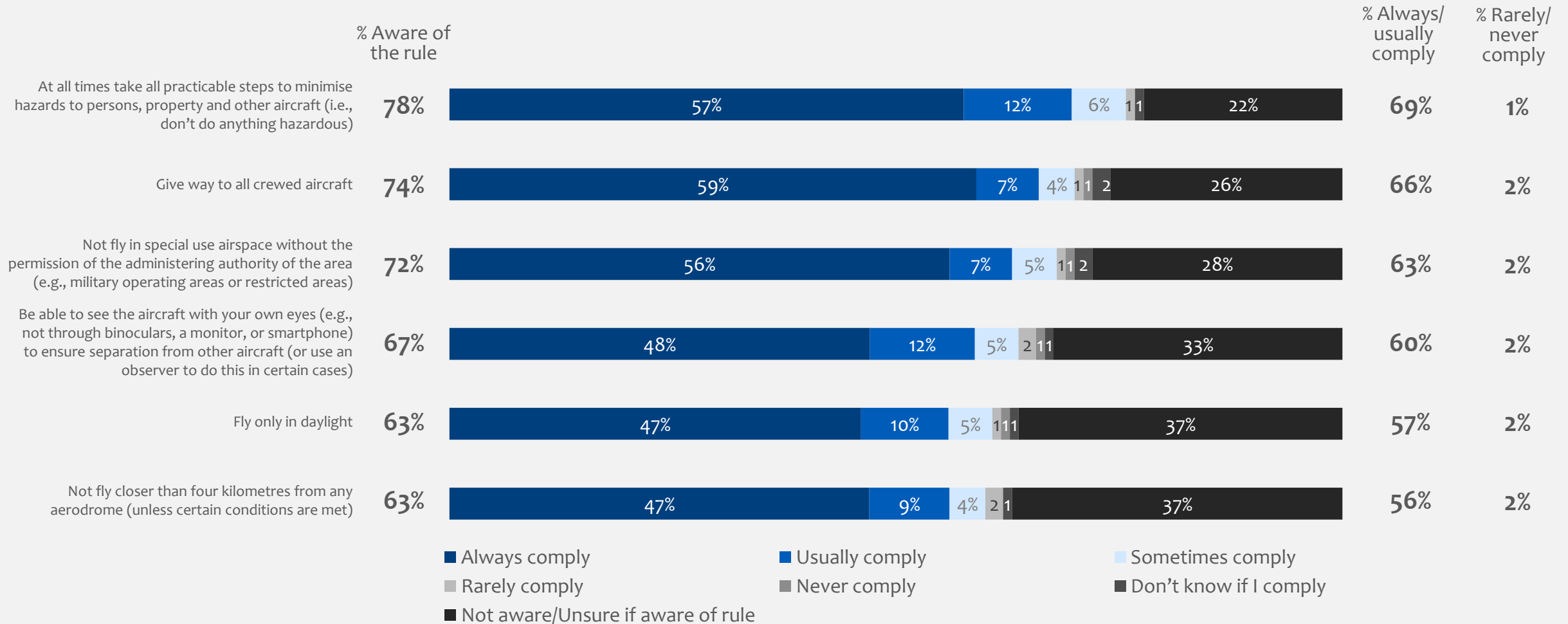
	% Aware of rule	% Always/usually comply	% Rarely/never comply
At all times take all practicable steps to minimise hazards to persons, property and other aircraft (i.e., don't do anything hazardous)	78%	69%	1%
Give way to all crewed aircraft	74%	66%	2%
Not fly in special use airspace without the permission of the administering authority of the area (e.g., military operating areas or restricted areas)	72%	63%	2%

Rules that are least commonly known and complied with include...

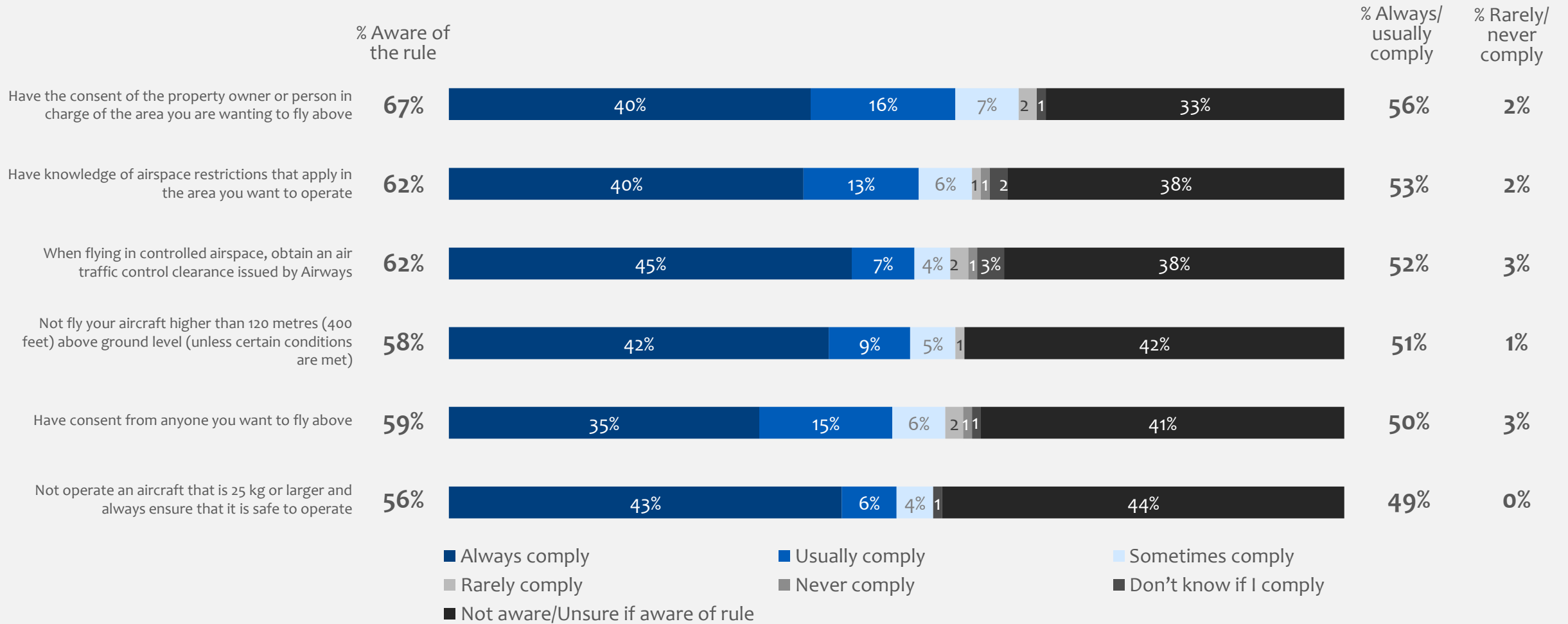
	% Aware of rule	% Always/usually comply	% Rarely/never comply
Not fly your aircraft higher than 120 metres (400 feet) above ground level (unless certain conditions are met)	58%	51%	1%
Have consent from anyone you want to fly above	59%	50%	3%
Not operate an aircraft that is 25 kg or larger and always ensure that it is safe to operate	56%	49%	0%

Details are provided on the following two pages.

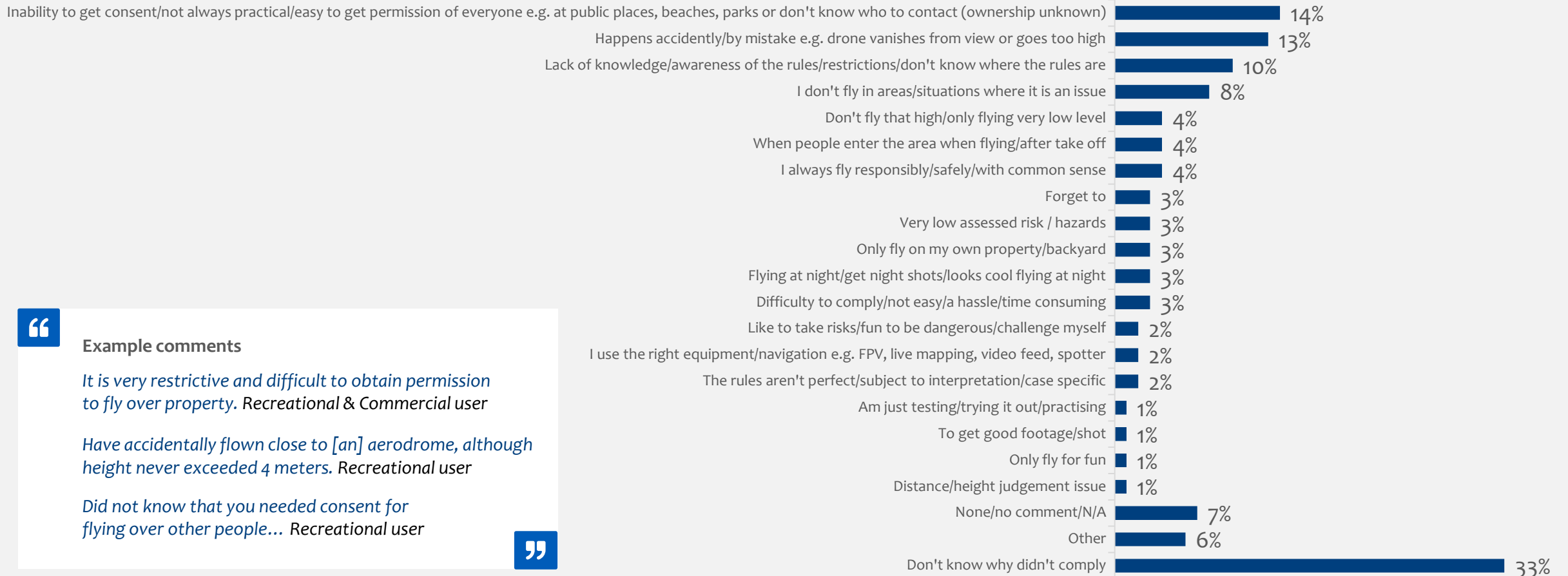
NZ RPAS USERS' AWARENESS OF AND COMPLIANCE WITH THE PART 101 RULES



NZ RPAS USERS' AWARENESS OF AND COMPLIANCE WITH THE PART 101 RULES - CONTINUED



REASONS NZ RPAS USERS GIVE FOR NOT ALWAYS COMPLYING WITH THE PART 101 RULES



Example comments

It is very restrictive and difficult to obtain permission to fly over property. Recreational & Commercial user

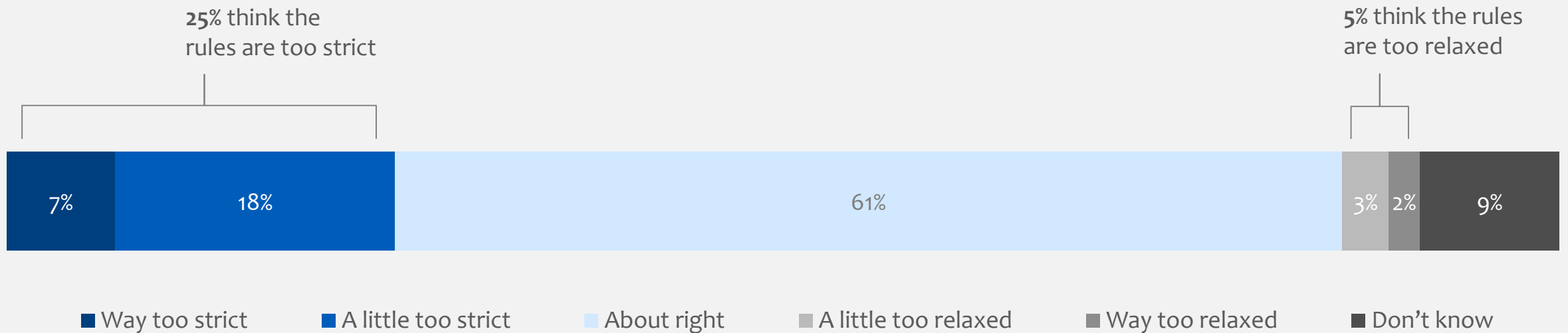
Have accidentally flown close to [an] aerodrome, although height never exceeded 4 meters. Recreational user

Did not know that you needed consent for flying over other people... Recreational user



NZ RPAS USERS' PERCEPTIONS OF THE PART 101 RULES

The majority of NZ RPAS users consider the rules for flying a drone in New Zealand to be at about the right level of strictness, however one quarter believe the rules are too strict.



Comments about the rules being too strict

Relax the rules regarding the use of First Person View (FPV) equipment, make a certificate/exam if necessary. Recreational user.

Please reconsider the property owner consent rule. As written it makes NZ drone laws among the most restrictive in the world. Recreational user.

In my opinion the property consent rule is ridiculous. Any privacy issues are already handled by other legislation and this just means it's hard to fly legally anywhere interesting and the tighter the rules are the more likely people are to just say 'screw it' and fly wherever they want. The problems you've had with drones aren't going to be from careful operators following the rules. Recreational user.

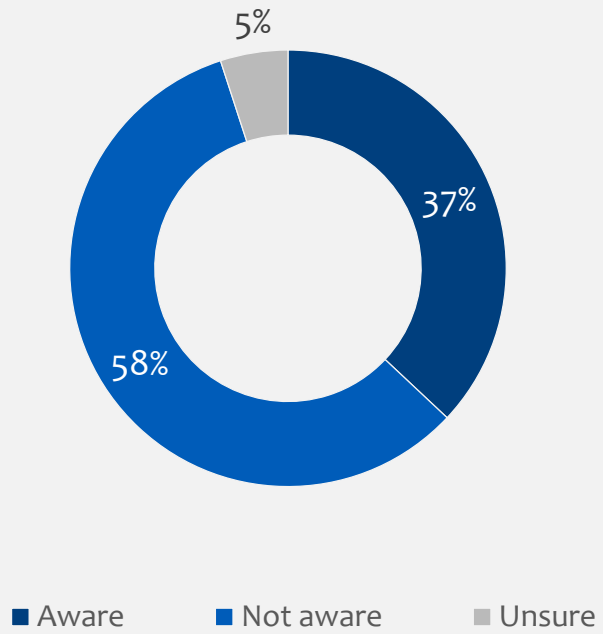
The rules are too strict for those of us that use UAV for commercial purposes. Commercial Part 102 user

I think rules need to change for commercial operators who meet safety standards to allow more freedom for flights. Commercial non-Part 102 user

LESS THAN HALF OF ALL NZ RPAS USERS ARE AWARE OF CAA'S PART 102 RULES

NZ RPAS users' awareness of the Part 102 rules

You can be permitted to not comply with some of the Part 101 rules if you apply for and receive a Part 102 certificate from the Civil Aviation Authority



ARE NZ RPAS USERS WHO BUY THEIR RPAS FROM OVERSEAS SOURCES LESS AWARE OF THE NZ DRONE USE RULES AND LESS COMPLIANT WITH THEM THAN THOSE WHO PURCHASE FROM NZ SOURCES?



NZ RPAS users who purchased their latest drone from an overseas source are not less aware of the NZ rules around drone use than those who purchased from a New Zealand source.

Despite being less likely to have seen CAA's information sheet on the rules for drone use than those who purchased domestically, overseas buyers have equal and in some cases superior knowledge of CAA's rules and stronger levels of compliance with some of the rules.

Overseas buyers are more likely than all NZ RPAS users to:

- Be aware there are drone use rules in NZ (80% vs. 74% of all).
- Have at least a basic level of knowledge about the rules (64% vs. 56% of all).
- Have read at least a bit about the rules on the CAA website (53% vs. 45% of all).

Overseas buyers are more aware of 2 of the 12 Part 101 rules than all NZ RPAS users, and they have a similar level of awareness as all RPAS users for all the other rules. They are also more likely than all NZ RPAS users to 'always' comply with 6 of the 12 Part 101 rules, and have a similar level of compliance as all RPAS users for all the other rules.

Evidence suggests that those who purchase from an overseas website are actually drone enthusiasts, they're more likely than average to own more than one drone 60% vs. 23% of all NZ RPAS users. They're also more likely to be a member of a drone user group (12% vs. 5% of all NZ RPAS users). This group are more likely than average to be men (82% vs. 72% of all NZ RPAS users).

NZ RPAS USERS WHO ARE NOT AWARE OF ALL OF THE SPECIFIC PART 101 DRONE USE RULES AND DON'T COMPLY WITH ANY OF THE RULES ARE...

M O R E LIKELY THAN AVERAGE TO ...

BE WOMEN Non-compliant/unaware users **39%**
 All NZ RPAS users **28%**

BE UNDER 40 YEARS OLDS* Non-compliant/unaware users **71%**
 All NZ RPAS users **62%**

HAVE NEVER SOUGHT INFORMATION ON THE DRONE USE RULES IN NZ Non-compliant/unaware users **70%**
 All NZ RPAS users **35%**

BE UNAWARE THAT NZ EVEN HAS DRONE USE RULES Non-compliant/unaware users **62%**
 All NZ RPAS users **23%**

BE UNAWARE OF CAA Non-compliant/unaware users **52%**
 All NZ RPAS users **26%**

HAVE NEVER SEEN CAA'S INFORMATION SHEET ON THE RULES Non-compliant/unaware users **90%**
 All NZ RPAS users **60%**

HAVE NEVER READ ANY INFORMATION ON THE AIRSHARE WEBSITE Non-compliant/unaware users **98%**
 All NZ RPAS users **67%**

L E S S LIKELY THAN AVERAGE TO ...

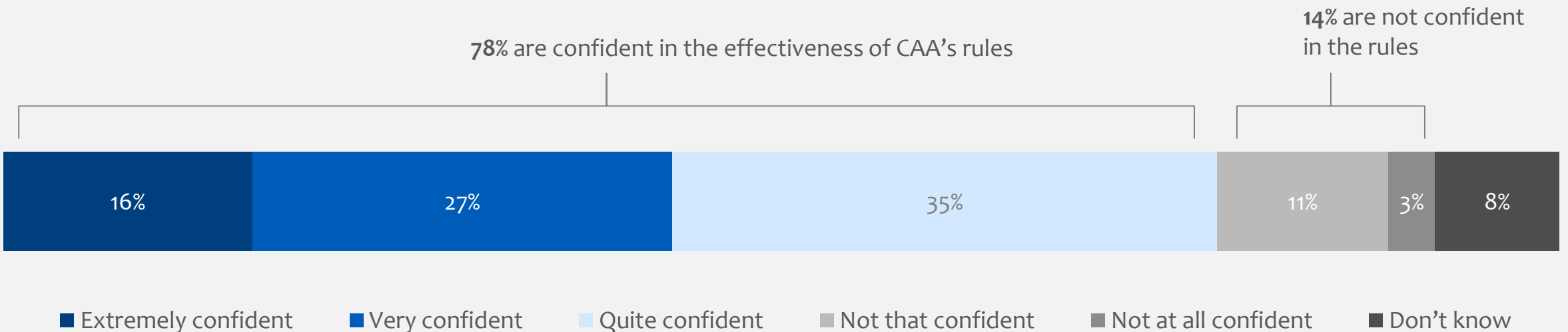
THINK DRONE USE POSES A RISK TO AVIATION SECURITY Non-compliant/unaware users **41%**
 All NZ RPAS users **59%**

THINK CAA'S DRONE USE RULES ARE IMPORTANT Non-compliant/unaware users **57%**
 All NZ RPAS users **89%**

BE CONFIDENT IN THE CAA Non-compliant/unaware users **47%**
 All NZ RPAS users **78%**

CONFIDENCE IN THE EFFECTIVENESS OF CAA'S RULES AND REGULATIONS AROUND DRONE USE

Most NZ RPAS users are confident that the rules and regulations set by CAA around the use of drones will effectively ensure the safety and security of New Zealanders and their property.



