
In, out, and around Christchurch



Abbreviations and terms

Note: Throughout this booklet all altitudes are above mean sea level (AMSL) unless otherwise stated.

AC	Advisory circular
AD	Aerodrome section of <i>AIP New Zealand</i>
AFIS	Aerodrome flight information service
AGL	Above ground level
AIP	Aeronautical Information Publication
ALT	Altitude (setting on transponder)
AMSL	Above mean sea level
ATC	Air traffic control
ATIS	Automatic terminal information service
CFZ	Common frequency zone
CTA	Control area
CTR	Control zone
DME	Distance measuring equipment
ENR	Enroute section of <i>AIP New Zealand</i>
FISCOM	Flight information service communication
FL	Flight level
FSO	Flight service officer
GAA	General aviation area
GAP	Good Aviation Practice (booklet)

GNSS	Global navigation satellite system
IFR	Instrument flight rules
LFZ	Low flying zone
MBZ	Mandatory broadcast zone
MHz	Megahertz
NM	Nautical mile
NORDO	Non radio-equipped
PBN	Performance-based navigation
PLA	Parachute landing area
QNH	A sub-scale setting which causes an altimeter to read altitude above mean sea level
RNAV	Area navigation
RNP	Required navigation performance
SARTIME	The time nominated by a pilot for the initiation of alerting action
TM	Transponder mandatory
VFR	Visual flight rules
VHF	Very high frequency
VNC	Visual navigation chart
VOR	VHF omnidirectional radio range
VPC	Visual planning chart
VRP	Visual reporting point (VRP names are <u>underlined</u> except over photos)

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Radio phraseology

Radio calls that are clear, concise, consistent, and correct are essential to good communication. We recommend that you study Advisory Circular AC91-9 *Radiotelephony Manual*. The AC contains examples of standard radiotelephony phraseology for use by pilots and air traffic services. See also the GAP booklet *Plane talking*.

Cover photo: Christchurch Airport Tower.

Unless otherwise stated, all photos in this booklet were taken by Matt Hayes, matthayes.co.nz.

Every effort is made to ensure the information in this booklet is accurate and up-to-date at the time of publishing, but numerous changes can occur with time, especially in regard to airspace and legislation. Readers are reminded to obtain appropriate up-to-date information.

See the CAA website for civil aviation rules, advisory circulars, airworthiness directives, forms, and more safety publications. Visit aviation.govt.nz.

Looking east, an Alpha R2000 flies through
Low Flying Zone L863 over the Waimakariri River.



Introduction

In, out, and around Christchurch should be read in conjunction with *AIP New Zealand*, especially Visual Navigation Charts D2 and C13, and Vol 4.

Canterbury is a busy and complex piece of airspace. Bounded by the Southern Alps to the west, the Pacific Ocean to the east, the relatively small and narrow area is home to:

- a busy international airport (A380s to microlights)
- a plethora of CFZs and MBZs
- a multitude of private airstrips, many of which are not shown on the charts
- Antarctic operations
- model flying, and
- areas of adventure aviation.

The district has also been described as a “giant training zone”.

The area presents some unique challenges to aviators, particularly the identification of navigable features. This booklet is intended to improve pilot knowledge of visual reporting points.

This booklet also aims to improve GA pilots' familiarity with airspace, particularly operating in and around the Christchurch control zone. Many pilots, at present, track to avoid the control zone, and in doing so, sometimes unwittingly fly through the circuit of aerodromes such as Rangiora, Forest Field, and West Melton. This has led to situations where avoiding action has been necessary between aircraft in the circuit and the transiting traffic.



Overview

Canterbury's terrain demands that pilots exercise a high degree of situational awareness, and constantly look outside the cockpit.

The land is increasingly used for dairying, and many of the natural features previously used as cues for finding the visual reporting points no longer exist.

Local pilots say the transformation of the terrain has been rapid and dramatic, and even they can become confused if they haven't flown in a particular area for a while.

In, out, and around Christchurch contains images of some VRPs, as well as images of what those VRPs look like on a VNC, so you can actually see what the land surrounding certain visual reporting points looks like.

