

VFR Guide

A guide towards the proper handling of VFR traffic in the Reykjavik CTA (Iceland, Greenland, and the Faroe Islands.)

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Basic Principles of VFR

Visual Flight Rules (VFR) governs flights operating in Visual Meteorological Conditions (VMC) - i.e., conditions in which flight solely by visual reference is possible.

Unlike IFR flights, which follow a set routing, VFR flights generally navigate at the pilot's discretion. ATC may, however, issue traffic information and avoidance advice upon request, as well as restrict VFR aircrafts' altitude, direction of flight, or entry into certain airspace, as necessary for traffic management and safety.

Restrictions and Minima

VFR flights are not permitted in Class A airspace. In the Reykjavik CTA, this is:

- All airspace above FL195.
- In the Oceanic Area (OCA), all airspace above FL55.

Secondly, VFR flights may only take place in Visual Meteorological Conditions.

- In Iceland, Greenland, and the Faroe Islands, aerodromes are considered to be in VMC if the visibility is at least 5km, and the ceiling (lowest layer of BKN/OVC clouds reported in the METAR) is at least 1500ft.

Conditions below VMC requirements are known as **Instrument Meteorological Conditions (IMC)**. If the aerodrome is in IMC, then ATC may not give aircraft clearance to operate VFR in the control zone, except under the conditions below.

In Iceland, the only exemptions from the weather requirements for VFR are:

- Search and Rescue flights.
- Exercise flights for Search and Rescue.
- Coast Guard flights
- Ambulance and emergency flights.

If conditions are IMC, a pilot may either choose to file an IFR flight plan and receive IFR clearance, or they may request Special VFR.

There are no specific exemptions from VFR minima in Greenland and the Faroe Islands.

Special VFR

Special VFR (SVFR) is a type of VFR which a pilot may request if conditions are below VMC. The following conditions must be fulfilled for SVFR:

- ATC must give approval.
- Must be during the day.
- Must be within a CTR.
- Must be clear of cloud.
- Cloud ceiling must be at least 600ft.

ATC must ensure that SVFR flights are separated from all other airborne flights, IFR and VFR. This means:

- Only one aircraft may be in the circuit.
- There may be only one aircraft on each VFR route at once.
- Only one departure or arrival is permitted into the CTR at once.

In Greenland, the reported visibility must also not be less than 1.5km. However, when visibility is less than 1.5km, ATC may still issue clearance for flights to cross (i.e., transit) the CTR or ATZ without intending to take off, land, or join the circuit, if the flight visibility reported by the pilot is not less than 1500m, or for helicopters, not less than 800m.

Night VFR

In Iceland, VFR is permitted at night if the visibility is no less than 8km during any part of the flight. This is in addition to the usual visibility requirements for VFR flights. Additionally, all VFR flights at night must file a flight plan.

In Greenland and the Faroe Islands, there are no specific regulations regarding nighttime VFR.

Departures (Leaving the CTR)

First Contact (Ground)

On first contact with a VFR departure, Ground should assign them a squawk code, provide the local QNH (together with startup clearance, if the aircraft requires it), and ask for their intentions.

Ground should coordinate any VFR flight with TWR before the aircraft reaches the runway holding point, to notify TWR of the aircraft's intentions. This is so that TWR may advise if they can accept the VFR aircraft's intended operations in the CTR.

Some pertinent points to remember include:

- Single-engine aircraft, which often fly VFR, do not require startup clearance. Twin/multi-engine aircraft and helicopters require startup clearance.
- Light aircraft, which make up the majority of VFR traffic, sometimes request to perform an engine run-up. Run-up locations are noted in the aerodrome charts, or in airport LOPs. For example:
 - At BIKF, there is a run-up pad abeam of taxiway K.
 - At BIRK, there are two run-up areas - south of Hangar 4 (on the North Apron, next to taxiway G), and one southwest of Hangar 8 (on the East Apron).

As with IFR, VFR aircraft must have their squawk code set & transponder on (XPDR/Mode C) before taxi or pushback, whichever comes first.

VFR Departure Clearance

For departing VFR flights, VFR departure instructions shall be given together with the takeoff clearance. This includes:

- The routing of the aircraft within the control zone, i.e.,
 - The **VFR route** (if the aircraft is following one), or:
 - The **cardinal direction** (N/E/S/W) if the aircraft is not on a VFR route.
- Any relevant **departure instructions** (e.g., left or right turn after departure – not required to be specified if obvious)
- The **altitude** if the aircraft is not on a VFR route
 - For aircraft departing via a VFR route, since the route altitudes are published, it is not required to state the route altitude unless the pilot requests it.
 - For aircraft not on a VFR route, within the control zone, generally **1500FT** is appropriate for single-engine light aircraft, and **2500FT** is appropriate for multi-engine aircraft and turboprops.