Comments made by those who are not confident in CAA's drone use rules

CAA has pitched the rules right for intelligent and caring people - both 101 and 102. Unfortunately the people that are not interested in obeying the rules will probably never be interested in doing so, but a really big fine and even confiscation might help sort them out! Commercial Part 102 user

CAA have done a poor job of communicating the requirements of both rule 101 and 102 to the NZ public and visiting tourists, as a regular user of drones in a number of high profile tourism areas I'm astounded by the people who have no idea what the rules are or who have misunderstood them completely. Commercial non-Part 102 user

It is inevitable that RPAS are the future and the CAA and government need to be ahead of the game and make sensible logical regulations that ensure safety but don't inhibit innovation and development of technology that incorporates the use of RPAS. Recreational user

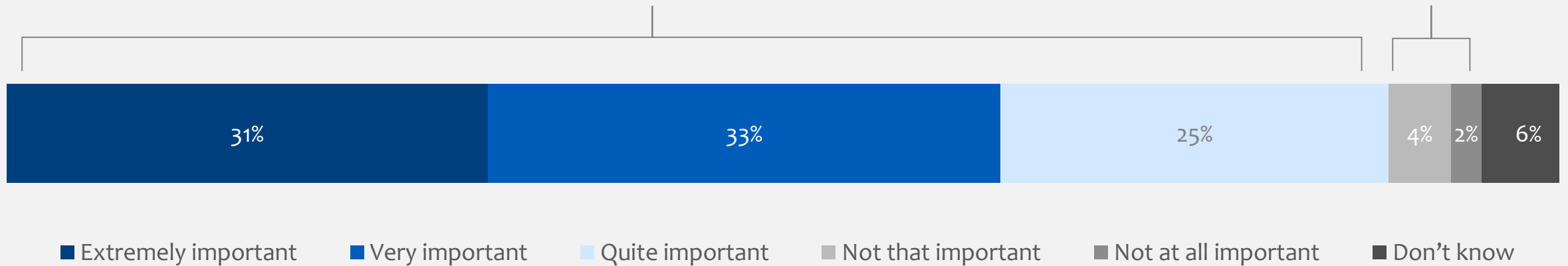
There needs to be greater coordination and cooperation between CAA and Police. Recreational user

PERCEIVED IMPORTANCE OF CAA'S RULES AROUND DRONE USE AMONG NZ RPAS USERS

Almost all NZ RPAS users believe that CAA's rules around the use of drones in New Zealand are important.

89% of NZ RPAs users think the rules are important

5% of NZ RPAS users don't think the rules are important



Comments made by those who don't think the rules are important

Really only matters with the expensive drones, small toy ones [they're] not applicable. Recreational user

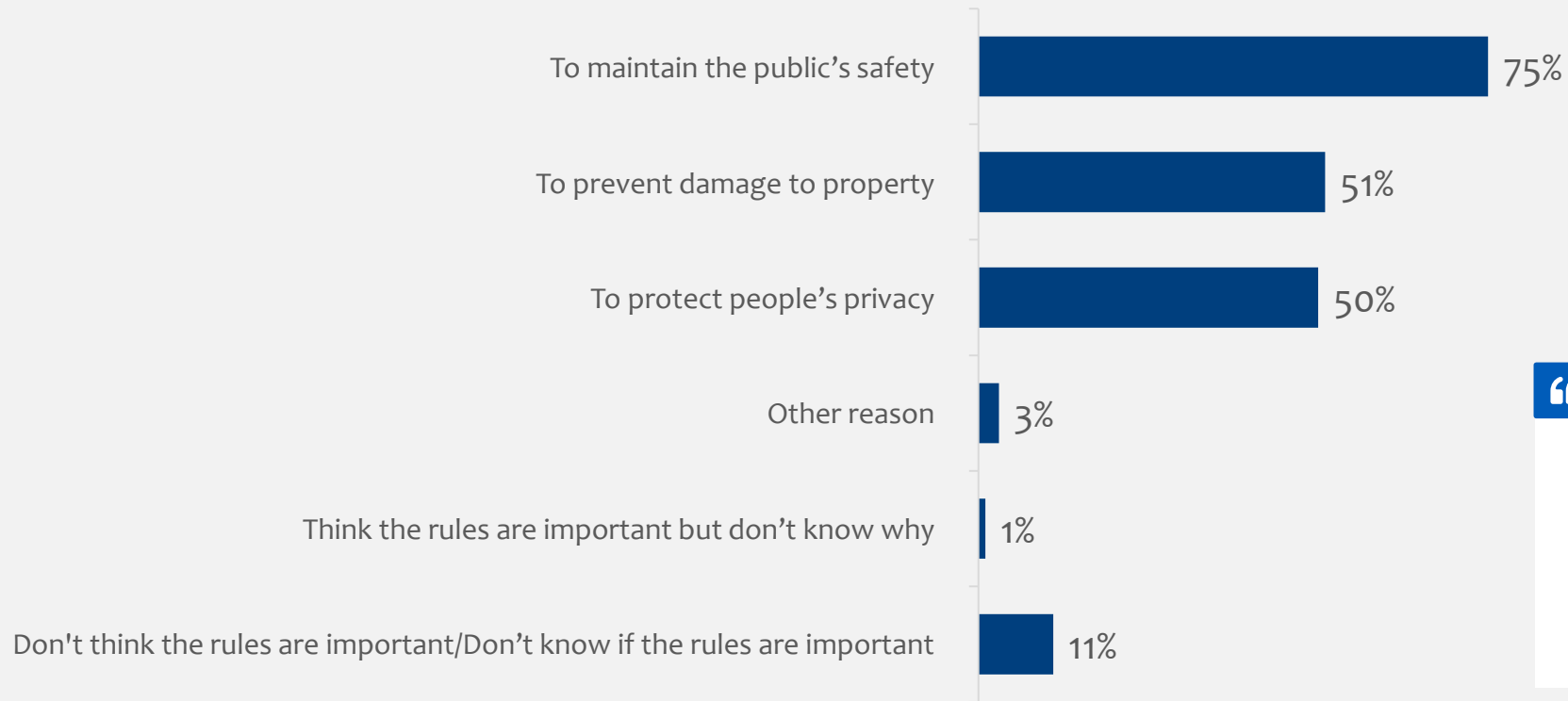
Don't agree with some of the current rules. Think they are very poorly designed. Recreational user

The rules created confusion until councils set policies regarding public space. They are also set for the lowest common denominator to allow for the small number of users who are not responsible. Similar restrictions were put on the motor car in the early nineteenth century by regulators without vision. It appears nothing has changed and is unlikely to change. Recreational user

[Drones] are so easy to buy, but I am sure the majority of people have absolutely no idea about the heinous rules . Recreational user

... When I purchased mine, our council had no bylaws, but now they're over the top and too restrictive. Recreational user

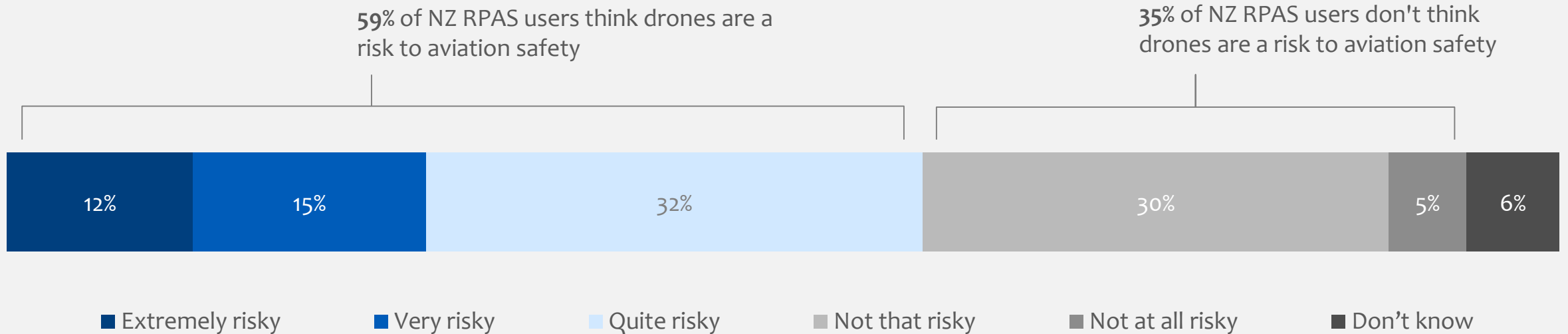
REASONS WHY NZ RPAS USERS THINK THE CAA RULES AROUND DRONE USE ARE IMPORTANT



“ Drones are as safe as the user ensuring a responsible operation. They are dangerous to other aircraft if operated in a manner that will endanger those aircraft. Like a car or a firearm, if you operate them in a dangerous manner there is likely to be a negative consequence. Recreational user who thinks CAA's rules are 'extremely important' ”

PERCEIVED RISK OF DRONE USE TO AVIATION SAFETY AMONG NZ RPAS USERS

The majority of NZ RPAS users think that drones pose some degree of risk to aviation safety, however one third don't consider drones to be risky.



Comments from those who don't think drones are a risk to aviation safety

The risks of drone incidents are very low. The largest assessed risk for my drone work is driving to and from the site. Commercial non-Part 102 user

We bought ours as a small toy for our son a year or so ago. I think you have to be careful not to over "rule" them in some cases. Kids aren't going to be interested in flying over everything or endangering other aircraft, and the people who are won't care about rules. Kids just want to have fun flying with like a helicopter. Recreational user.

I believe that the rules, when initially established, were on the most part proportionate to the safety of consumer drones. Now, the regulations have failed to keep pace - drones are exceptionally safe. Recreational user.

I believe the current standards are sufficient. Recreational user.

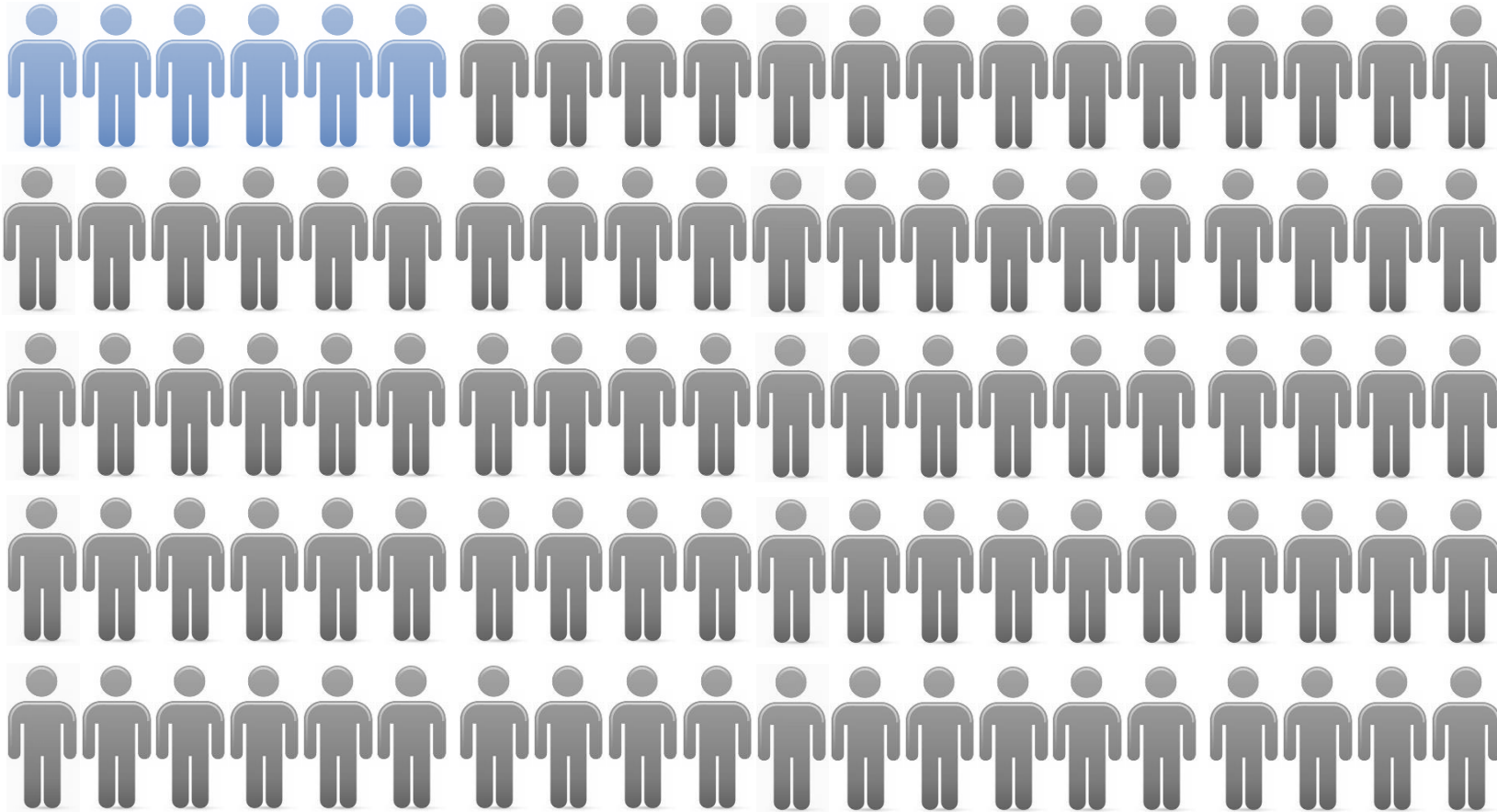




Overseas visitor RPAS users

HOW MANY OVERSEAS VISITORS USE AN RPAS IN NEW ZEALAND?

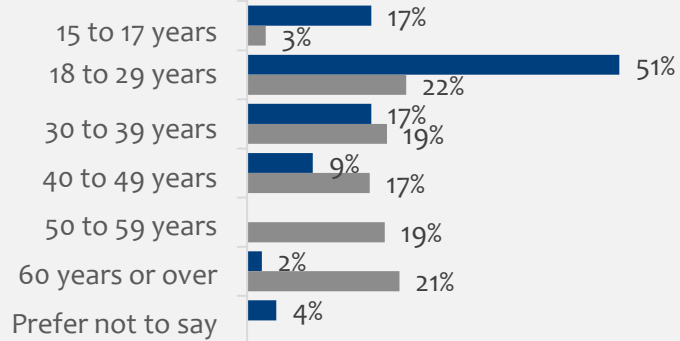
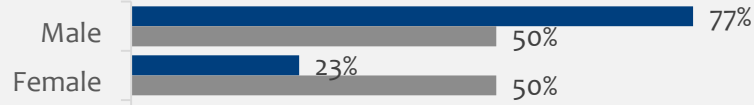
It is estimated that **6 out of every 100 overseas visitors** to New Zealand aged 15 years or over fly a drone while here.



This is equivalent to **199,806** of the 3,330,096 15+ year old overseas visitors who came to New Zealand during the past year.

ARE OVERSEAS RPAS USERS DEMOGRAPHICALLY DIFFERENT THAN ALL OVERSEAS VISITORS TO NZ?

Overseas RPAS users versus all overseas visitors to NZ



■ Overseas visitor RPAS users
 ■ All overseas visitors to NZ

Overseas RPAS users are more likely than average to be men, and under 30 years of age.

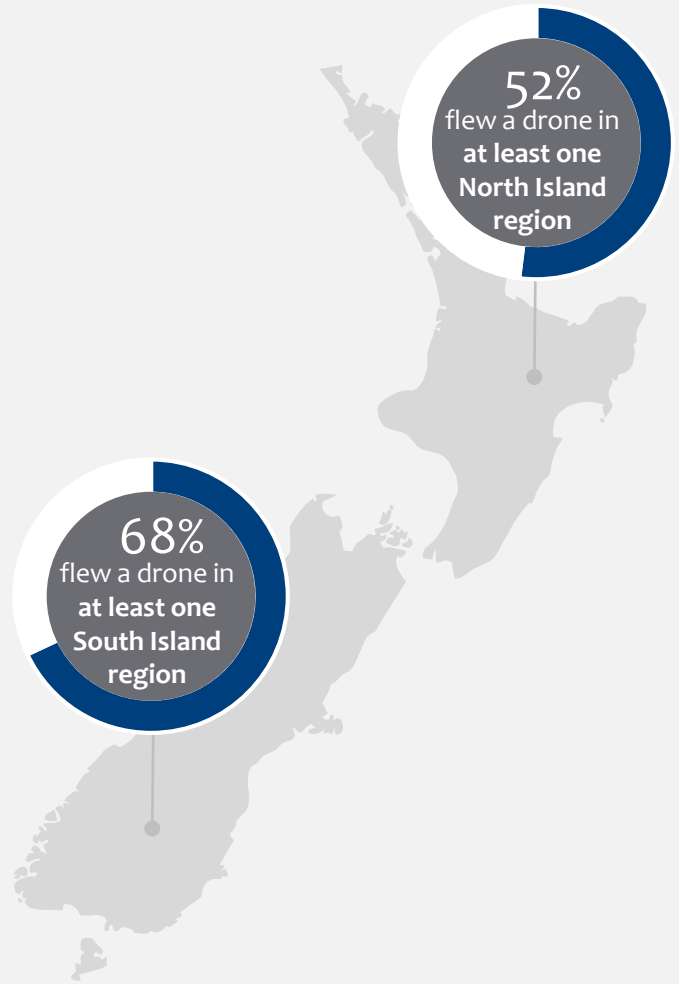
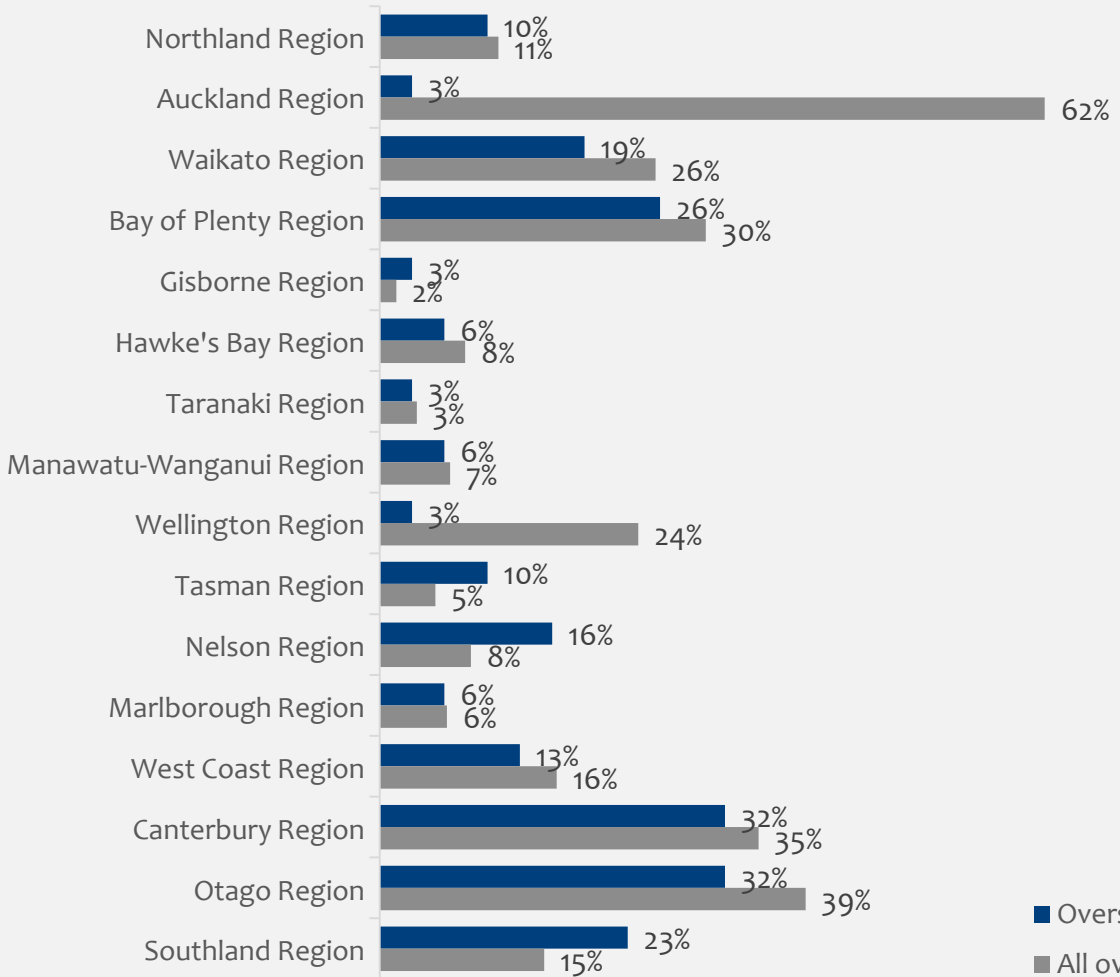
Visitors from the UK appear to be slightly over-represented in the RPAS user group, and those from the USA appear to be slightly under-represented.