Remember this is what the VRPs look like at the time of publishing this GAP booklet. Nothing beats being briefed by a local instructor who regularly flies in this area, or even taking a check flight with them.



The two triangular ponds to the right are the Flags VRP, looking east.

Situational awareness

Around Christchurch, poor situational awareness will expose you to real risk. Local pilots say out-of-towners who haven't done their homework get lost, bust controlled airspace, and fly through the circuits of the many aerodromes dotting the district.

The district demands pilots keep looking out of the cockpit. Your preflight research, particularly learning where VRPs are, will help that lookout.

Pilots should be aware that the lower level of controlled airspace (terminal controlled area) steps down quickly approaching Christchurch - especially from Banks Peninsula, where just west of the Port Hills, this level drops from 3500ft to 1500ft.



The advice here is to anticipate those altitude reductions early. For instance, if the controlled airspace is going to lower after one of the rivers, ensure you're at that altitude when you cross that river. Local pilots say the reductions in altitude creep up really quickly so keep an eye out and work proactively.

There are few prominent natural features, but the major rivers – the Rangitata, Rakaia, Waimakariri, and Ashley – and the state highway are good for navigation.

There is a trap, however, in that the rivers can look alike. Out-of-towners often get confused by them.

You could count them off, but local instructors will tell students to identify three different land features on the ground – say, the river, a bridge and a power line. Then confirm that on your chart.



Mouth of the Waimakariri River.

Communication

Due to changes in airspace types in a relatively small area, and the associated rapid change of radio frequencies, pilots in uncontrolled airspace need to make sure they understand how, and when, to use which ones.

If possible, a pilot should use two radios or a dual frequency radio with preplanned frequencies, allowing them to monitor communications in the area they're approaching, as well as those in the area they're currently flying through.

Many pilots use 119.1 MHz all over the place as a default chat frequency. It's the unattended aerodrome frequency and should be used only for that purpose. Pilots run the risk of missing an important communication if they use 119.1 inappropriately.

It should be noted that all the aerodromes shown on the VNCs, within either MBZs or CFZs, are on a dedicated frequency for that airspace.

Use the correct frequency for the particular area you're flying in, or are about to fly in.

Some local pilots use informal features to radio their location, for instance, "overhead meatworks". While other local pilots may know where the meatworks are, itinerant pilots will not. Therefore stick to reporting relative to the visual reporting point, for example, "three miles south of...", or prominent features shown on the VNCs, and use standard radio phraseology.



One of the most important things communicated in your radio call is your altitude. Other pilots will listen up if they're flying at 800ft, and they hear you are too - even if they miss aircraft type and intentions.

Be proactive on the radio. In good time, let other traffic know who you are, where you are, and where you're going. Don't be a surprise to them.

Resist overdoing it, however. As the GAP booklet, *Plane talking*, says, "Make only the appropriate calls. There is usually no need for 'rolling', 'crosswind', 'early downwind', 'final' and 'vacating' calls - unless other aircraft are affecting your flight and you need to alert them to your position".

Using standard calls will help to improve everyone's situational awareness, while cutting down on radio 'clutter'.

Even if you communicate 'according to the book', always keep a lookout for other aircraft that may not be on the same frequency as you, or that may be NORDO.

Never be lulled into a false sense of security that because you 'made a radio call' you're safe. Lookout must be constant and vigilant, even when you use the radio.

[Darfield looking northwest, see page 17. Note the dairy factory in the centre of the image on this page. You're likely to see that before the town.](#)



Transiting

West of the control zone

Local pilots recommend that transiting aircraft 'go west' - that's west of Rangiora aerodrome, and west of Forest Field. There's extensive training to the west of Watchtower, between Darfield and Oxford and the foothills.

They say the journey will be far easier and less stressful.

If you're flying closer to Rangiora aerodrome, note that the CFZ is off the coast between Waipara River mouth and the mouth of the Waimakariri River, extending 23NM towards the foothills of the Southern Alps.