The following phraseology shall be used for aircraft **on a VFR route**:

[CALLSIGN], [DEPARTURE INSTRUCTIONS* for] route [X], [WINDS], [RWY], cleared for takeoff.

(*may be omitted)

E.g.,

“☐☐ (TF-)SKN, right turn for route 6, winds 180 degrees 14 knots, runway 19, cleared for takeoff.

The following phraseology may be used for aircraft **not on a VFR route**:

[CALLSIGN], [DEPARTURE INSTRUCTIONS* to] leave the control zone to the [N/E/S/W], [ALTITUDE], [WINDS], [RWY], cleared for takeoff.

(*may be omitted)

E.g.,

“☐☐ (TF-)MYB, leave the control zone to the East, 2500ft, winds 300 degrees 15 knots, runway 31, cleared for takeoff.

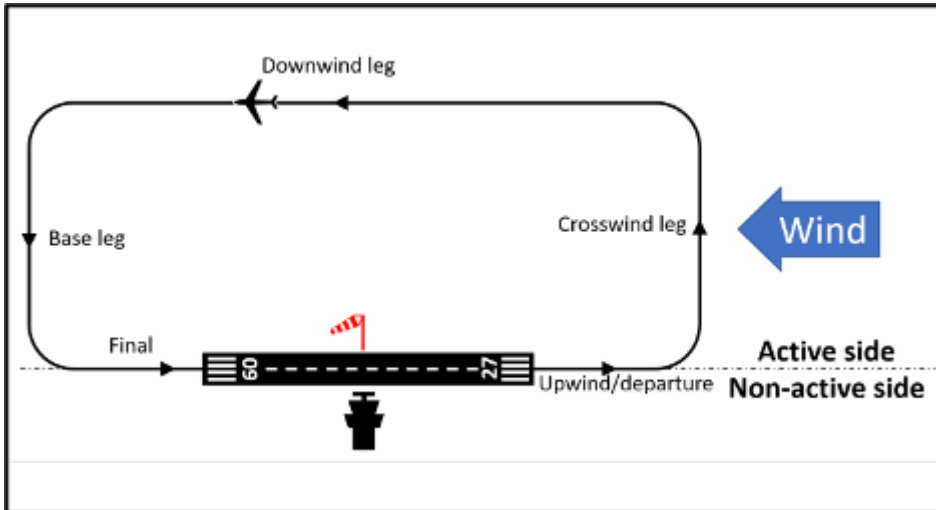
Once the aircraft is airborne, the pilot should then be asked to report when they are approaching the boundaries of the CTR.

- For BIKF & BIRK:
 - If on a VFR route, the pilot should report passing the reporting point immediately prior to the airspace boundary, e.g., Aluminium Factory for BIRK departures on route 6.
 - If not on a VFR route, the pilot should report **6 NM** out from BIRK, or **12 NM** out from BIKF.
- Other aerodromes:
 - Aircraft may simply be asked to report leaving the control zone.

Before an aircraft leaves the CTR, TWR must **coordinate** with any neighboring ATC whose controlled airspace the aircraft will enter. TWR shall inform the next controller of the aircraft's callsign, altitude (current, as well as requested if different), and their intentions.

Circuits

A standard traffic circuit consists of four legs: **crosswind**, **downwind**, **base**, and **final**.



In general, a standard traffic circuit is a **left-hand** circuit at **1000ft AGL**. (*This is general common practice, and is in fact a rule in Iceland.*)

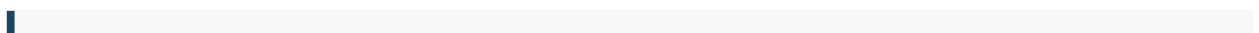
Certain aerodromes, however, may have published circuits which are non-standard in some way. For example, BIKF has a standard circuit altitude of 1200ft, and uses right hand circuits for RWYs 10 & 19. Consult with LOPs and the AIP to confirm if an airport has a published non-standard traffic circuit.

VFR departure clearances for circuits shall include the **direction** of the circuit (left/right.) While not strictly required, it is recommended to also state the **altitude** of the circuit, as VATSIM pilots are often unfamiliar with standard circuit altitudes. The following phraseology shall be used:

[CALLSIGN], [LEFT/RIGHT] hand circuits, [ALT]*, [WINDS], [RWY], cleared for takeoff.

*(*may be omitted)*

For example:



☐ (TF-)SKN, right-hand circuits, 1000ft, winds 020 degrees 6 knots, runway 01, cleared for takeoff.