HOW FREQUENTLY DO OVERSEAS VISITORS FLY RPAS IN NEW ZEALAND?



WHAT REGIONS DO OVERSEAS VISITORS USE AN RPAS IN? DOES THIS DIFFER FROM WHERE ALL OVERSEAS VISITORS GO?

Regions that overseas visitors use an RPAS in versus all regions that overseas visitors go to



Generally, the regions in which overseas visitors fly a drone matches the pattern of where all overseas visitors go within New Zealand.

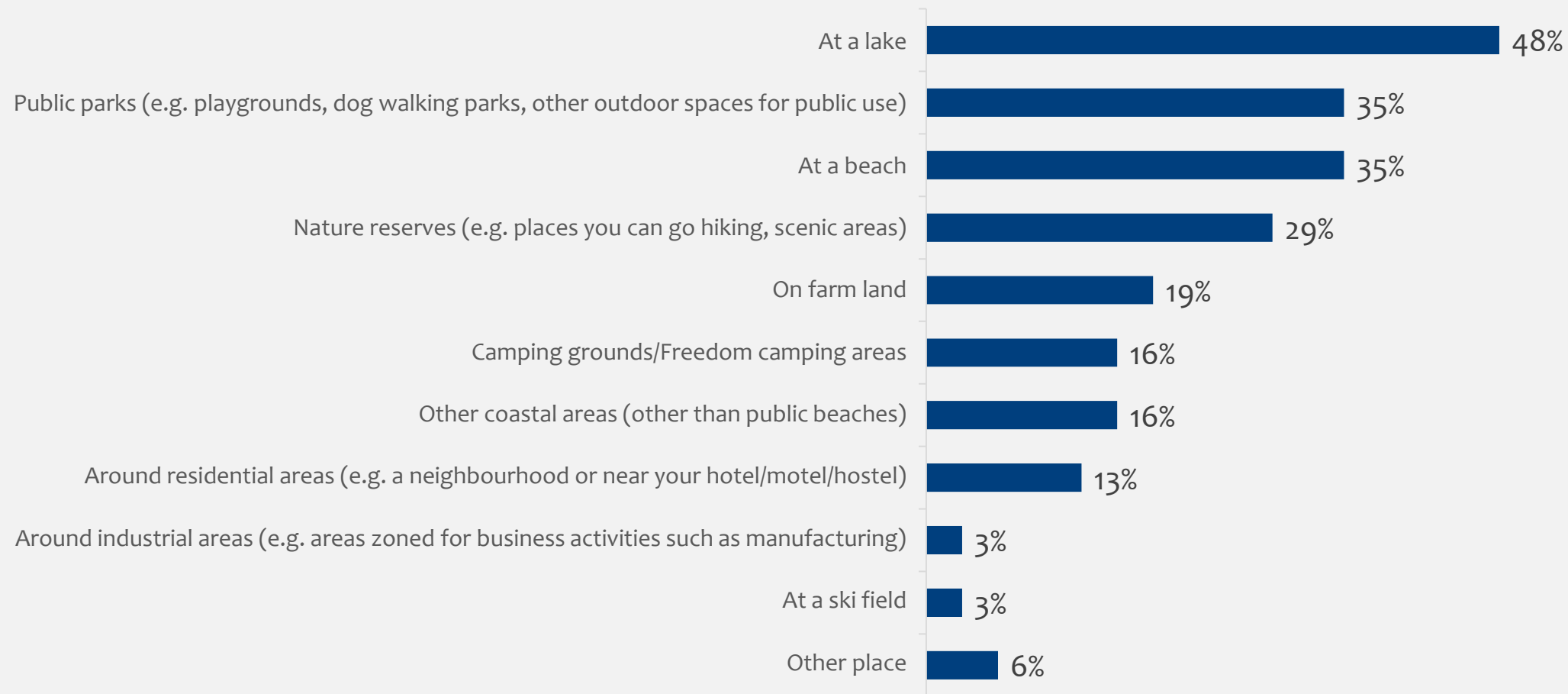
The exceptions are the Auckland and Wellington regions which appear to be particularly uncommon places to fly an RPAS compared to the proportion of overseas visitors that go there.

The Tasman and Nelson regions have a relatively high proportion of RPAS use in comparison to the overall proportion of overseas visitors that go there.

Overall, South Island locations are more common for drone flying than North Island ones.

OVERSEAS VISITORS TEND TO USE RPAS IN OPEN SPACES, IN NATURAL SURROUNDINGS. THIS MAY HELP EXPLAIN WHY THE HIGHLY URBAN AUCKLAND AND WELLINGTON REGIONS ARE LESS POPULAR LOCATIONS FOR FLYING A DRONE

Places where overseas visitors fly drones in NZ



WHAT ARE THE BEST COMMUNICATION CHANNELS FOR OVERSEAS VISITOR RPAS USERS?

The places that capture this group’s time and attention the most are...



They’re most likely to read information about the rules for flying drones in New Zealand that is shown ‘on-screen’ including on websites or information shown on-screen during their flight...

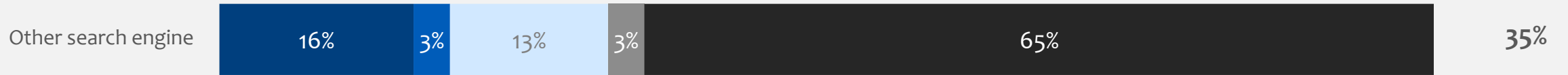


Details are shown on the following four pages.

EXTENT TO WHICH GOOGLE AND OTHER SEARCH ENGINES ARE USED BY OVERSEAS VISITOR RPAS USERS

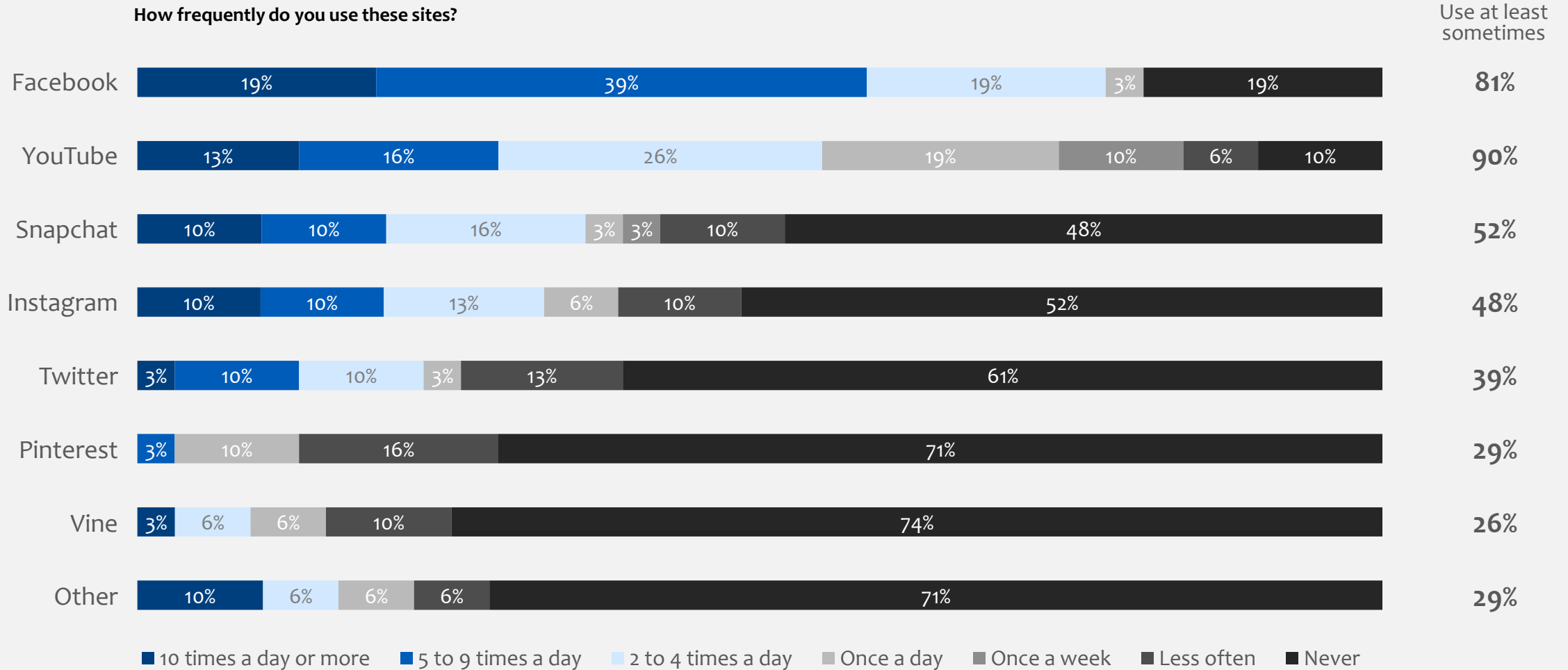
How often do you use the following search engines?

Use at least sometimes



- Several times a day
- Once a day
- Several times a week
- Fortnightly
- Once a month
- Less than once a month
- Never

EXTENT TO WHICH VARIOUS FORMS OF SOCIAL MEDIA ARE USED BY OVERSEAS VISITOR RPAS USERS



OVERSEAS VISITOR RPAS USERS' UNPROMPTED SUGGESTIONS FOR HOW BEST TO INFORM THEM OF THE NZ DRONE USE RULES

“ Websites ”

Internet [is] the best way to find out.

Google and be directed to full information.

Official websites.

Like to see [a] government website e.g. dronesrules.nz

Through the internet. Advertising on visitor channels.

Website best. Like questions when I hired a rental car.

... blog Logan Dodds. Blogging is best.

Post it more to tourists.

Website. Dji site.

Google search [is] fine.

Through a website.

The internet.

Access a website

Website.

“ Pamphlet or signs at airports ”

Brochures at airport.

In a pamphlet when you arrive.

Pamphlets or signs around the airport or places where drones are commonly used.

When visitors arrive at the airport and their equipment is checked they should be given the rules and sign an agreement to be responsible.

Information given out when you arrive...

“ Signs at the locations ”

Warning signs around the place is good enough.

More information near the drone signs and different languages.

Put more signs up around tourist areas.

... more information under the signs saying NO DRONES.

“ Other suggestions ”

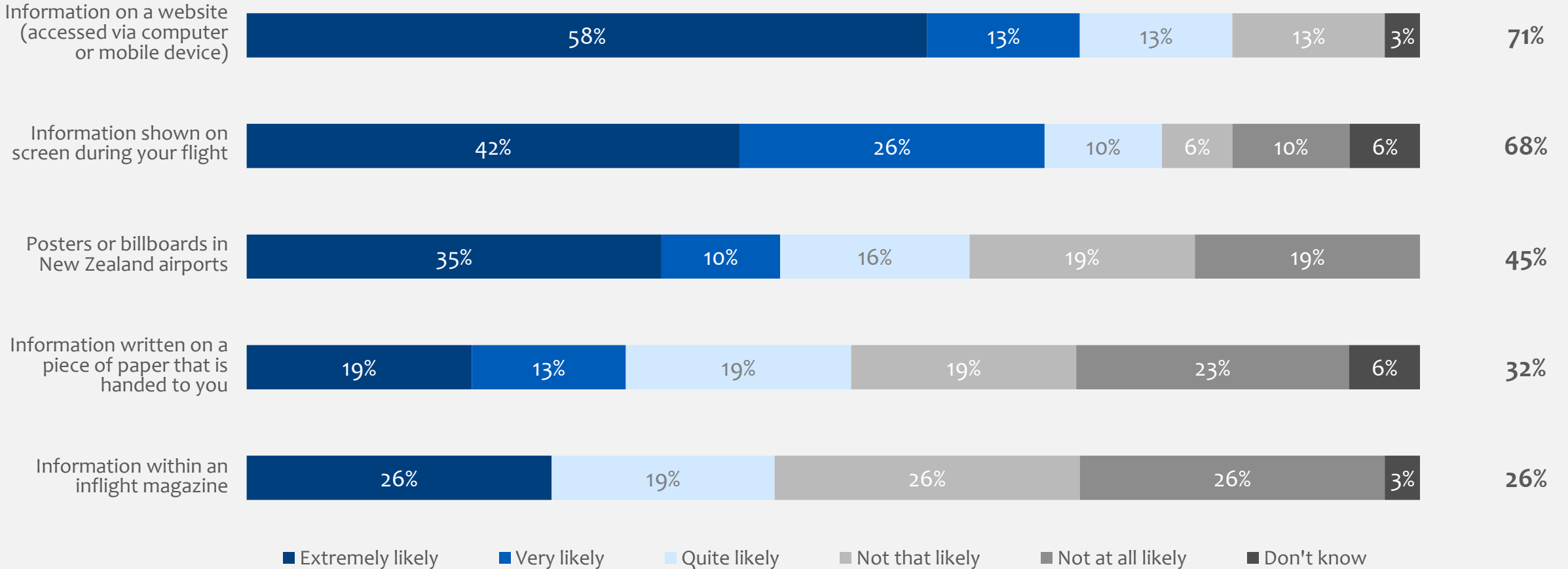
Tourism NZ promotion and information...

On board the plane.

LIKELIHOOD THAT OVERSEAS VISITOR RPAS USERS WOULD READ INFORMATION ON NZ DRONE USE RULES FROM VARIOUS SOURCES

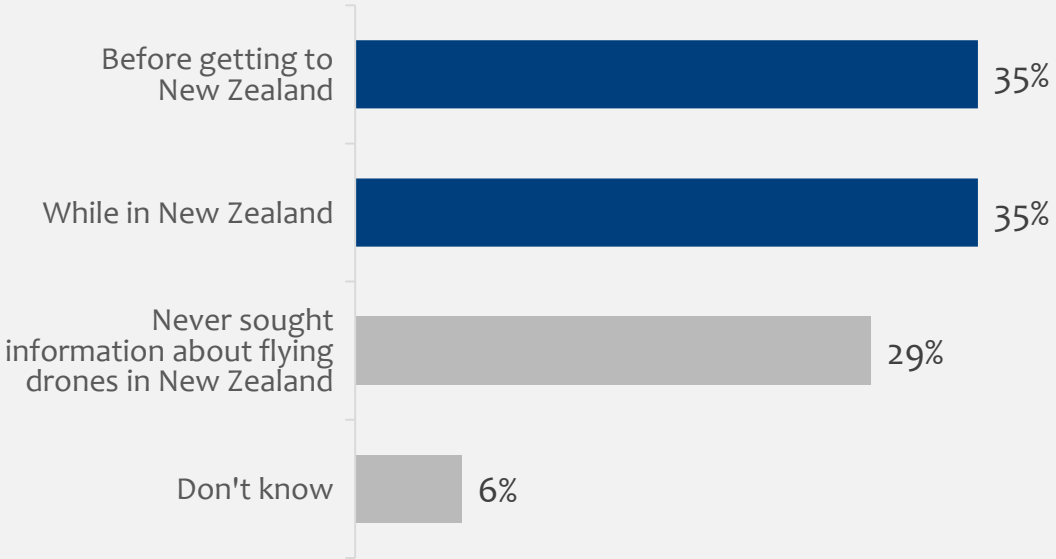
How likely would you be to read each of the following sources of information about the rules for flying drones in New Zealand?

Extremely/
very likely to
read



WHEN AND WHERE DO OVERSEAS VISITOR RPAS USERS SEEK INFORMATION ON THE RULES FOR FLYING DRONES IN NZ?

Stages at which information on the rules for flying a drone in NZ was sought by overseas visitor RPAS users



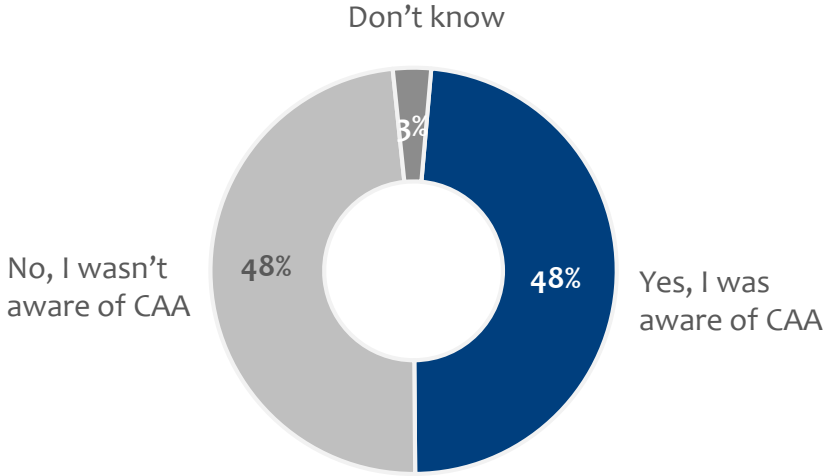
65% of overseas visitor RPAS users seek information on the rules at some stage

Where overseas visitor RPAS users went for information on the rules for flying a drone in NZ

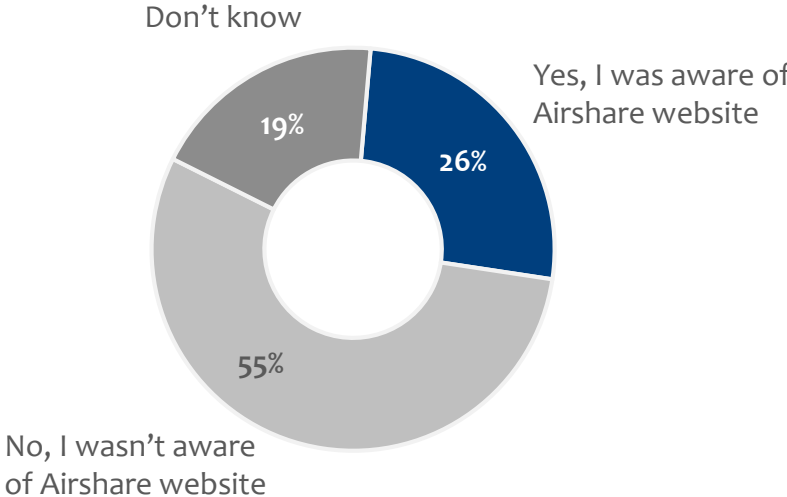
Source	Number of mentions	Example comments
CAA website	5	<i>Knew [the] CAA Website.</i>
Google search and viewed a non-specified website	5	<i>Google directed me to [a] website and I read [the] article.</i>
Viewed other website	5	<i>Dronesafe.nz doc.govt.nz Baidu Aoweibang.com Mafengwo.cn</i>
Read signs at the location	3	<i>Just obeyed signs not to use in certain areas where there was a sign up. Milford sounds hiking track entrance, Pancake rock entrance.</i>
Airshare website	2	<i>Airshare 101/ 102.</i>
Consulted a friend	2	<i>I used my friend's drone only, I listen [to] his instructions.</i>
Read instructions on the drone	1	<i>Instructions on the drone itself.</i>

ALMOST HALF OF ALL OVERSEAS VISITOR RPAS USERS ARE AWARE OF THE CIVIL AVIATION AUTHORITY, AND AROUND ONE QUARTER HAVE HEARD OF THE AIRSHARE WEBSITE