It's a good idea to monitor the Rangiora frequency (120.2 MHz) before crossing the boundary into the Rangiora CFZ, to build a good picture of what traffic is around. Stay above 1700ft because that is the overhead join height, but below 2500ft because that is the lower level of controlled airspace.

The aerodrome sits inside an MBZ (B876), also on 120.2 MHz, and pilots must report every five minutes.

Rangiora can be extremely busy airspace. There are around 44,000 movements per annum off Rangiora's three grass runways. These movements are made up of general aviation, microlight, and helicopter operations, including training.

Large gravel pit that is Miners VRP



The aerodrome's popularity is illustrated by the 65 private hangars on site. It's also a popular refuelling stop, adding to the volume of traffic.

Passing Rangiora, and continuing southwest, the pilot should change to 119.2 MHz (Canterbury CFZ). Note that immediately south of Rangiora, controlled airspace steps down to 1500ft before the control zone boundary.

Be alert to traffic coming out of Christchurch heading for the western training areas via the western VRPs of Swannanoa, and Pond (formerly Pine).

There are a number of smaller and privately-owned airstrips in this area that are published in Vol 4, and shown on the VNCs. Pilots who haven't done their homework properly sometimes run through their circuits. Get acquainted with them on chart D2 and in Vol 4.

Forest Field aerodrome has multiple vectors and quite a lot of traffic. There are a number of homes on the airfield and more than 10 aircraft are based there.

Traffic transiting the area should avoid directly overflying Forest Field, because space between upper controlled airspace and overhead join height is limited to 100ft, and any lower could conflict with circuit traffic.

Please note that some of the private aerodromes, such as Forest Field or Loburn Abbey, require permission to land. Contacts are in Vol 4.

There are also a number of uncharted airstrips to the south of Rangiora. For instance, although Swannanoa VRP is on the chart, the private aerodrome 'Swannanoa' (height 180ft) is not.

Ask a local instructor to brief you as to where the other uncharted aerodromes are.



The Swannanoa VFR transit lane T859 allows aircraft to travel inside the western edge of the control zone, without needing to communicate with Christchurch Tower.

The transit lane extends from the surface to 1000ft, operates only during the day, and is Class G airspace during that time.

T859 encompasses Low Flying Zone L860 to the south, extending to its eastern boundary. Multiple fixed wing and helicopter traffic may be operating within L860, and may be climbing/descending anywhere from the surface up to 1000ft AMSL during entry and exit from the low flying zone. This can cause reduced separation, so stay aware of the potential closeness of other aircraft.

In the transit lane, during daylight hours only, pilots should be on 119.2. If able, monitor Christchurch Tower (118.4 MHz), and use FISCOM if needed.

Traffic in the transit lane should be advised that Swannanoa aerodrome operates on 120.2 MHz. If you're unable to monitor the Christchurch Tower frequency and the Swannanoa aerodrome frequency, it's recommended you avoid the transit lane.

Knowing which runway is in use, and the associated arrival and departure procedures, will help you build a traffic picture.

It's recommended that your aircraft has lights on in the transit lane. Maintain a good lookout.

For routes to the west, it's important to be aware of the three low flying zones L860, L862, and L863. Keep this in mind if your clearance out is via the VFR departure procedure "Pond".



But again, note that the route most recommended by local pilots is well west, towards the foothills of the Alps, unless of course poor weather makes it risky to fly close to the rising terrain.

Also, be aware that the area close to the foothills is an extensive training area with most aircraft between 1500ft and 3500ft.

Also note that ballooning operations - based west of Christchurch at Hororata - take place generally in the hour after dawn, when the weather is calmest.

Gliding operations, including winch launching, centre on the Springfield aerodrome, marked on VNC C13, approximately 4NM south-west of Springfield township.

Winch launching takes place up to 2000ft AGL and any transiting aircraft should be at least 3500ft AGL.

Activity is most intense from November to March with flights during the weekend and midweek, and as many as 30 gliders in the air at any one time.

Springfield is between Christchurch and Porters Pass, and the club appreciates itinerant pilots, including helicopter pilots, checking 133.55 MHz, before and as they fly through.