When an aircraft is in the circuit, TWR should inform them of their **order** in the sequence, and confirm their intentions if not previously known (touch & go, full-stop landing, etc.)

While it is not required for aircraft to report any particular leg of the circuit if not prompted, one may ask an aircraft to report upwind, downwind, crosswind, base, or final if one considers it necessary to maintain situational awareness and manage the traffic in the CTR.

At any point once there is no further traffic ahead in the sequence, TWR may clear an aircraft in the circuit to land (or perform a touch & go, low approach, etc.

- If the aircraft is doing a full-stop landing, they will land and vacate the runway, after which TWR/GND may taxi them to the appropriate apron (e.g., Fluggardar).
- If an aircraft is doing a low approach, touch & go, or stop & go (stopping on the runway, then taking off again), then once they are climbing, TWR should give them their new order in the sequence (if it has changed), ask for their intentions again, and then repeat all of the above.

Occasionally, a VFR arrival may have to go around. If there is conflicting traffic, the aircraft should be instructed to turn left/right immediately for an early crosswind, to avoid a collision. Otherwise, they may simply rejoin the circuit as usual.

Arrivals (Entering the CTR)

If a VFR aircraft is entering the CTR controlled airspace, the transferring unit (i.e., the ATS unit currently responsible for the aircraft) will coordinate their arrival beforehand.

In heavy traffic situations, one may make requests to the transferring unit such as changing the aircraft's altitude or routing, or even refuse the aircraft's entry in the CTR, if necessary for traffic management and sequencing.

For VFR aircraft entering from uncontrolled airspace, one should send a .contactme to the pilot ideally 2-5 minutes before they will enter one's airspace.

Upon first contact with a VFR arrival, one should confirm what the intentions of the aircraft are (e.g., full-stop landing, touch-and-go, low approach, etc.). Then, one may issue an appropriate VFR arrival clearance. One should also assign a squawk code if the aircraft has not already been assigned one.

In Iceland, clearance to enter airspace is considered given once the controller gives **airport information** (e.g., QNH, runway in use, etc.) and **route clearance**.

For arrivals inbound on a VFR route, "route clearance" means the VFR route and the arrival runway, and an instruction to report passing the last VRP of the route. The following phraseology may be used:

[CALLSIGN], route X for runway XX, [QNH], [SQUAWK if necessary], report passing [REPORTING POINT.]

“☐ (TF-) SKN, route 6 for runway 01, QNH 1005, report passing the Church.

For arrivals not following a VFR route, the "route clearance" may simply consist of any relevant **routing instructions** (e.g., for joining the circuit), with the **assigned altitude**, local **QNH**, and **squawk code** if necessary. The following phraseology shall be used:

[CALLSIGN], [ROUTING], [ALT], [QNH], [SQUAWK*].

(* may be omitted)

For example:

“☐☐ (TF-)SKN, join left downwind for runway 19, 1000ft, report downwind, QNH 1015, squawk 1147.”

If the aircraft needs to overfly the airport or cross a runway's extended centreline to join the published circuit, TWR must verify that there are **no aircraft taking off/landing on that runway, or on the approach/departure path.**

- If there is conflicting traffic, then the aircraft should hold/orbit away from the airport until the other traffic is clear.
- If there is no conflicting traffic, the aircraft may be instructed to “**cross overhead the airport**” or “**cross extended centreline runway XX.**”

Transits & Other Flights

One may occasionally encounter VFR flights transiting through the CTR without landing, or performing some combination of typical VFR actions (e.g., circuits then leaving the CTR.) In these cases, one may use plain English and adapt existing VFR phraseology to issue an appropriate clearance to the aircraft. The goal is to remain flexible and receptive to the pilot's intentions.

For example, here is an example of a clearance for an aircraft to perform a touch-and-go, then leave the BIRK CTR via Route 6:

“☐ (TF-)SKN, on the go right turn for route 6, winds 180 degrees 9 knots, runway 19, cleared touch and go.

Similarly, here is an example of a clearance for an aircraft to enter, transit, and then leave the BIRK CTR via route 6 then route 1:

“☐ (TF-SKN, join route 6 then route 1 to leave the control zone, squawk 0311, QNH 983 hectopascals.

Managing VFR Traffic in the CTR

Traffic Information

In most cases, VFR aircraft are expected to maintain their own separation from other traffic, using traffic information provided by ATC. Thus, providing accurate traffic information to VFR pilots is critical to help them safely maintain their own separation from other traffic.

When providing traffic information, one should **describe the traffic** (aircraft type + airline if applicable) and **where it is**.