Awareness of the New Zealand Civil Aviation Authority

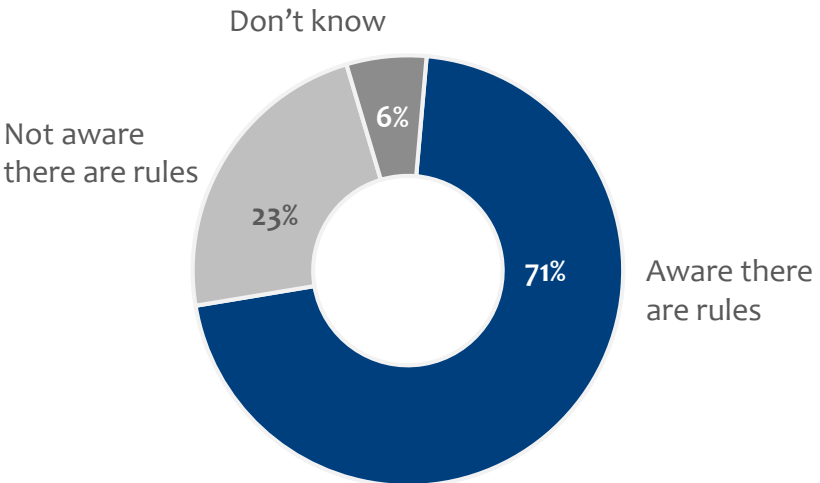


Awareness of the Airshare website(www.airshare.co.nz)

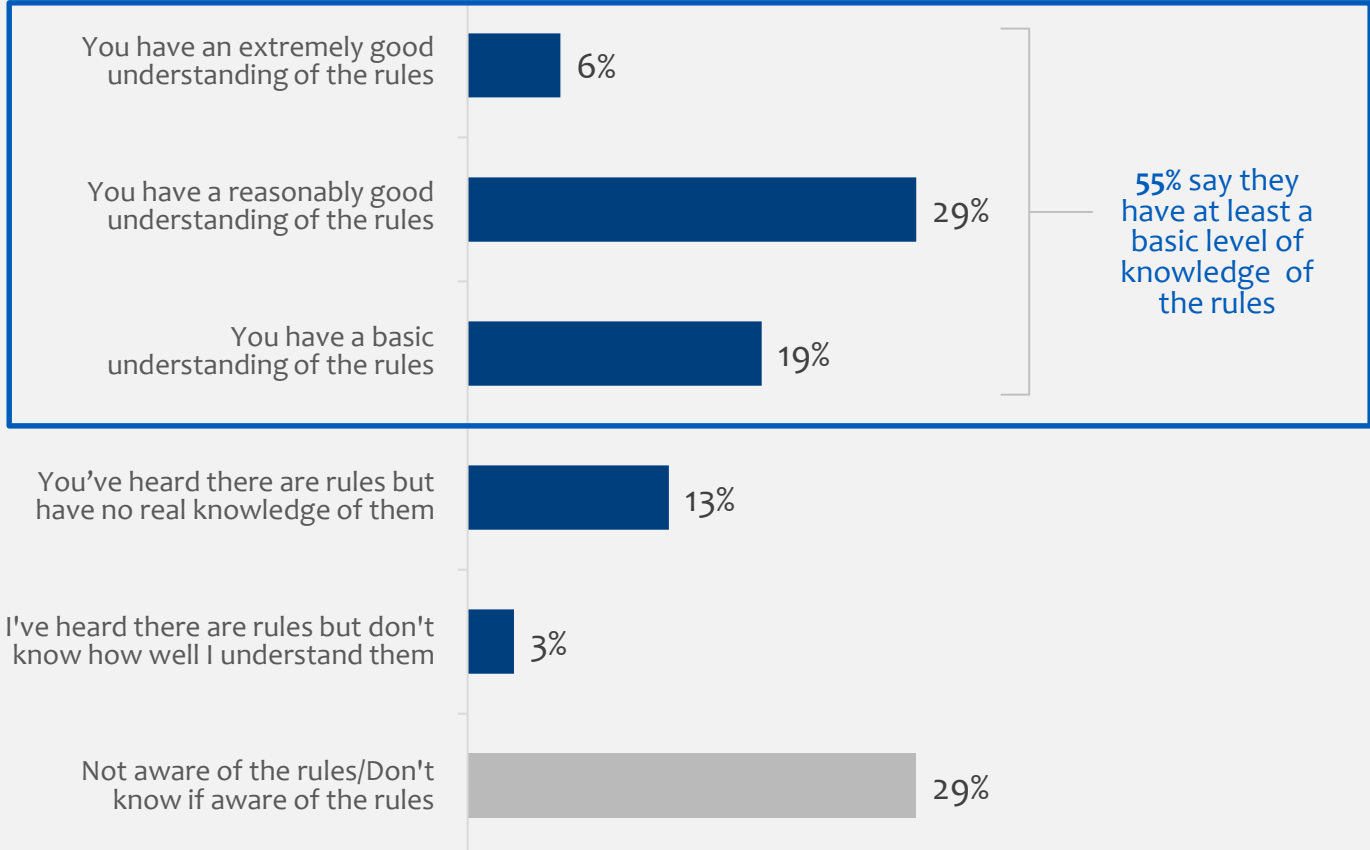


7 IN 10 OVERSEAS VISITOR RPAS USERS SAY THAT THEY ARE AWARE THERE ARE DRONE USE RULES IN NZ. ALMOST SIX IN TEN OVERSEAS VISITOR RPAS USERS SAY THEY HAVE AT LEAST A BASIC LEVEL OF KNOWLEDGE ABOUT THE RULES

Awareness that there are rules in New Zealand around the use of drones among overseas visitor RPAS users



How much overseas visitor RPAS users say they know about the rules



OVERSEAS VISITOR RPAS USERS' AWARENESS OF AND COMPLIANCE WITH THE PART 101 RULES

Each rule is known by 5 to 8 in 10 overseas visitor RPAS users, and the proportion of all overseas visitor RPAS users who always or usually complied with each of the rules while in New Zealand ranges from three quarters to just under half. There is very little evidence of deliberate non-compliance i.e. being aware of a rule but still rarely/never complying with it, non-compliance is largely due to a lack of awareness of the rules.

Rules that are most commonly known and complied with include...

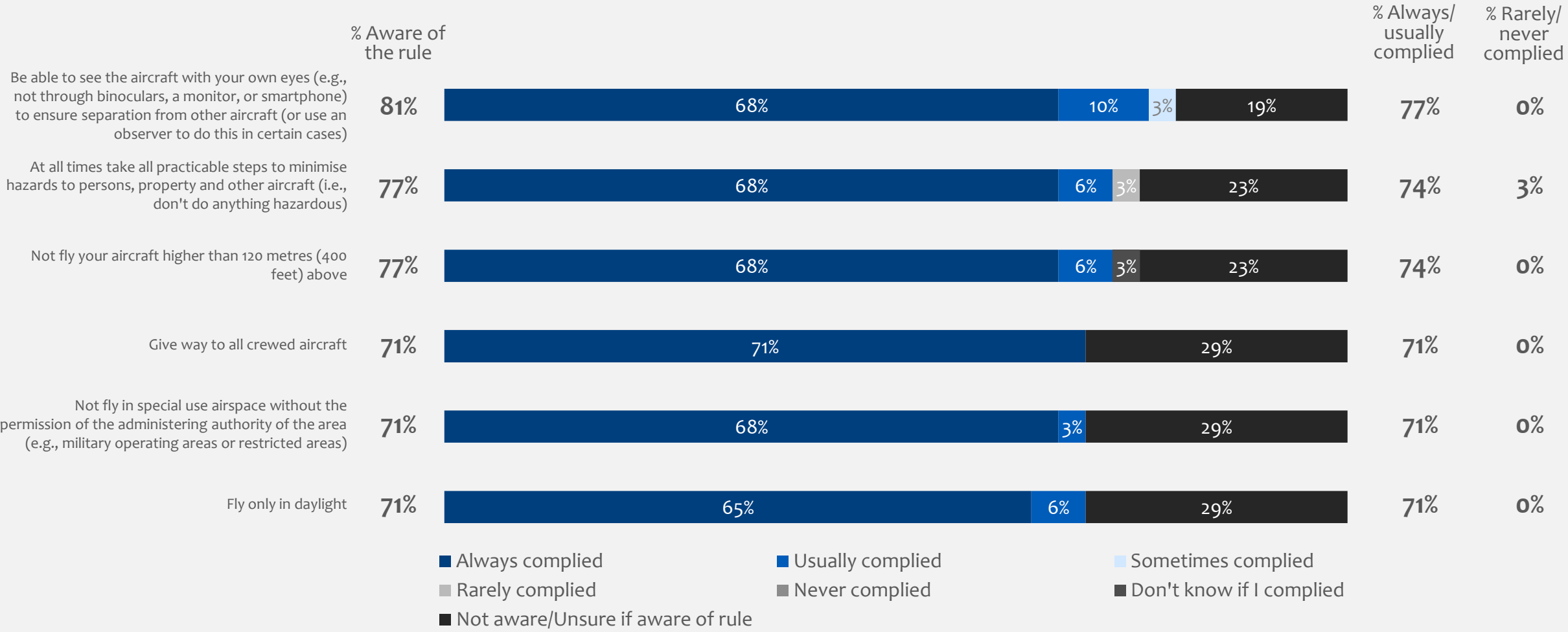
	% Aware of rule	% Always/usually complied	% Rarely/never complied
Be able to see the aircraft with your own eyes (e.g., not through binoculars, a monitor, or smartphone) to ensure separation from other aircraft (or use an observer to do this in certain cases)	81%	77%	0%
At all times take all practicable steps to minimise hazards to persons, property and other aircraft (i.e., don't do anything hazardous)	77%	74%	3%
Not fly your aircraft higher than 120 metres (400 feet) above	77%	74%	0%

Rules that are least commonly known and complied with include...

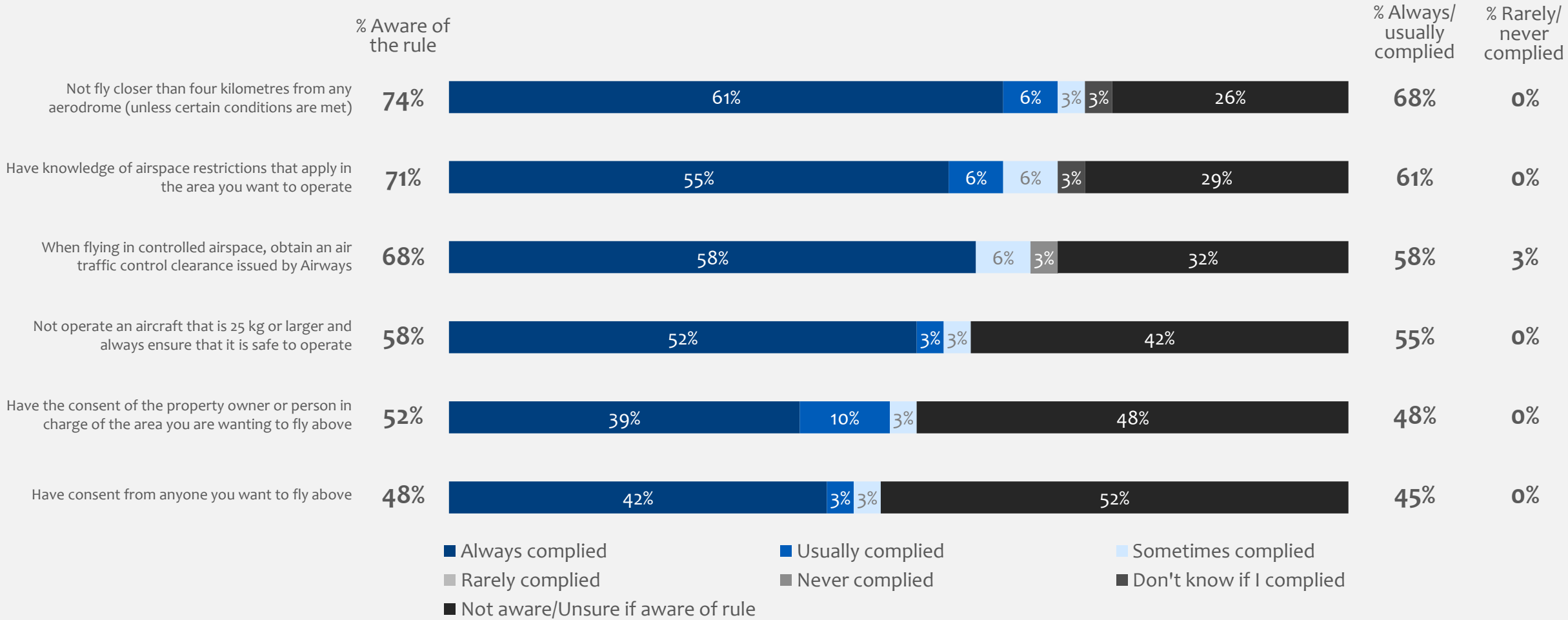
	% Aware of rule	% Always/usually complied	% Rarely/never complied
Not operate an aircraft that is 25 kg or larger and always ensure that it is safe to operate	58%	55%	0%
Have the consent of the property owner or person in charge of the area you are wanting to fly above	52%	48%	0%
Have consent from anyone you want to fly above	48%	45%	0%

Details are provided the following two pages.

OVERSEAS VISITOR RPAS USERS' AWARENESS OF AND COMPLIANCE WITH THE PART 101 RULES



OVERSEAS VISITOR RPAS USERS' AWARENESS OF AND COMPLIANCE WITH THE PART 101 RULES - CONTINUED

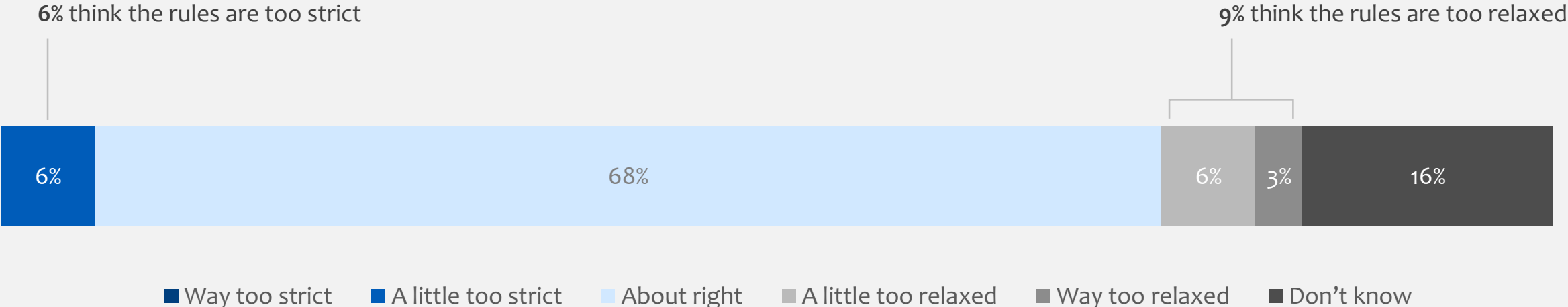


WHAT ARE THE BARRIERS PREVENTING OVERSEAS VISITOR RPAS USERS FROM ALWAYS COMPLYING WITH THE RULES?

Reason	Number of mentions	Example comments
Didn't know all the rules	9	<p><i>I didn't have knowledge about those rules.</i></p> <p><i>I only knew the rules my friend told me there was a bunch of us staying at my friend's farm he just gave us some quick rules before we used it.</i></p> <p><i>Not too sure [of] all rules. Had [a] chance to use it and did so.</i></p>
Didn't think it was necessary	5	<p><i>I believe in my ability to control my drone.</i></p> <p><i>Was not my drone, did not take anything into consideration, thought it [was] like a toy.</i></p> <p><i>The drone was too small to be any trouble/never flew more than a few meters high.</i></p>
Not practical/easy to comply	4	<p><i>Too many people around, don't know how to ask them for permission. Instead I just use it carefully and under control.</i></p> <p><i>I don't know who should I have to ask for permission to? I don't know how to ask property owners.</i></p>
Thought I did comply	6	<p><i>I believe I complied fully.</i></p> <p><i>I try and always comply.</i></p>
No particular reason	4	

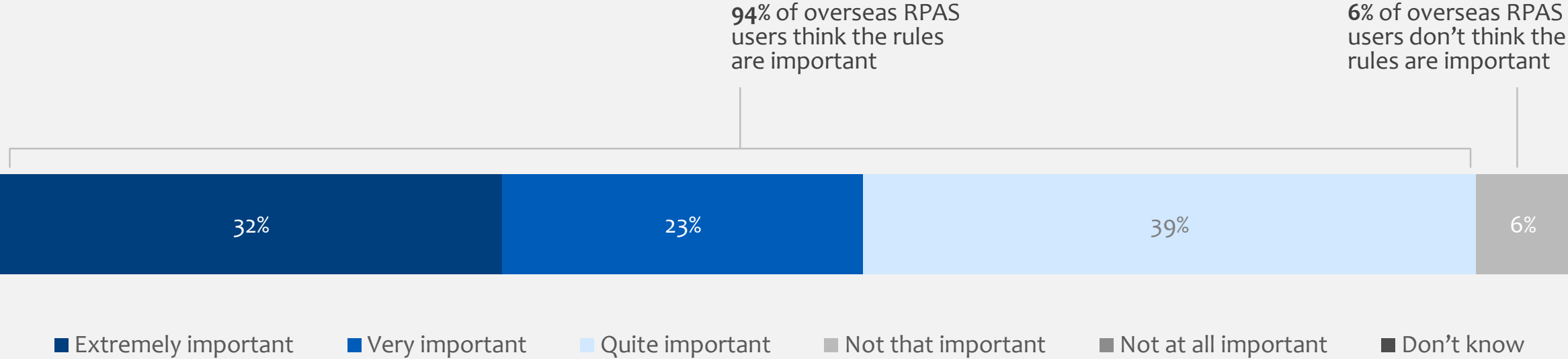
OVERSEAS VISITOR RPAS USERS' PERCEPTIONS OF THE PART 101 RULES

The majority of overseas visitor RPAS users consider the rules for flying a drone in New Zealand to be at about the right level of strictness, with a slightly higher proportion feeling that the rules are too relaxed than strict.



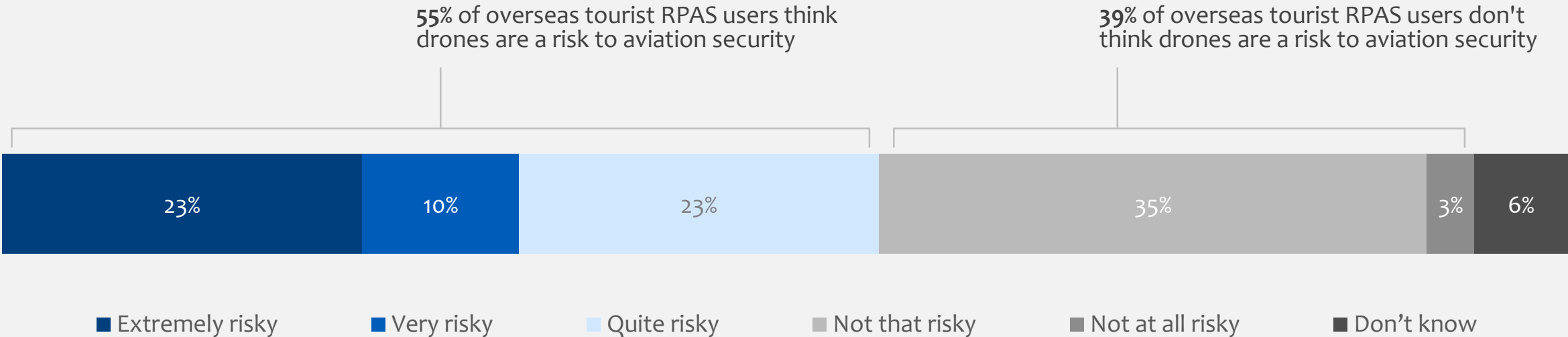
PERCEIVED IMPORTANCE OF CAA'S RULES AROUND DRONE USE AMONG OVERSEAS VISITOR RPAS USERS

Almost all overseas visitor RPAS users consider the drone use rules to have some level of importance.