South of the Rakaia River, northbound traffic can be caught out by not descending fast enough to 1500ft after crossing the river.





Watchtower VRP looking east southeast towards West Melton.

Many southbound pilots breathe a sigh of relief when they get to Darfield, right on the corner of the controlled airspace boundaries and just outside the Canterbury CFZ. But stay alert for other traffic because there are a number of farm airstrips in this area.

West Melton

Pilots not landing at West Melton should avoid the circuit. The Canterbury Aero Club, which owns West Melton, has, in the past, reported aircraft operating in the circuit having to take avoiding action when an unknown aircraft has transited at circuit height and without radio calls.

Note that West Melton has a non-standard circuit height of 1100ft. That's because the lower level of controlled airspace is 1500ft, and the aerodrome is 305ft. Permission is required to land at West Melton, unless it's an emergency.

West Melton is contained in an MBZ (B875) on 119.2 MHz, and you need to report every five minutes.

Runway closures due to surface conditions and other airfield activities will be published via NOTAM, so make sure to check them.

Operations at West Melton have intensified over the last few years, so the aero club advises that pilots transiting the area give the aerodrome a wide berth.

Pilots who take up that advice and fly to the west of the CTR, and West Melton, should note the two permanently active danger areas in their path. West Melton D827 is used for army firing. Just to its west, Glendene D829 is a model aircraft flying area. Avoid both danger areas.

East of the control zone

Local pilots say the apprehension of, particularly, out-of-town pilots about entering the control zone is out of proportion to the challenge. Being situationally aware, proactive, and on board with the correct radio phraseology, make flying within the CTR a straightforward operation.

East of the CTR and south of the Waimakariri River mouth, pilots should be on Banks Peninsula CFZ, frequency 118.75 MHz. North of the Waimakariri River mouth, they should be on Rangiora CFZ, frequency 120.2 MHz.

The Rangiora CFZ eastern boundary is off the coastline, stopping at Waimakariri River mouth.

Flying along the coastline from the north, the first VRP is Amberley Beach, a hot spot of high volume traffic, in both directions.

This is followed by six more VRPs along the east coast, finishing with Southshore Peninsula.

Keep a vigilant lookout, remember the passing rules and make way for other aircraft.

Be at 1500ft or below just south of Leithfield Beach, at 20NM from Christchurch, as controlled airspace lowers to 1500ft.



Pilots flying this coastal route need to be particularly aware of the airspace changes and associated changes in radio frequency.

The advice is to be proactive with radio calls, but to also maintain constant situational awareness and constant lookout, because some aircraft may be NORDDO.

As you approach the control zone, be listening in to the Tower frequency of 118.4 MHz to help understand what other traffic is around.

Listen to ATIS (127.2 MHz) for airport conditions.

Be vigilant for a hot spot of regular training traffic movement between Christchurch aerodrome and the New Brighton GAA, (1500ft to 4500ft), off the coast.

This traffic uses The Pier and Southshore Peninsula as their reporting points.

Training aircraft also use the area around Lyttelton Harbour entrance east of Godley Head.



There's also heavy paragliding and hang gliding activity up to 1500ft AMSL around Taylor's Mistake, near Sumner on the coast, south-east of Christchurch. General Aviation Area G853 can also be activated by the Canterbury Hang Gliding and Paragliding Club, up to 5500ft AMSL on good convection days. Other spots for hang gliding and paragliding are marked on the charts.

If you want to transit using the East Sector, check ATIS and QNH, before requesting a clearance from air traffic control. Transmit who you are, what you're squawking, where you are, how many people on board, what

type of aircraft you are, and that you wish to track through the East Sector.

Ninety percent of the time, you will have no problem. If runway 29 is in use, you will likely be asked to remain clear because of IFR traffic.

After transiting the East Sector, you fly towards Tai Tapu VRP which is on the south-eastern side of the control zone. Note that when south or east of the CTR, you will be operating within the Banks Peninsula CFZ, which extends from the Waimakariri River mouth, along the east coast, includes Banks Peninsula, then south and west to Rolleston.