PERCEIVED RISK OF DRONE USE TO AVIATION SECURITY AMONG OVERSEAS VISITOR RPAS USERS

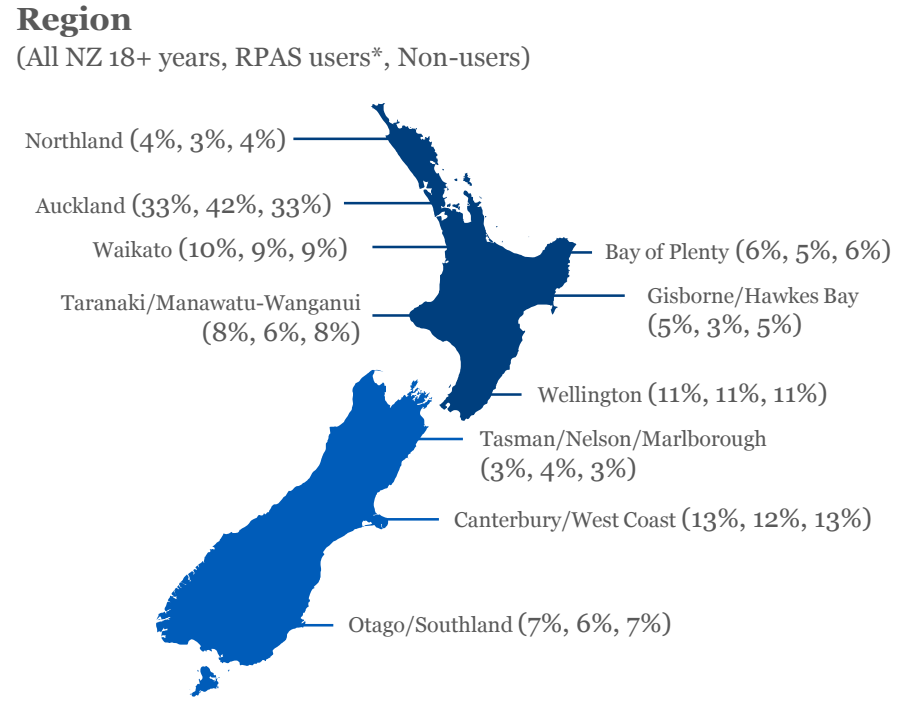
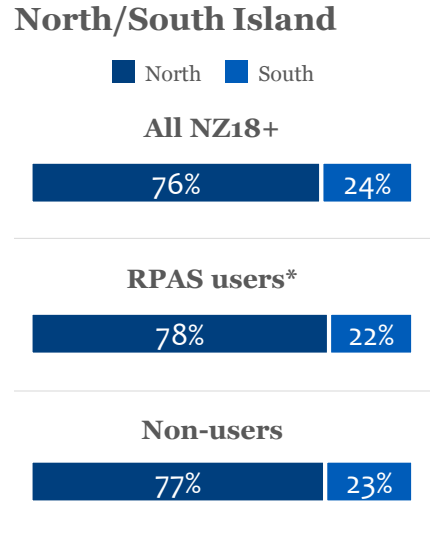
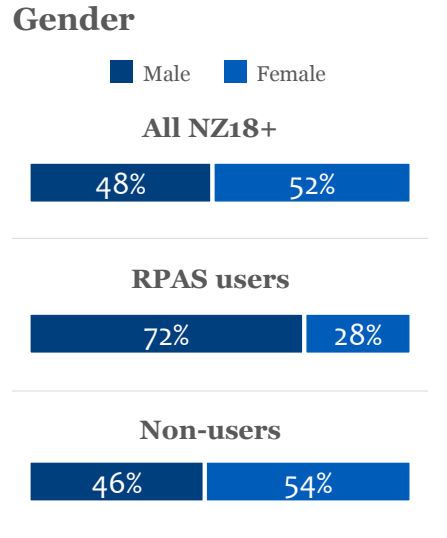
Almost 6 in 10 overseas visitor RPAS users think the use of drones poses some level of risk to aviation security, and just under 4 in 10 don't consider drone use to be risky.





Appendices

DEMOGRAPHIC CHARACTERISTICS OF NZ RPAS USERS VS. THE NZ POPULATION

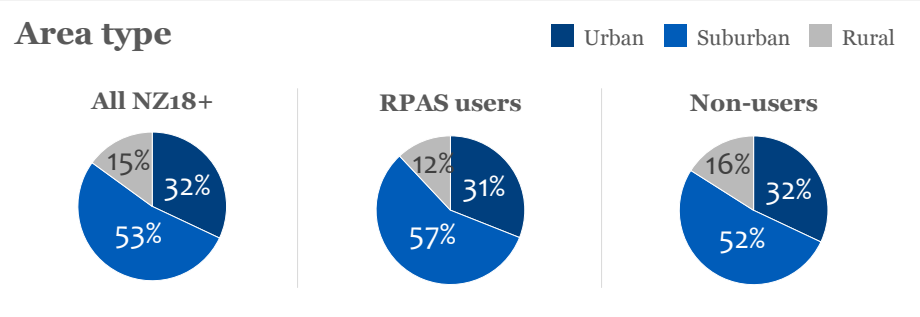


Age

Age Group	All NZ18+	RPAS users	Non-users
18 - 29	21%	38%	19%
30 - 39	16%	24%	16%
40 - 49	19%	24%	19%
50 - 59	18%	11%	18%
60+	26%	2%	28%

Ethnicity

Ethnicity	All NZ18+	RPAS users	Non-users
NZ European	74%	58%	76%
Maori	6%	7%	6%
Pacific peoples	1%	3%	1%
Asian	6%	17%	5%
Indian/Pakistani/Sri Lankan	4%	13%	4%
Other European	7%	4%	8%
Other	5%	4%	5%

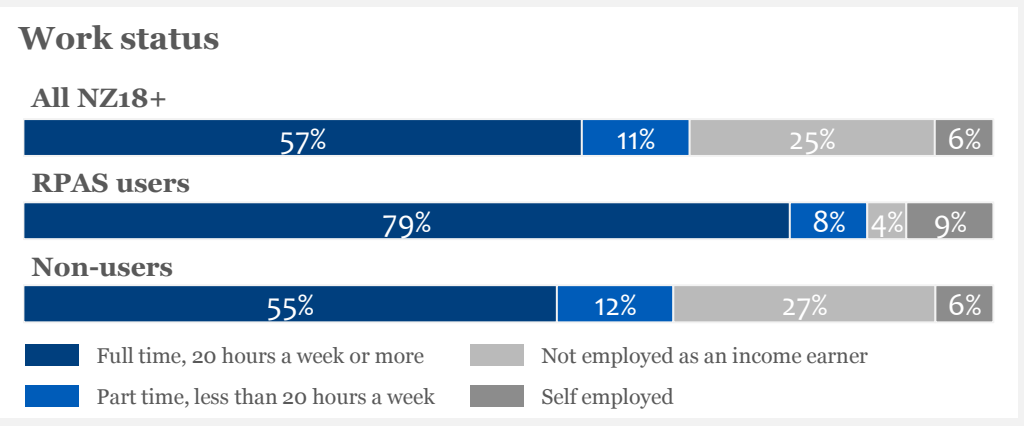
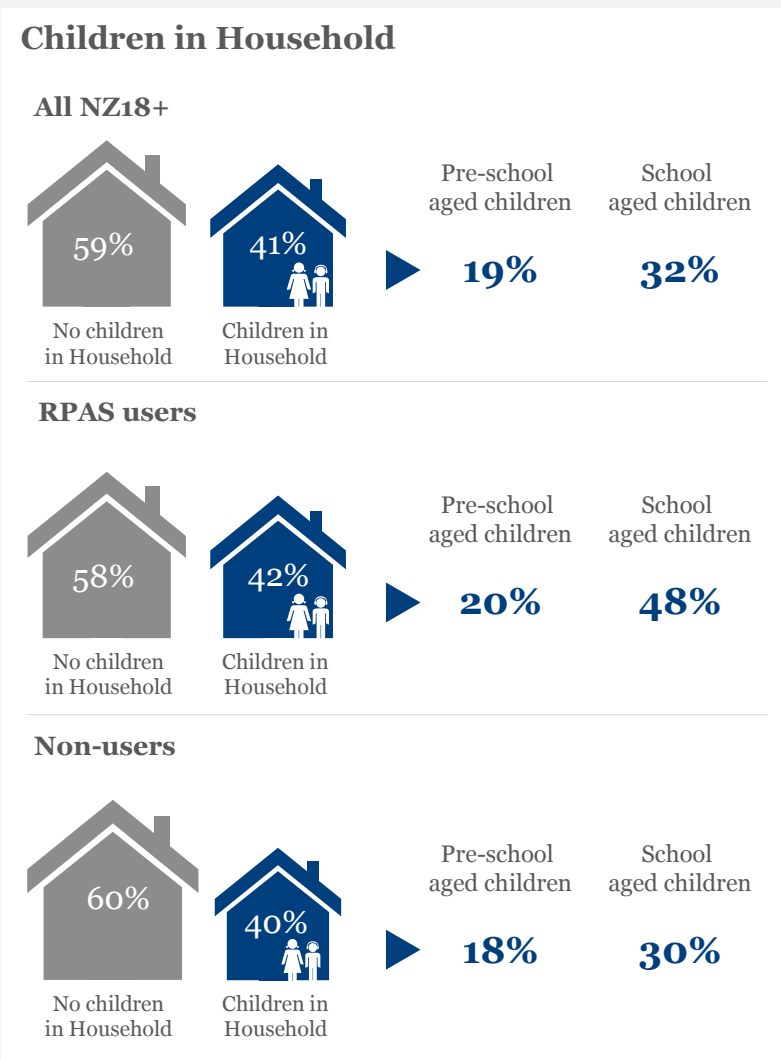


Total household income

Income Bracket	All NZ18+	RPAS users	Non-users
Up to \$19,999	4%	-	4%
\$20,000 to \$49,999	17%	11%	18%
\$50,000 to \$99,999	31%	38%	30%
\$100,000 to \$149,999	17%	16%	17%
\$150,000 or more	10%	16%	10%
Refused	20%	18%	21%

DEMOGRAPHIC CHARACTERISTICS OF NZ RPAS USERS VS. THE NZ POPULATION - CONTINUED

Lifestage	All NZ18+	RPAS users	Non-users
Young, single, living alone	4%	6%	4%
Group flatting	7%	9%	7%
Young couple, no kids	10%	13%	10%
Household with pre-school kids only	9%	10%	9%
Household with school aged kids only	12%	24%	11%
Household with all children aged 15 or more	10%	13%	10%
Household with children of mixed ages	9%	10%	9%
Older couple, no kids at home	24%	10%	25%
Older single, living alone	12%	2%	12%
None of these	4%	3%	4%

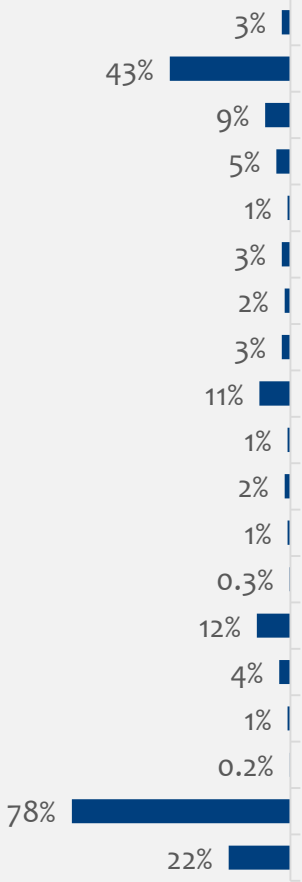


Occupation

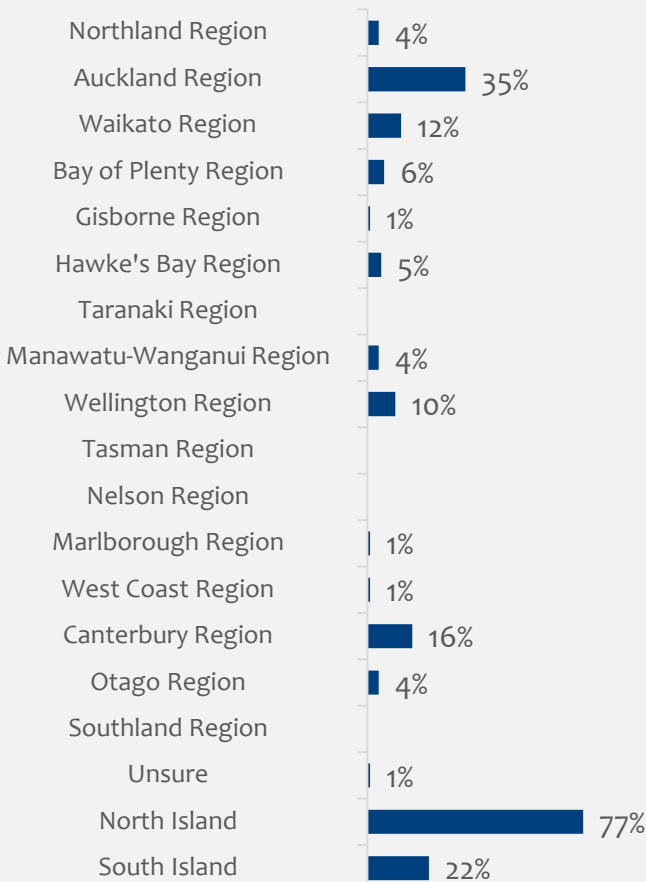
	All NZ18+	RPAS users	Non-users
Farm manager or owner	1%	2%	1%
Social welfare beneficiary or unemployed	2%	1%	2%
Business owner or self-employed	9%	18%	8%
Semi-skilled worker	5%	7%	5%
Teacher, nurse, police or other service worker	13%	9%	13%
Technical or skilled worker/tradesperson	11%	23%	10%
Labourer, manual, farm or domestic worker	2%	-	3%
Full time home-maker	5%	3%	5%
Clerical or sales employee	11%	5%	12%
Business manager or executive	7%	14%	7%
Professional or government official	12%	16%	11%
Student	3%	2%	3%
Retired	18%	1%	19%

REGION THAT RECREATIONAL AND COMMERCIAL NZ RPAS USERS LIVE IN

Recreational users (e.g. As a hobby / for personal interest)



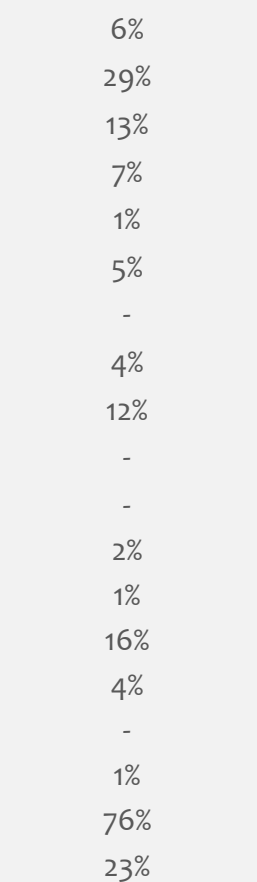
Commercial users (e.g. For your job / a business)