Rangiora aerodrome sees a variety of aircraft, from homebuilt to classic fighters. Research indicates there are, on average, 44,000 movements per annum off Rangiora's three grass runways. Photo courtesy of Waimakariri District Council.

Joining Rangiora

Rangiora is a busy aerodrome, so make a radio call on final approach. Pilots planning to land here need to study the Vol 4 plate and understand their obligations to follow the circuit sequence properly.

A standard overhead join is recommended. Look out to build a picture and sequence appropriately, particularly when the circuit is busy.

If the weather prevents a standard overhead join, you can join directly into the circuit, as long as you keep your eyes open and make the appropriate radio calls.



Conform to the standard circuit spacing so others know where to look.

If you fly a low-energy microlight, please think of others who may need to extend downwind because of your speed.

Pilots joining at Rangiora need to also be alert to helicopter activity. Helicopters may approach or depart directly, generally from the west, below standard circuit altitude, but must come to a stationary hover to check for traffic before crossing the active vector.

If a helicopter opts for an overhead join, please be aware that they're slower and are vulnerable because of being blind

behind. Make sure you sight them before descending for the circuit, and give them some space.

Also keep a sharp lookout for helicopters which, at any time, can be carrying out autorotations, either to the runway or to the centre triangle.

Traffic either departing Rangiora, or on late final for 07 or 10, need to be aware that the hangars between the two thresholds can obscure pilots' view of each other.

As always, before take-off, a good lookout for traffic on approach is essential before entering a runway.

Joining Christchurch

Watch your particular crosswind limit on the short grass runway, as normally the Tower won't change to runway 29 until the crosswind is 15 knots. If you need an into-wind runway, advise the Tower, ideally on first contact.

From the west

In general, it's easier for itinerant aircraft arriving at NZCH to join via the western side of the CTR. That's because that's the side the circuit is on, and the integration is much simpler and faster, and there are well-developed VFR procedures.

But remember, avoid flying through the Forest Field circuit, or for that matter, any private aerodrome circuit pattern.

To avoid delays, if you want to use the main (seal) runway, advise on first contact, so ATC can plan for your arrival.

Remember there are two low flying zones along the Waimakariri River.

Also watch for traffic flying north and south along Swannanoa VFR transit lane (T859).

From the north

From the north, it's easiest to track to the Sefton Chipmill (look for white steam), then aim for the southern end of Rangiora township. Again, be aware of the busy Rangiora circuit.

Generally, if you're tracking a line feature, such as high tension wires, or a railway line or road, apply the standard practice of keeping the feature on your left, in whichever direction you're flying.

The Mandeville arrival and departure procedures require you to track west of a line Mandeville to Pylons.

Traffic information will be passed on for any other conflicting aircraft on the opposing arrival/departure procedure.

If you have two radios, be listening in to the Tower frequency, even if you don't make a call. Listening in on the Tower can help you understand what other traffic is around you. Listen to ATIS for aerodrome conditions.

Pilots are to familiarise themselves with current VFR arrival and departure procedures as published in *AIPNZ*. Note there are separate procedures for the crosswind vector (runway 29).



From the south

From the south, if routing inbound via West Junction, start by tracking from Aylesbury, a large five-road intersection with railway tracks and a private aerodrome. Then follow West Coast Road past West Melton township, and fly northwest of the large gravel pit, which is the Miners VRP, to begin the Miners arrival.

It's recommended you request your clearance no later than West Junction, as Miners is on the edge of the control zone.

Read the Vol 4 plates thoroughly regarding grass operations on the western apron. Familiarise yourself with the arrival and departure pages, visual reporting points on the navigation charts, and the ground movements.

Remember, the grass runway can be hard to distinguish, so look out for the 02 and 20 markings. Refer Vol 4.

Landing on the seal runway, pilots need to be ready to expect taxi instructions from Christchurch Tower, but generally the Tower will just say, "Taxi via Echo to the club, on this frequency".

Unless otherwise told by the Tower, when runway 02/20 is in use, remain on the Tower frequency. When runway 11/29 is in use, contact Christchurch Ground when clear of the runway.