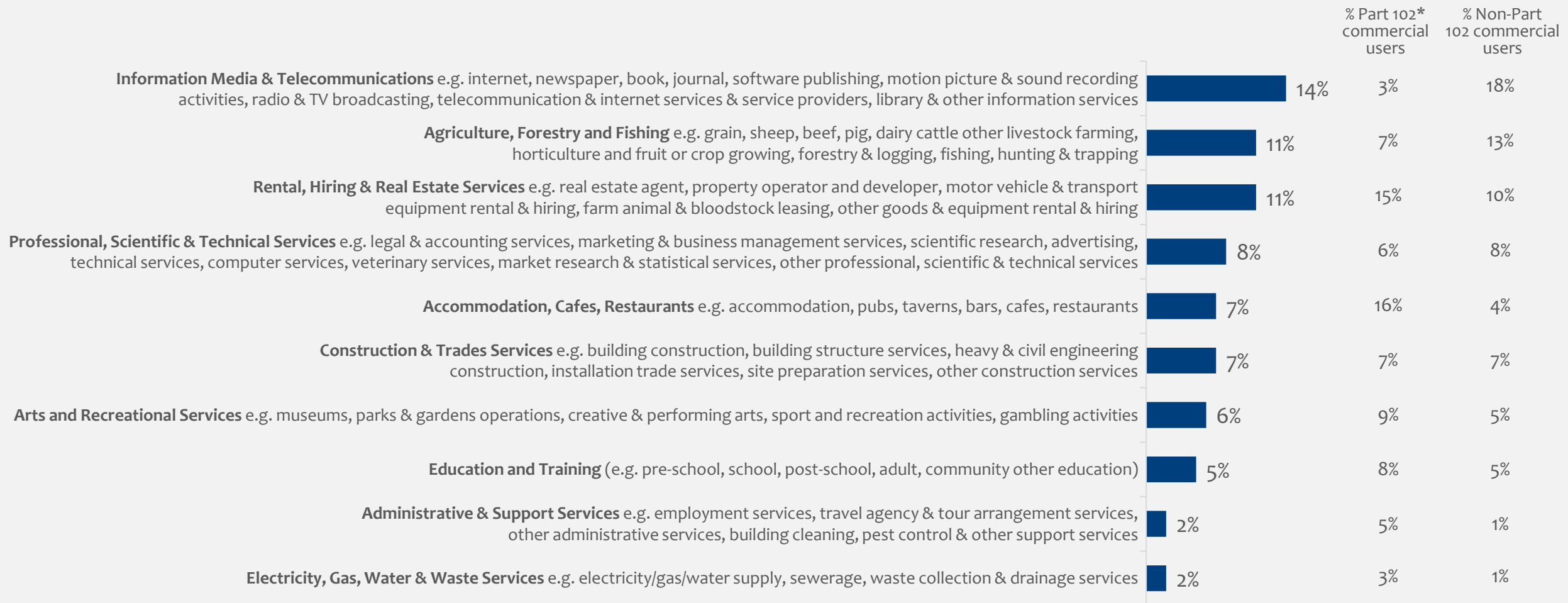
% Part 102* commercial users



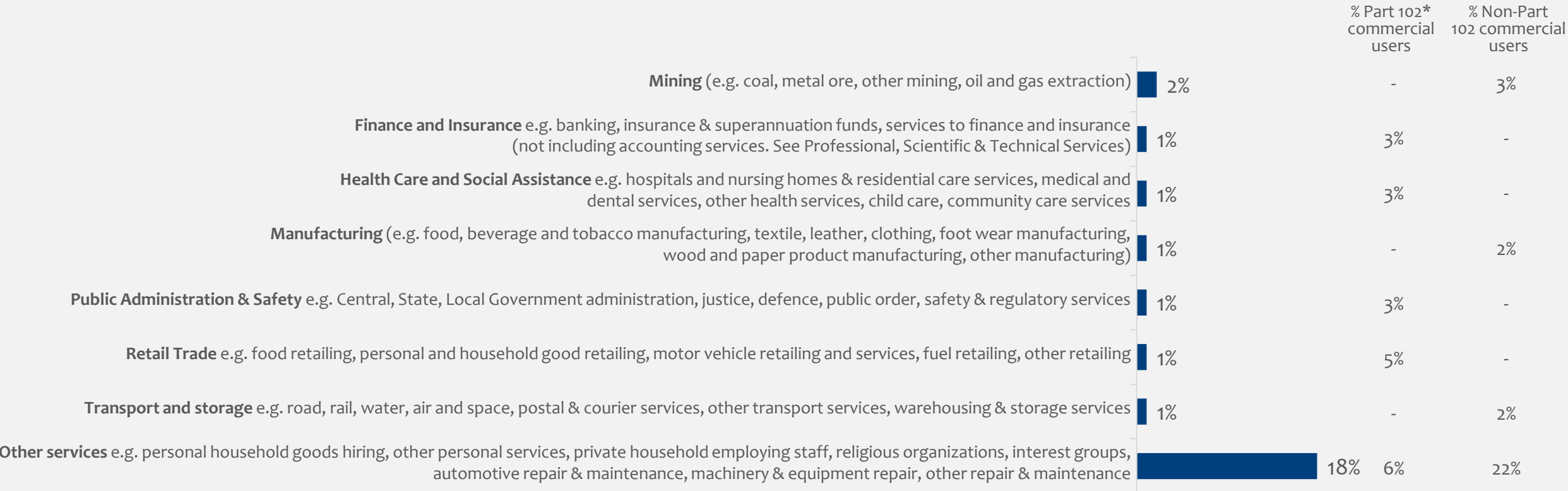
% Non-Part 102 commercial users



INDUSTRY THAT COMMERCIAL NZ RPAS USERS WORK IN

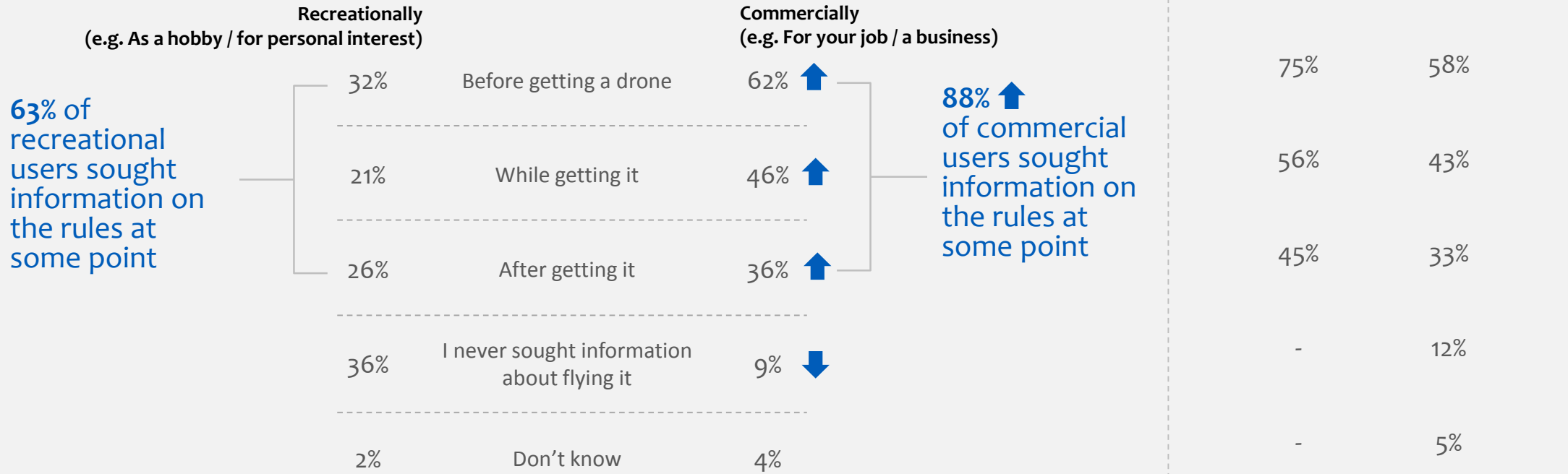


INDUSTRY THAT COMMERCIAL NZ RPAS USERS WORK IN - CONTINUED



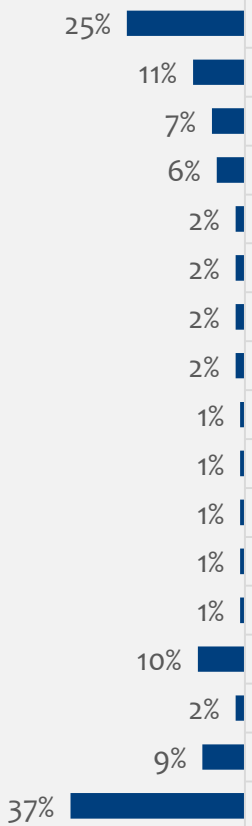
STAGES AT WHICH COMMERCIAL VS. RECREATIONAL NZ RPAS USERS SEEK INFORMATION ON NZ DRONE USE RULES

Stages at which information on the rules in New Zealand around the use of drones is sought

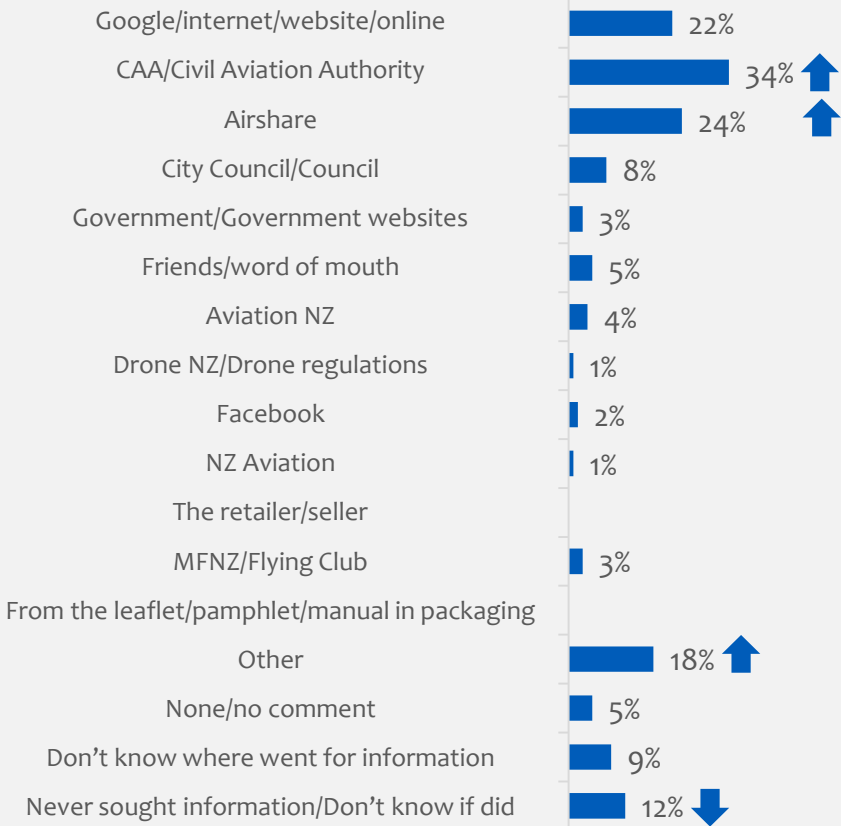


WHERE COMMERCIAL VS. RECREATIONAL NZ RPAS USERS SEEK INFORMATION ON NZ DRONE USE RULES

Recreationally (e.g. As a hobby / for personal interest)



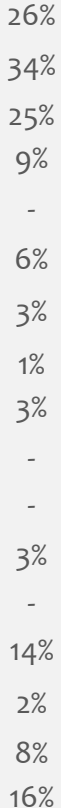
Commercially (e.g. For your job / a business)



% Part 102* commercial users



% Non-Part 102 commercial users

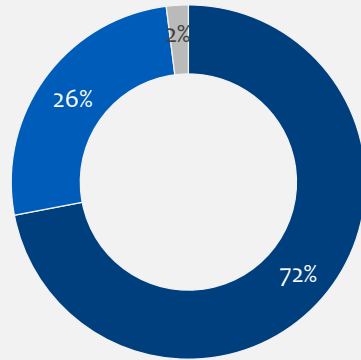


COMMERCIAL VS. RECREATIONAL NZ RPAS USERS' AWARENES OF CAA

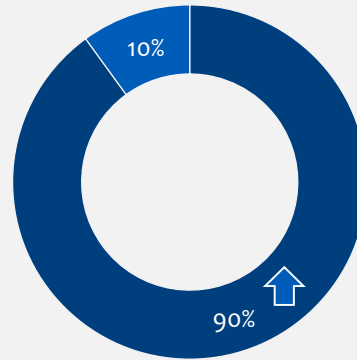
Awareness of the Civil Aviation Authority

- Yes, I was aware of this
- No, I wasn't aware of this
- Don't know

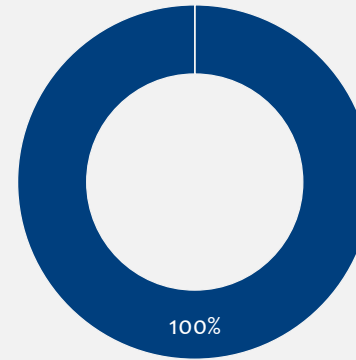
Recreational Users
(e.g. As a hobby / for personal interest)



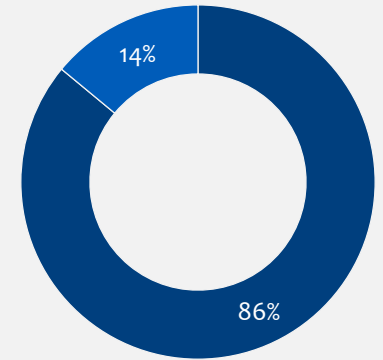
Commercial Users
(e.g. For your job / a business)



% Part 102* Commercial Users

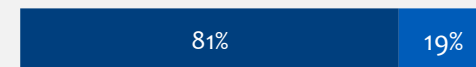
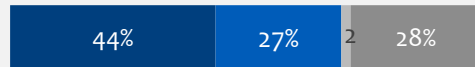


% Non-Part 102 Commercial Users

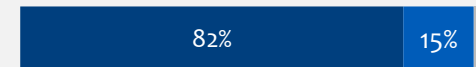


Were you aware of these before starting the survey?

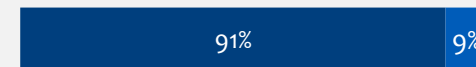
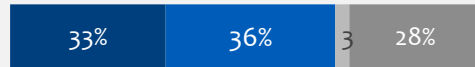
The Civil Aviation Authority's rules Part 101 concerning drones (Remotely Piloted Aircraft Systems (RPAS))



The Civil Aviation Authority's rules Part 102 concerning drones (Remotely Piloted Aircraft Systems (RPAS))



How to get in touch with the Civil Aviation Authority's Remotely Piloted Aircraft Systems (RPAS) staff



- Yes, I was aware of this
- No, I wasn't aware of this
- Don't know
- Not aware of the Civil Aviation Authority

COMMERCIAL VS. RECREATIONAL NZ RPAS USERS' AWARENESS AND USE OF THE CAA WEBSITE

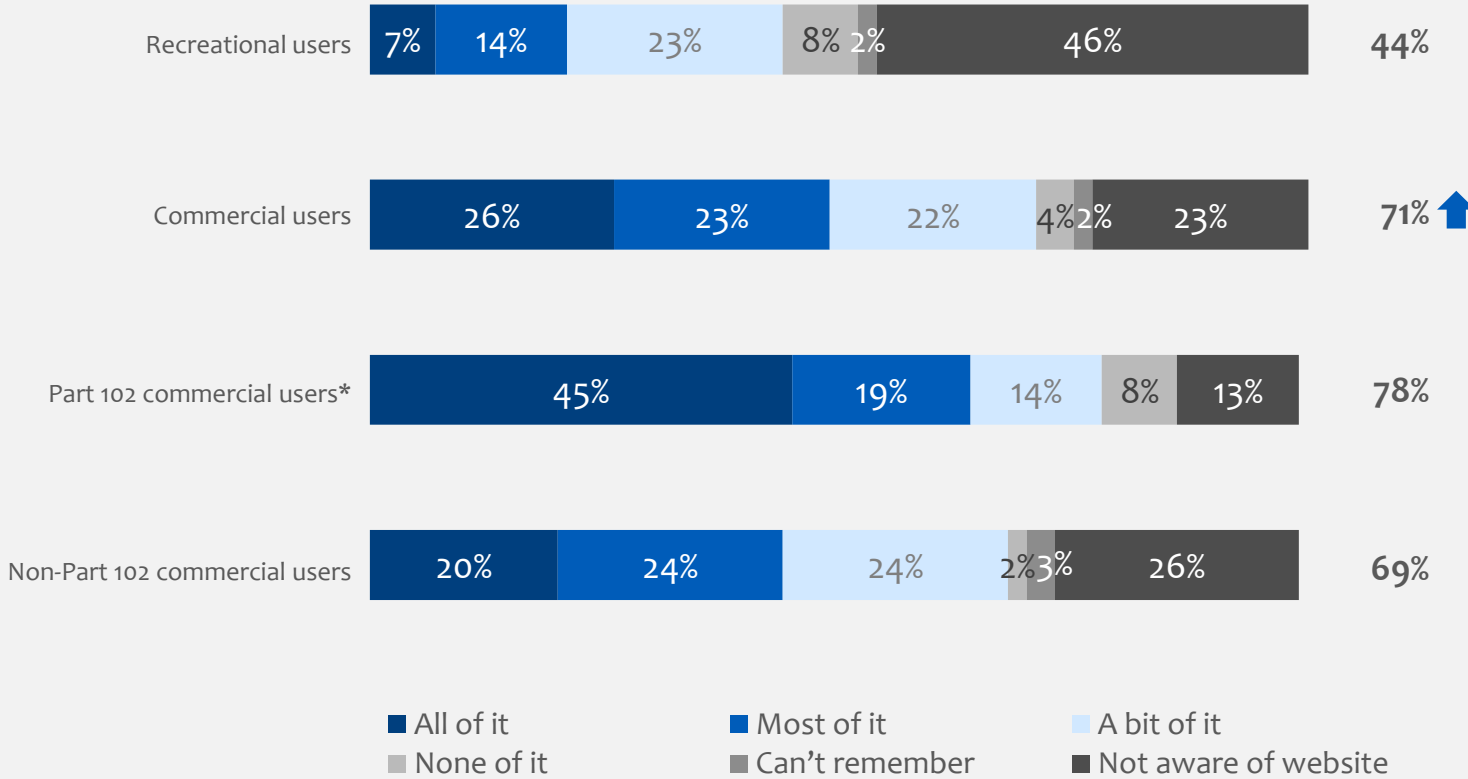
Awareness of CAA website

The Civil Aviation Authority website (www.caa.govt.nz)

	% Yes, I was aware of this
Recreational users	54%
Commercial users	77% ↑
Part 102 commercial users*	87%
Non-Part 102 commercial users	74%

Extent to which information on the CAA website about the rules around drone use in NZ is read?

Read at least a bit about the rules



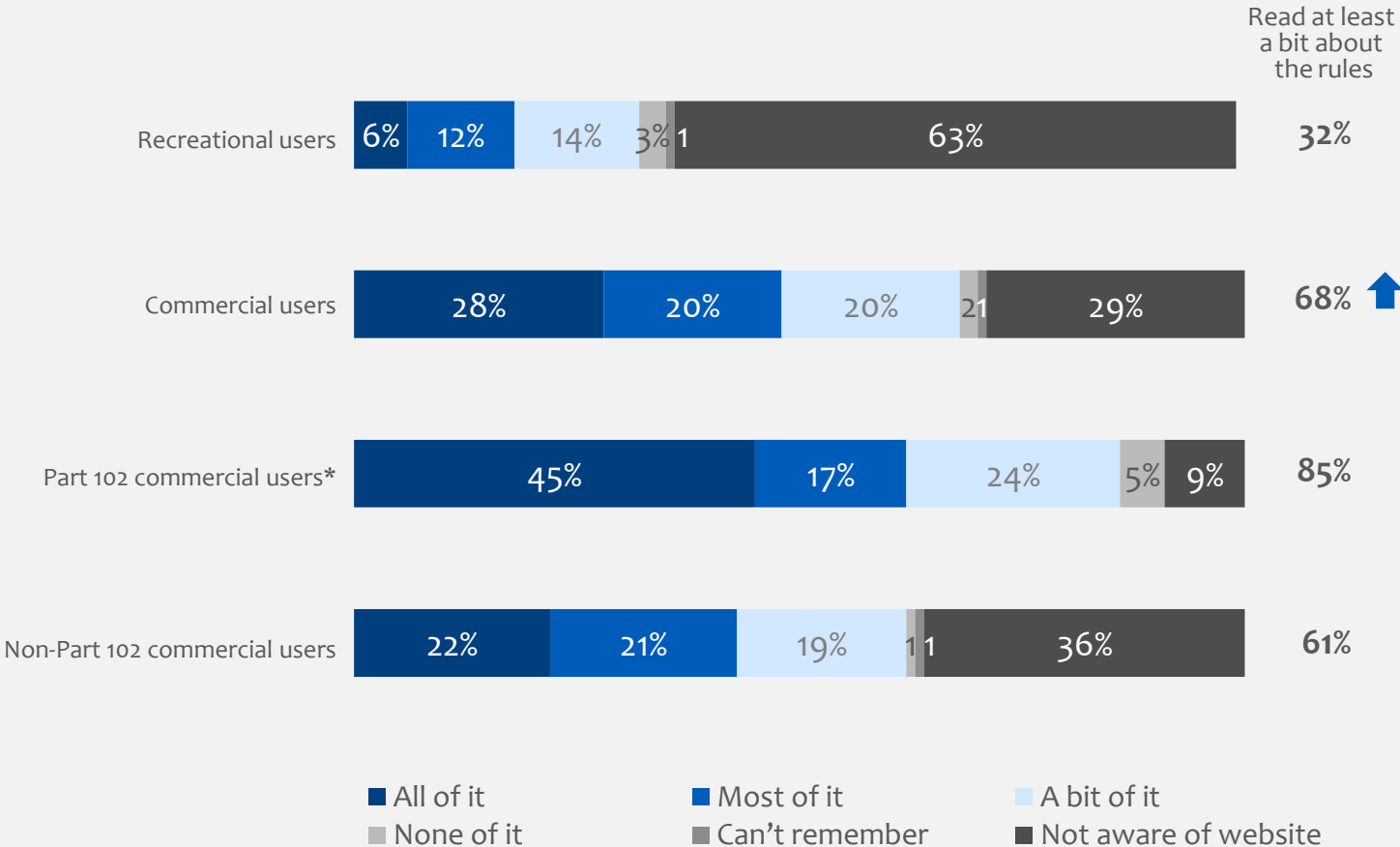
COMMERCIAL VS. RECREATIONAL NZ RPAS USERS' AWARENESS AND USE OF THE AIRSHARE WEBSITE

Awareness of Airshare website

The Airshare website (www.airshare.co.nz)

	% Yes, I was aware of this
Recreational users	37%
Commercial users	71% ↑
Part 102 commercial users*	91%
Non-Part 102 commercial users	64%

Extent to which information on the Airshare website about the rules around drone use in NZ is read?

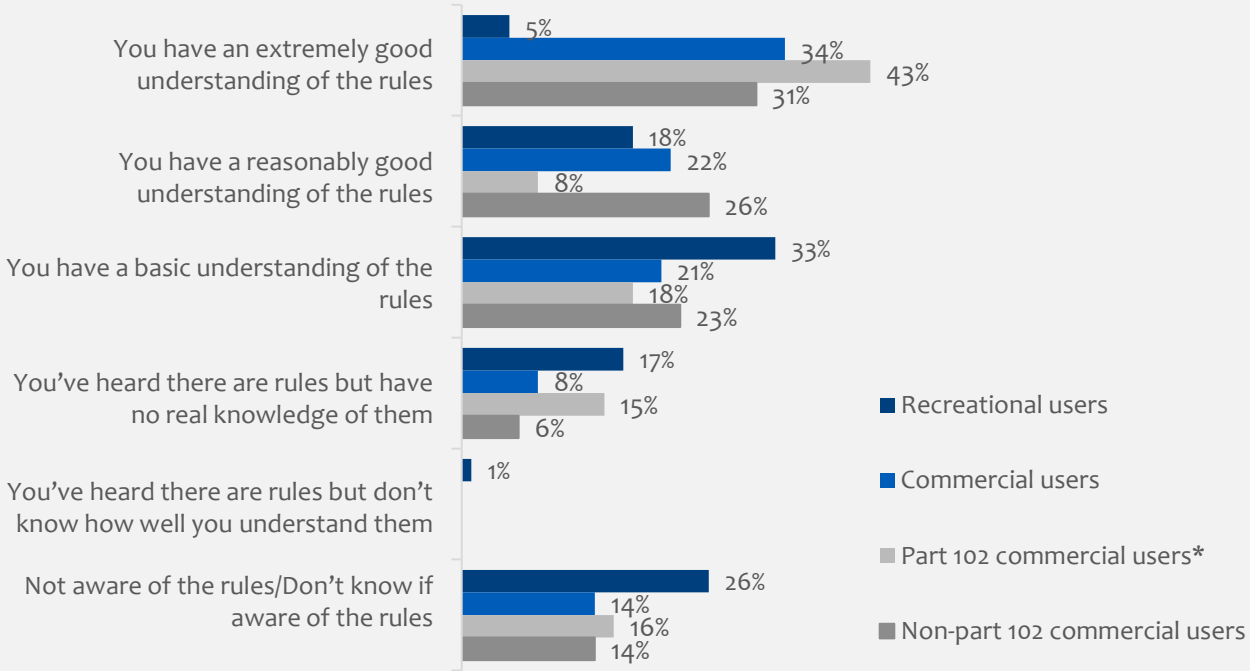


COMMERCIAL VS. RECREATIONAL NZ RPAS USERS' AWARENESS THERE ARE DRONE USE RULES IN NZ, AND LEVEL OF SELF-REPORTED KNOWLEDGE ABOUT THE RULES

Awareness that there are rules in New Zealand around the use of drones

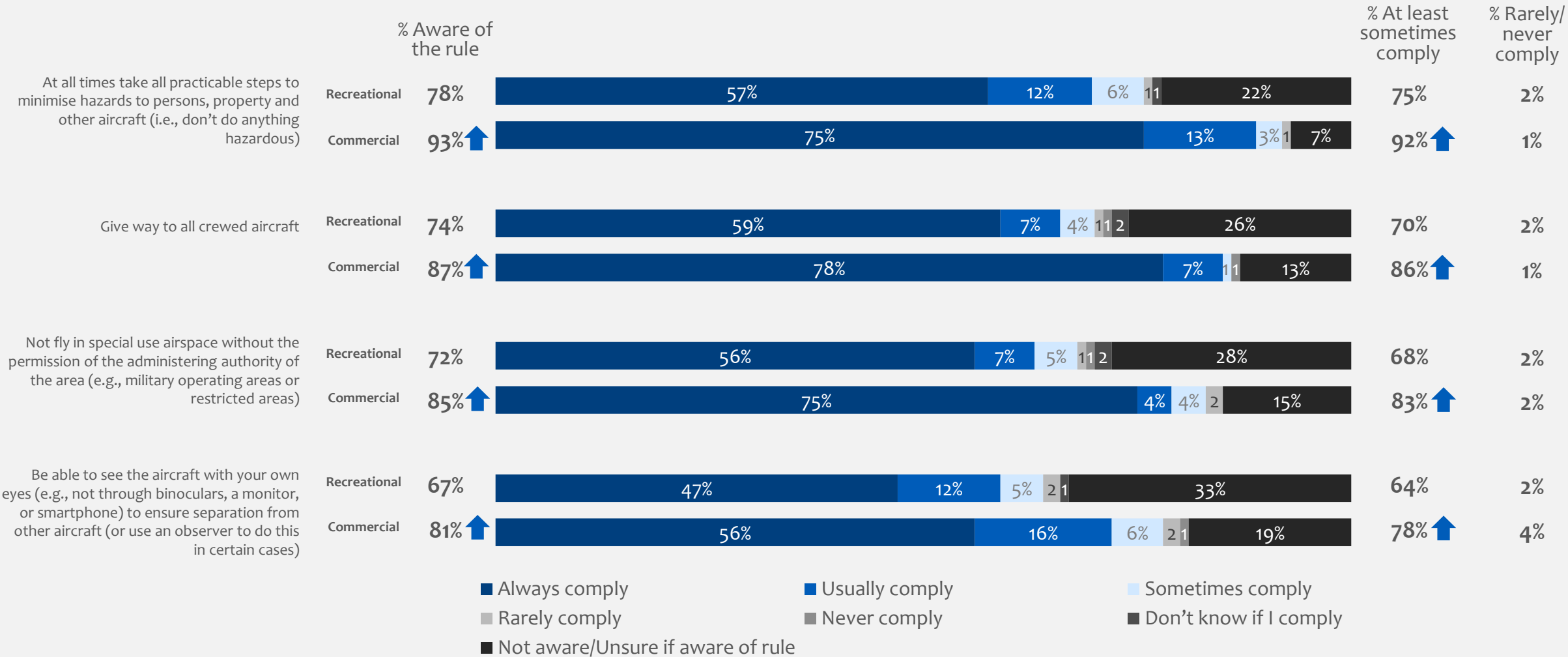
	% Aware there are rules in NZ around drone use
Recreational users	74%
Commercial users	86% ↑
Part 102 commercial users*	84%
Non-Part 102 commercial users	86%

How much commercial vs. recreational NZ RPAS users say they know about the rules



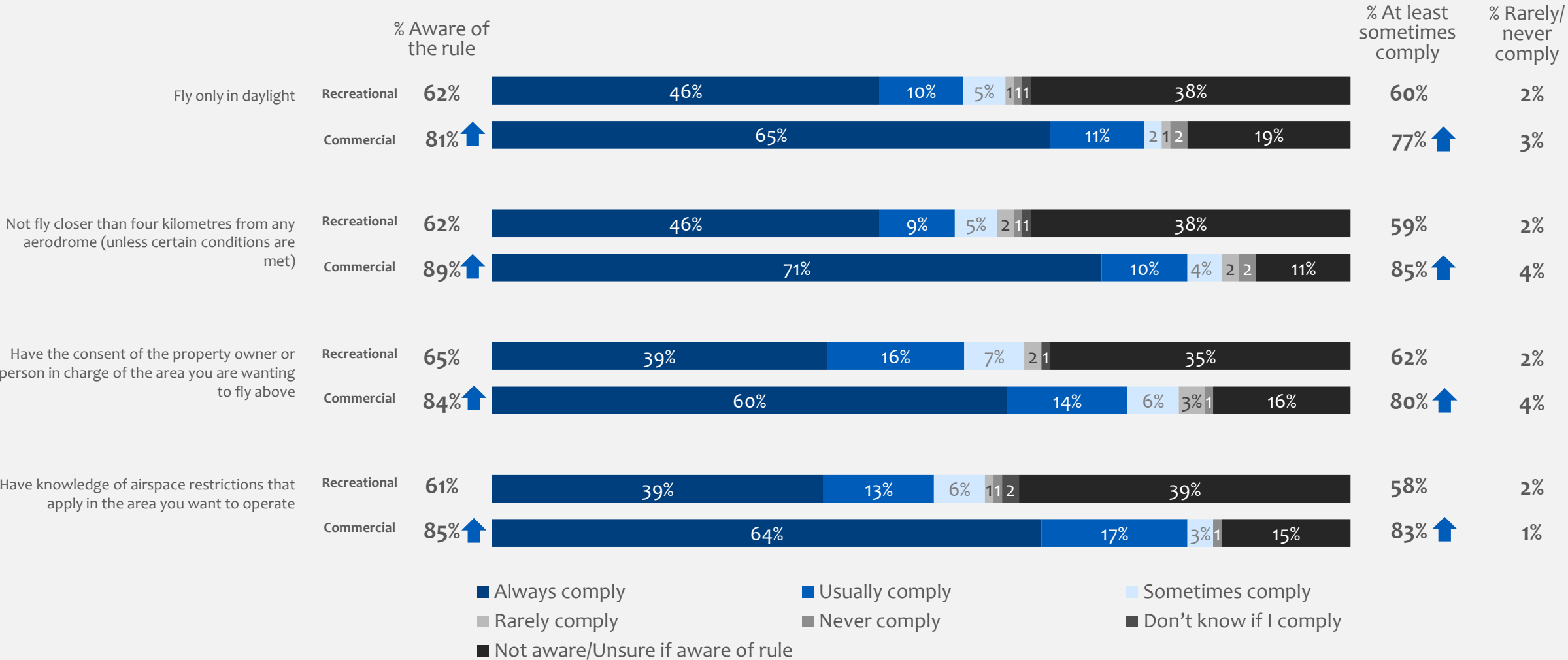
	Recreational users	Commercial users	Part 102 commercial users*	Non-Part 102 commercial users
% Say they have at least a basic understanding	56%	77% ↑	69%	80%

COMMERCIAL VS. RECREATIONAL RPAS USERS' AWARENESS OF AND COMPLIANCE WITH THE PART 101 RULES

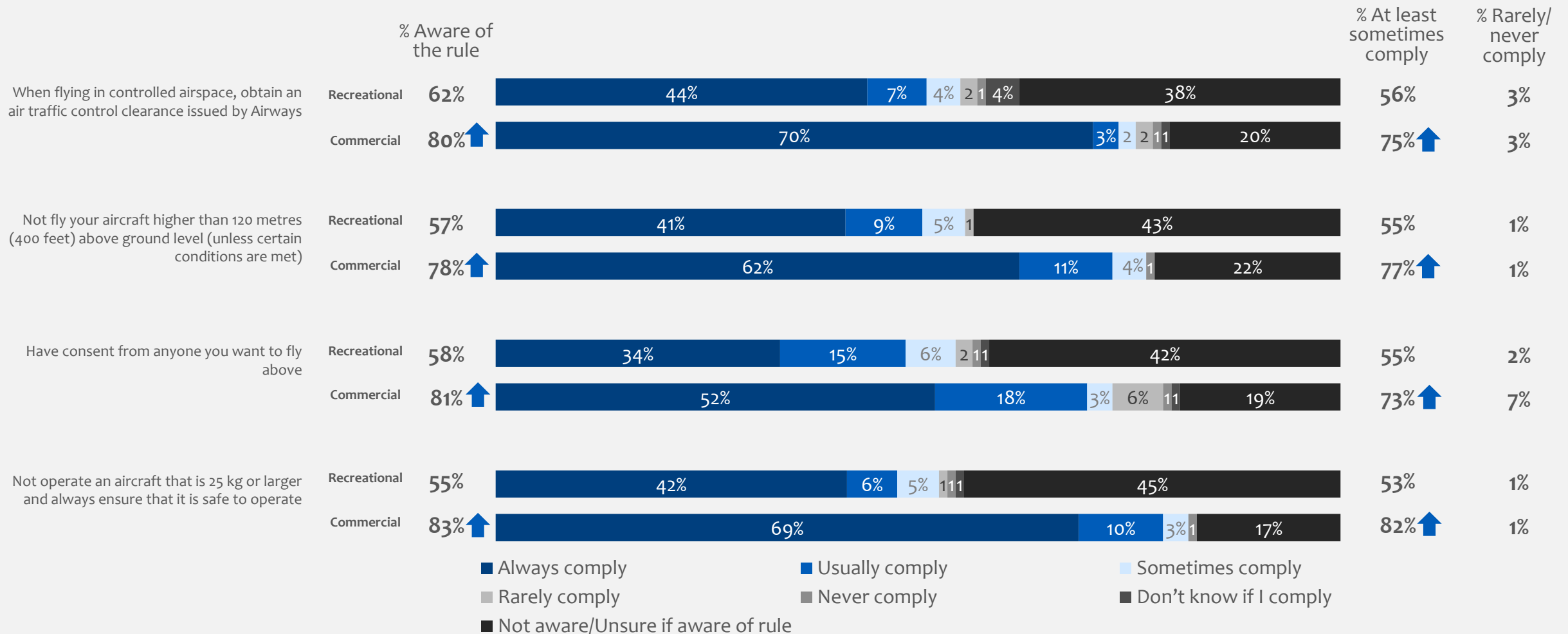


■ Always comply ■ Usually comply ■ Sometimes comply
■ Rarely comply ■ Never comply ■ Don't know if I comply
■ Not aware/Unsure if aware of rule

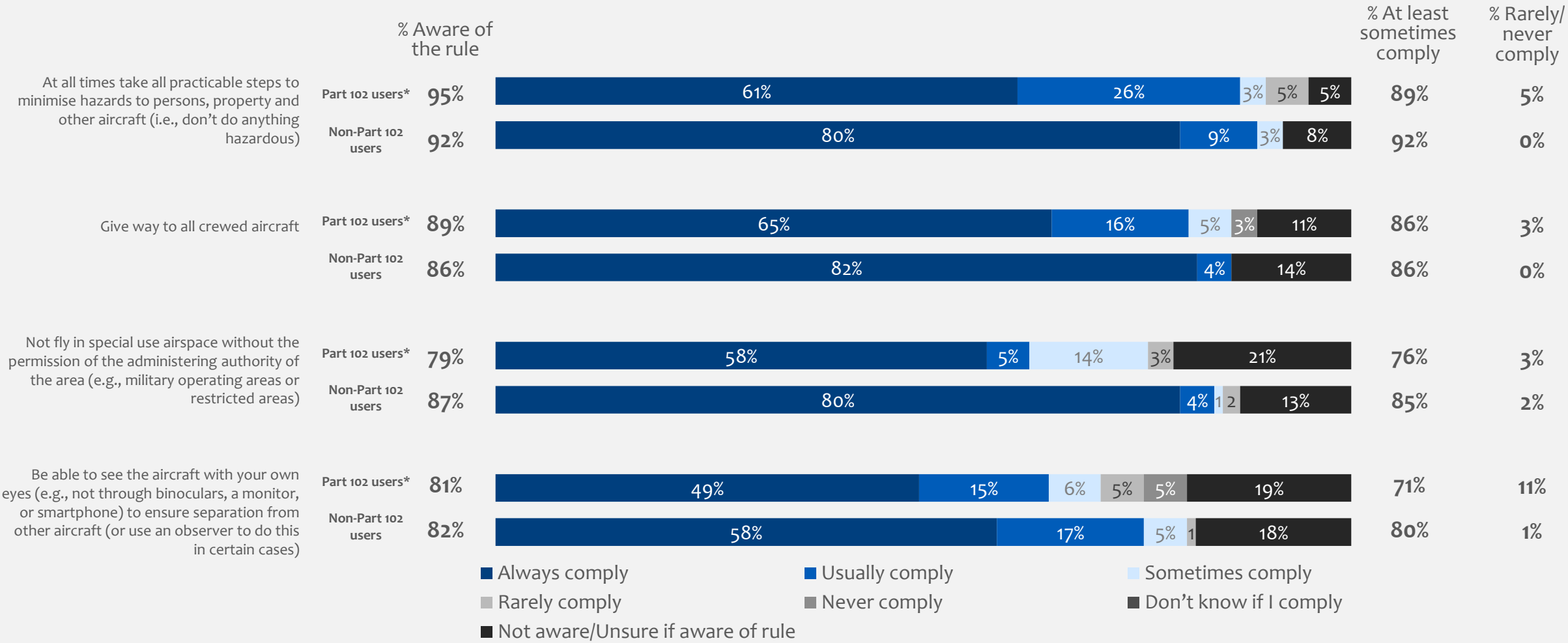
COMMERCIAL VS. RECREATIONAL RPAS USERS' AWARENESS OF AND COMPLIANCE WITH THE PART 101 RULES - CONTINUED



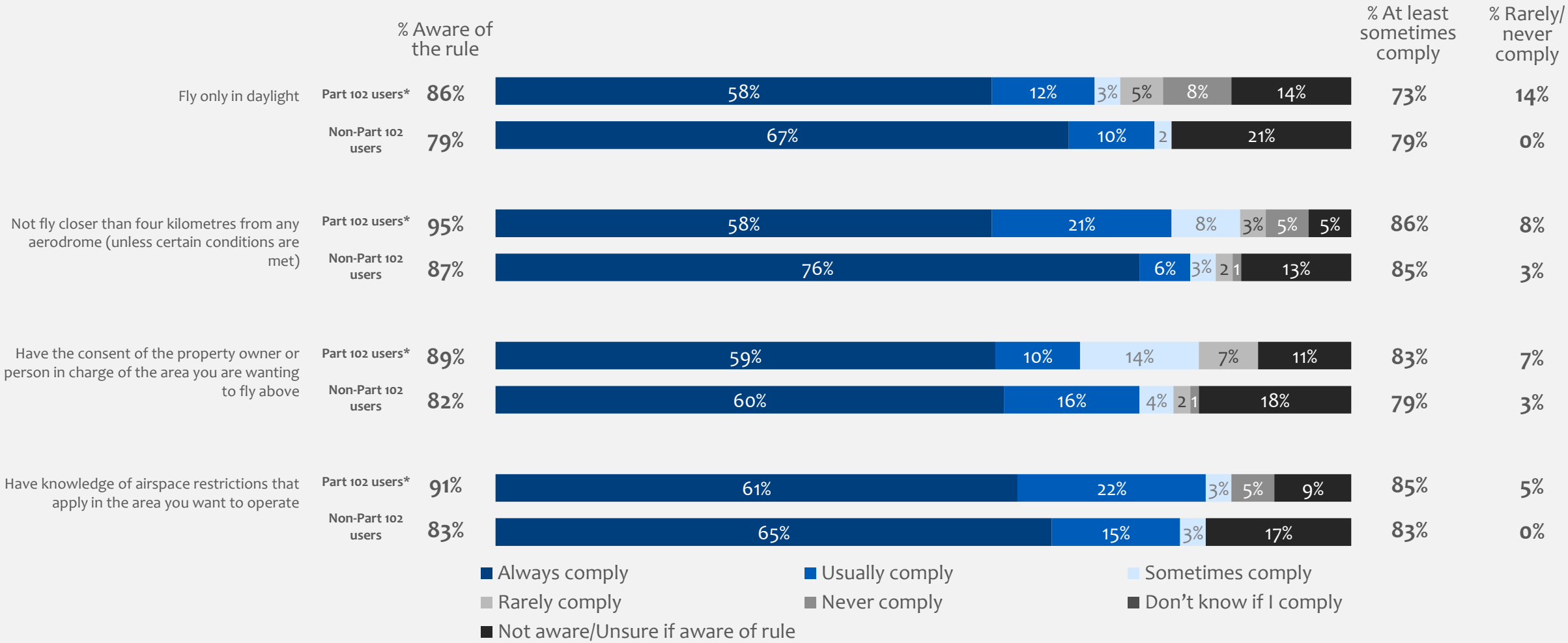
COMMERCIAL VS. RECREATIONAL RPAS USERS' AWARENESS OF AND COMPLIANCE WITH THE PART 101 RULES - CONTINUED



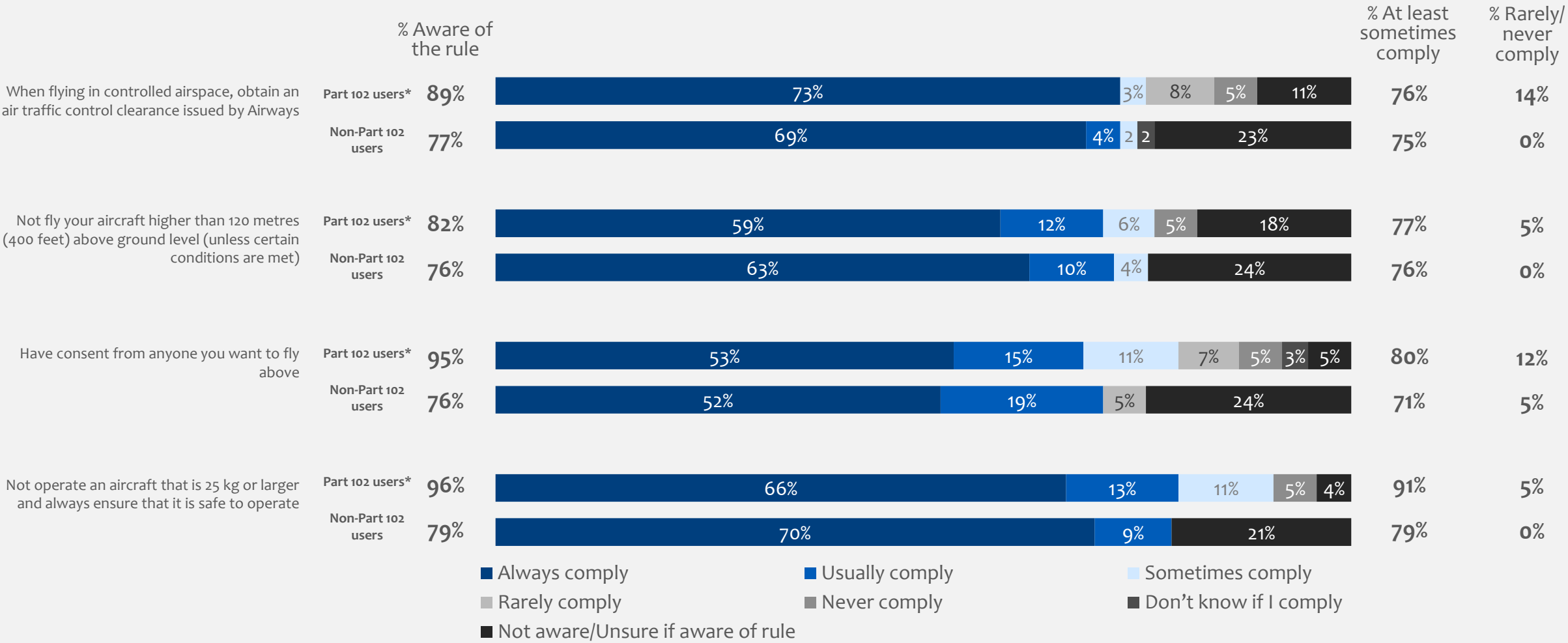
PART 102 VS. NON-PART 102 COMMERCIAL RPAS USERS' AWARENESS OF AND COMPLIANCE WITH THE PART 101 RULES