Again, local pilots are happy for an out-of-towner to give them a call for advice, as is ATC.

Left: [Aylesbury VRP](#), adjacent to a private airfield.



From the east

Pilots joining from the east need to watch their height over the city. If routing via Spencer Park in bad weather, watch out for the radio mast near Spencerville - it's lit at a height of 469ft.

Most pilots wanting to join via the city like to track to The Pier VRP first.

When joining via Northlands Mall, it's easiest found by looking for the group of red roofs of the school next door.

If you're tracking from the CBD to Jellie Park or Burnside Park, it's easiest to follow Memorial Avenue - a large four-lane road leaving the central park grounds from the north-west corner towards the airport. Jellie Park is identifiable by outside swimming pools and a hydro slide, see image on page 31.

Burnside Park is the large sports fields on the south side of Memorial Avenue, approximately 1NM west of Jellie Park.



Holding

You'll find that when it's busy, most aircraft will be held either outside controlled airspace, or at the VRP at the end of the VFR arrival procedures. It's common to be given an orbit at Coringa or Burnside Park when joining at NZCH.

Wake turbulence can cause some delays at Christchurch, especially if you're departing IFR.

Looking west, Northlands Mall next to the red-roofed buildings of Papanui High School.



Helicopter operations

Helicopter operations in Christchurch are reasonably extensive, although there are only a couple of areas that helicopters operate out of.

Helicopters flying to Christchurch itself will have two bases to choose from: Garden City Heliport, east side of runway 02/20 southern end, or Helicentre (operated by Christchurch Helicopters), western side by the aero club. Garden City Helicopters is now known as GCH Aviation, but the radio reference is still Garden City.

Whichever you plan to land at, be aware they each have different arrival and departure procedures.

Flight planning must be robust. Both helicopter bases are extremely busy with recreational, commercial, and training flights.

Check the helicopter procedures pages in Vol 4.

Both companies are happy to take a call from a helicopter pilot who's intending to fly into the control zone. They say they would rather do that, than be contacted by a frustrated Christchurch Tower, with a request for them to give some advice to the pilot if something goes wrong.



NOT FOR OPERATIONAL USE



Helicentre (operated by Christchurch Helicopters)
Image credit: Google Earth



The southern site of the GCH Aviation facility looking north, with the main (02/20) runway out of frame on the left. Runway 29/11 and the rest of the airport campus is in the background.

Photo courtesy of GCH Aviation.

Departing Christchurch

When taxiing at Christchurch from the western apron, extra attention needs to be paid to your taxi clearance limit, especially when taxiing out to hold at the HOLD 1 point on taxiway Echo.

Many pilots get caught out with the controlled airspace, once clear of the CTR. As a general guide, the CTA lower level is 1500ft until 20NM from NZCH. When in the CTR, remember there could be larger aircraft descending to 500ft above you, so ensure height control is carefully maintained and be careful about wake turbulence.

To the north

Heading north, most aircraft - fixed wing and rotary - go out using the [Mandeville](#) departure, south of Rangiora town. Pilots need to be aware of the volume of this traffic.

To the west

There is one transit lane for north-south traffic, three low flying zones, the West Melton MBZ, and Forest Field aerodrome to negotiate. Pilots flying in this direction should change to 119.2 MHz (Canterbury CFZ) clear of controlled airspace.

To the south

If you're west of State Highway 1, you'll enter the Canterbury CFZ. If you're east of State Highway 1, you'll enter Banks Peninsula CFZ.

From the Tower

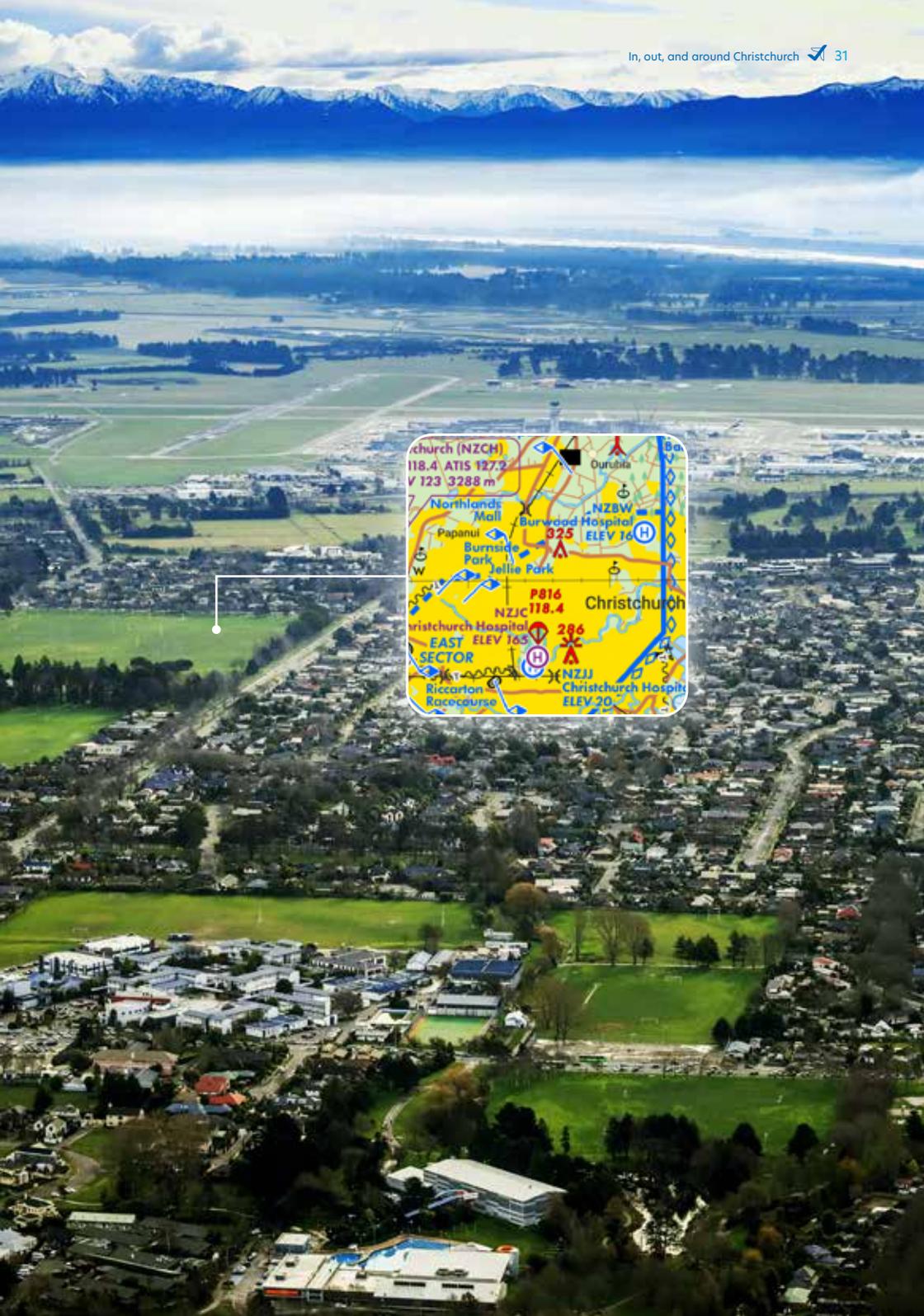
Christchurch Tower advises pilots to study the Vol 4 arrival and departure procedures as part of their preflight planning. This will help them anticipate likely clearances and tracks.

Give 'em a call

Like the helicopter companies based in Christchurch, and the local aero club, Christchurch Tower also welcomes a phone call from out-of-towners seeking advice.

Be mindful that if it's busy, they may not always be able to have a long conversation, but they'll help the best they can.

If you have a question while flying, or you're not sure of ATC instructions, they're happy for you to ask again to clarify what they want.





Good Aviation Practice



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See the CAA website for civil aviation rules, advisory circulars, airworthiness directives, forms, and more safety publications.

To order publications such as GAPs and posters, go to aviation.govt.nz/education.

aviation.govt.nz



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