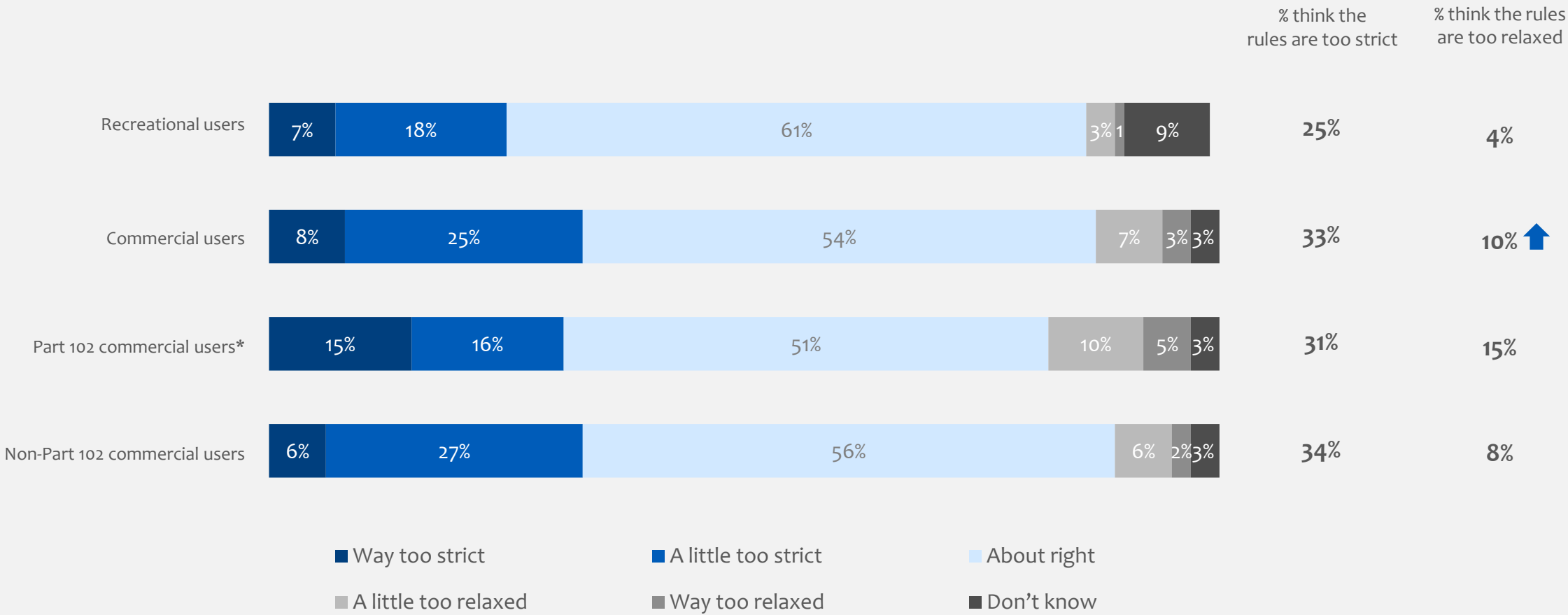
PART 102 VS. NON-PART 102 COMMERCIAL RPAS USERS' AWARENESS OF AND COMPLIANCE WITH THE PART 101 RULES - CONTINUED



PART 102 VS. NON-PART 102 COMMERCIAL RPAS USERS' AWARENESS OF AND COMPLIANCE WITH THE PART 101 RULES - CONTINUED




COMMERCIAL VS. RECREATIONAL NZ RPAS USERS' PERCEPTIONS OF THE PART 102 RULES

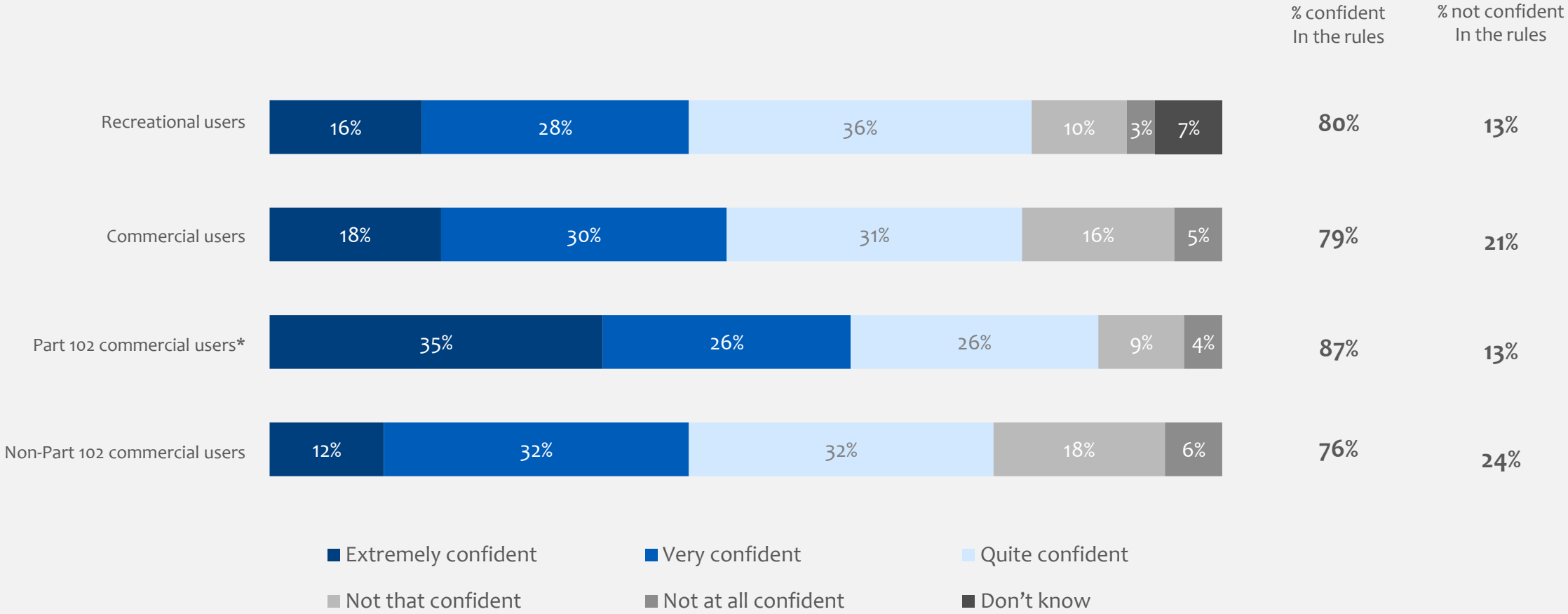


COMMERCIAL VS. RECREATIONAL NZ RPAS USERS' AWARENESS OF CAA'S PART 102 RULES

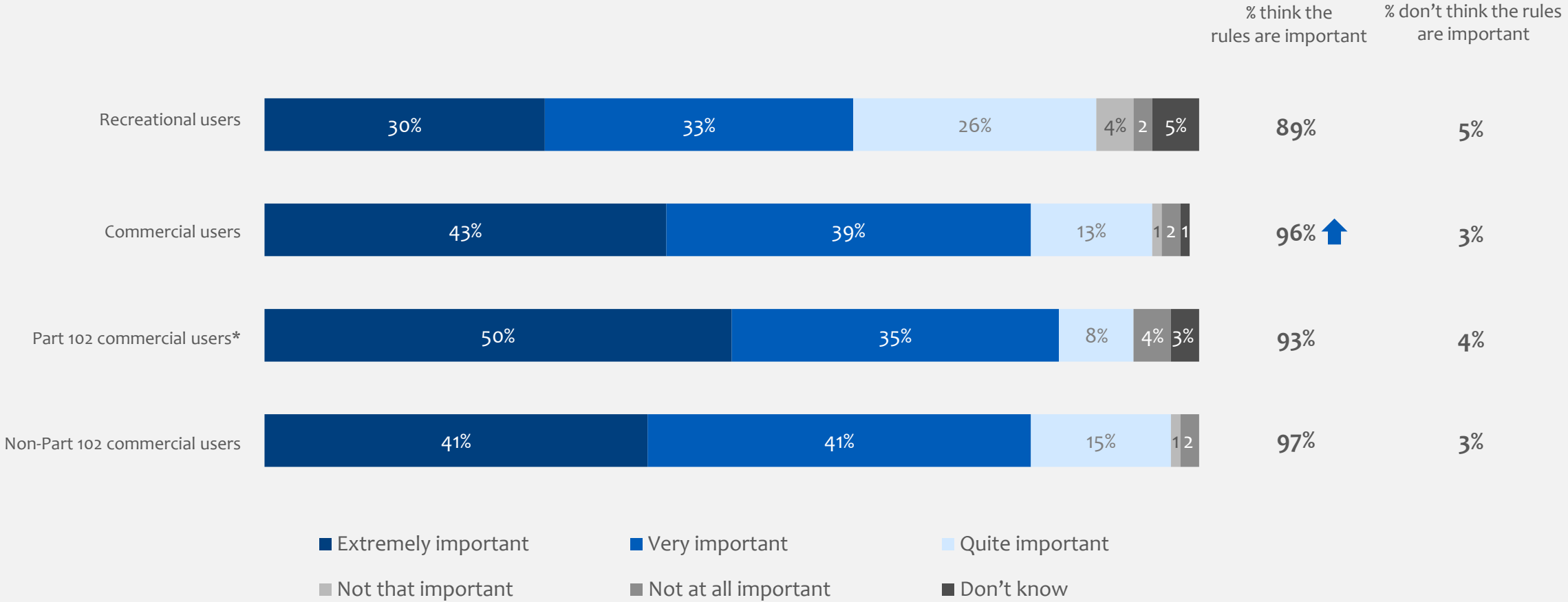
You can be permitted to not comply with some of the Part 101 rules if you apply for and receive a Part 102 certificate from the Civil Aviation Authority

	% Aware
Recreational users	36%
Commercial users	65% 
Part 102 commercial users*	73%
Non-Part 102 commercial users	62%

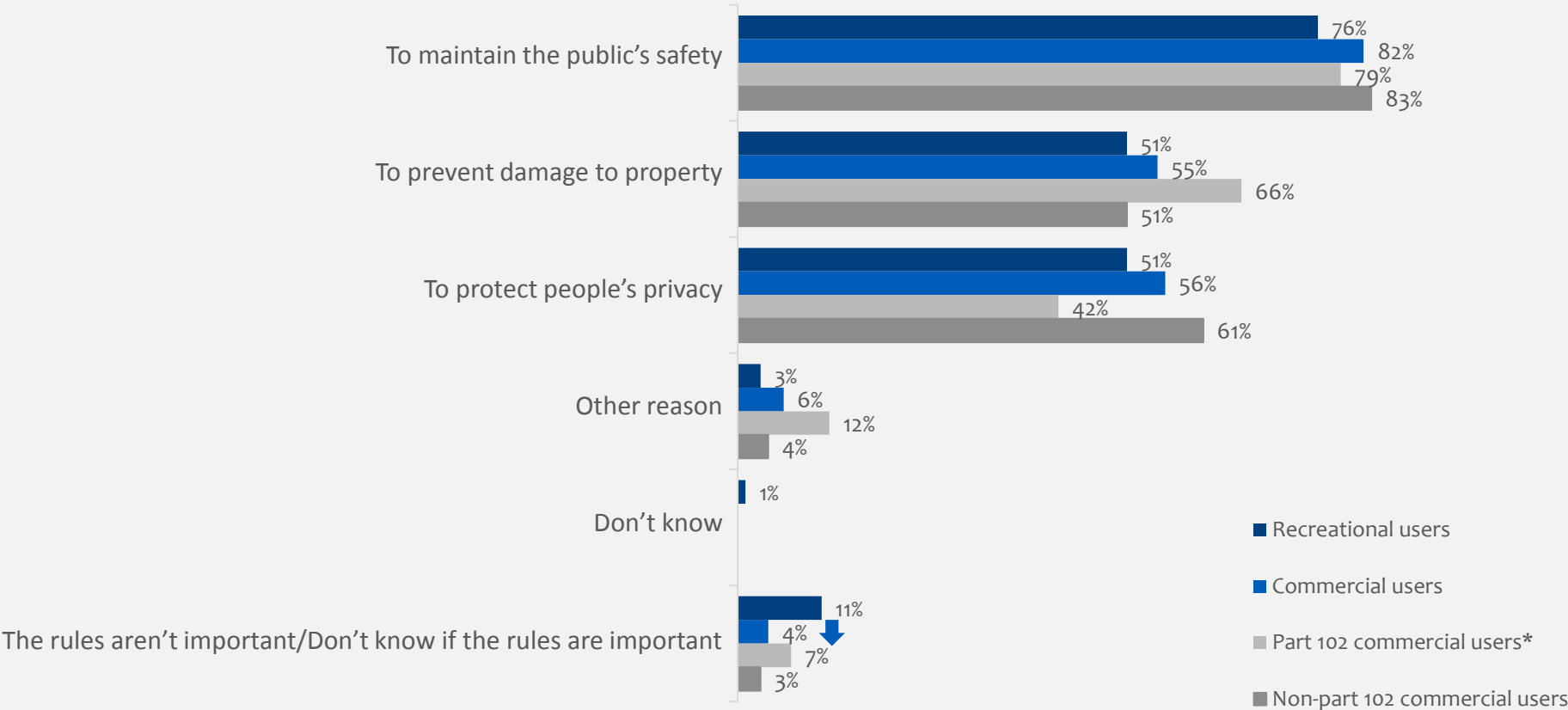
COMMERCIAL VS. RECREATIONAL NZ RPAS USERS' CONFIDENCE IN THE EFFECTIVENESS OF CAA'S RULES AND REGULATIONS AROUND DRONE USE



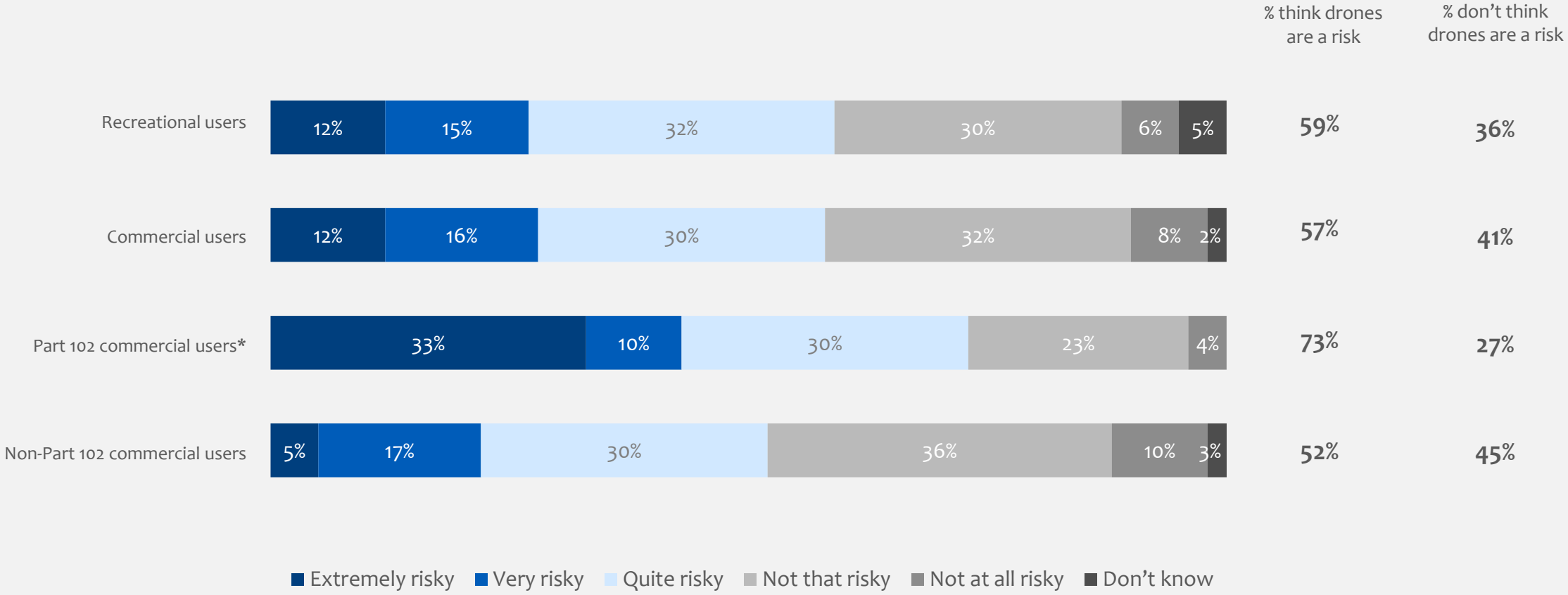
COMMERCIAL VS. RECREATIONAL NZ RPAS USERS' PERCEIVED IMPORTANCE OF CAA'S RPAS USE RULES



REASONS WHY COMMERCIAL VS. RECREATIONAL NZ RPAS USERS THINK THE CAA RULES AROUND DRONE USE ARE IMPORTANT



PERCEIVED RISK OF DRONE USE TO AVIATION SECURITY AMONG COMMERCIAL VS. RECREATIONAL NZ RPAS USERS



How were the projections that are included in the report calculated?

To estimate the total number of New Zealanders that own or fly a remotely piloted aircraft system (RPAS) we calculated the estimated number of 18+ year old RPAS users, and the estimated number of under 18 year old RPAS users and then added those two figures together (255,880 + 25,548 = 281,428 NZ RPAS users).

The 18+ year old figure was calculated as follows:

8% of New Zealanders aged 18+ years in the nationally representative online omnibus survey said they own or fly a drone, we multiplied that proportion by the number of people aged 18+ years in the NZ population (3,198,501 Census 2013) to get 255,880 18+ year old RPAS users.

The under 18 year old figure was calculated as follows:

62 of 1,000 respondents to the nationally representative online omnibus survey said someone else in their household own or fly a drone, we estimated that 24.4819 of them are under 18 years of age based on the proportion of people in NZ households that are under 18 years using Statistics NZ figures. We then multiplied the resulting proportion (i.e. $24.4819/1000=2.44819\%$) by the number of people aged under 18 years in the NZ population (1,043,553 Census 2013) to get 25,548 under 18 year old RPAS users.

The estimated annual number of 15+ year old overseas visitors that will use an RPAS while in New Zealand was calculated as follows:

6% of the 15+ year old overseas visitors that were interviewed in departure lounges at Auckland and Christchurch airports said they had used a drone while in New Zealand. We multiplied this proportion by the number of 15+ year old overseas visitors that came New Zealand during the year to date June 2017 (3,330,096 Statistics NZ) to get 199,806 overseas visitor RPAS users annually aged 15+ years.

The estimated number of New Zealanders aged 18+ years that will get an RPAS in the next three months was calculated as follows:

4.2% of New Zealanders aged 18+ years in the nationally representative online omnibus survey said they are likely to get a drone in the next three months (either by purchasing one themselves or having someone else purchase it for them). As consumers tend to overstate their intention to acquire products we calibrated this percentage using a proportion based on other consumer research which estimated the extent to which consumers who say they are likely to get a product actually do, this reduced the estimated proportion of New Zealanders who are likely to get a drone in the next three months down to 2.126%. We then multiplied that calibrated percentage by the number of people aged 18+ years in the NZ population (3,198,501 Census 2013) to get 68,000 likely RPAS purchasers aged 18+ years.

For further information please contact:

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PO Box 3622 | Wellington 6011

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www.colmarbrunton.co.nz



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- b. Publish the appropriate details of the project
- c. Correct any misleading aspects of the published presentation of the findings

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