TWR controllers should refrain from giving radar-based traffic information with information such as “X o’clock” or a specific distance. While VATSIM controller clients like Euroscope simulate a radar scope, a real-life tower rarely has radar. One should instead give traffic info that is based on the aircraft’s location in your airspace as **reported by the pilot**, or as **visible from the tower** (if not using a tower view, one may make a best guess based on the fact that the human eye can see up to 3 miles away in good conditions.)

“☐ (TF-)SKN, traffic is an SR-22 inbound Videy on route 1.

Remember: Traffic information goes both ways! If one gives traffic information to plane A about plane B, one should also give plane B information about plane A.

Sequencing VFR

TWR controllers should establish an orderly sequence for aircraft in their CTR. This includes aircraft in the circuit, and aircraft on approach. This should, as much as possible, follow the “natural” order based on where aircraft already are.

To create a sequence, controllers may inform aircraft of their number in the sequence, including traffic information about the aircraft ahead of them. E.g.,

“☐☐ (TF-)ABB, you are number two, following a Cessna 172 turning base.

One may additionally instruct aircraft to join a certain leg of the circuit as a certain number in the circuit. E.g.,

“☐☐ (TF-)SKN, traffic is a SR-22 on base and a Cessna 172 on downwind, join downwind as number three.

Note:

- **Do not use the phrase “join behind”** – it may imply to pilots they should follow as closely behind the other aircraft as possible. Always say **“after.”**
- If one is instructing an aircraft to join final after another aircraft of a heavier wake turbulence category, one must add the phrase **“caution wake turbulence”** after the instruction.
- While there is no formal priority of IFR traffic over VFR once both are in the CTR, most IFR aircraft (often heavier turboprops and jet airliners) moves a lot faster than light VFR traffic. TWR must account for this when building the arrival sequence.

Additional Strategies

In cases of heavy traffic, one also may employ two additional strategies.

Orbits

One may instruct aircraft to orbit (fly in a circle) at a given location. When instructing aircraft to orbit, one should specify:

- Location of the orbit
- How many orbits to perform (or "until further advised")
- The direction (left/right) of the orbits.

For example:

“☐ (TF-)ABB, make left-hand orbits at the end of the downwind leg until further advised.

“☐ (TF-)ABB, make one right-hand orbits at the end of the downwind leg, then join base.

Extending Downwind

One may also instruct aircraft to extend downwind, either to join final after another aircraft, until X miles from the airport, or until ATC instructs them to turn base.

Don't forget to turn the aircraft onto base once conflicting traffic is clear! Controllers often forget to call the aircraft's base, causing them to fly a downwind that is far too long.

VFR for Approach or ACC

VFR Cruising Levels

From 3000ft - FL195, VFR aircraft are allocated cruising levels separated by 1000ft, following the **East/West semi-circular rule plus 500FT** (i.e., Eastbound VFR flights fly at odd thousands of ft + 500FT, and Westbound VFR flights fly at even thousands of ft + 500FT). For example:

- An Eastbound VFR flight might cruise at 3500FT, 5500FT, FL75, etc.
- A Westbound VFR flight might cruise at 4500FT, 6500FT, FL85, etc.

No VFR levels are allocated above FL195, as all airspace in BIRD CTA above FL195 is Class A, and thus VFR is not permitted.

VFR in a Class C/D TMA (Approach)

VFR traffic entering the Class C or D airspace of a TMA require clearance to enter the airspace. Clearance is considered to be given when the APP unit gives **airport information** and **route clearance** (using the phrase “enter controlled airspace” plus any necessary details/instructions.) E.g.,

“☐ (TF-)ISN, enter the Faxi TMA, route Westbound towards Reykjavik, 4500ft, QNH 1014, report 6 miles from Reykjavik airport.”

Once the aircraft is in the TMA, APP may identify them and provide them with a radar ATC service, including radar-based traffic information (“o’clock” and giving specific distance.)

The above does not apply to Akureyri TWR’s procedural approach service in the Akureyri TMA. As the approach service is procedural (non-radar), TWR must only

give non-radar traffic information to VFR aircraft in the TMA.

However, like in a CTR, the VFR aircraft will navigate at pilot's discretion, and APP should not issue vectors or otherwise direct the aircraft's movement unless required for traffic separation (in Class C airspace, VFR must be separated from IFR, but not other VFR; in Class D airspace, VFR does not need to be separated from other traffic.)

If vectoring a VFR aircraft for separation, APP shall use the phrase "resume own navigation" to indicate when the vectoring is complete and aircraft may navigate again at their discretion.

VFR in Class E or G Airspace

VFR traffic in Class E enroute airspace (like the Icelandic Domestic Area), or in Class G uncontrolled airspace underneath controlled airspace (outside of an ATZ/FIZ), do not have to contact ATC. They may, however, request flight information service (traffic information, as well as known meteorological, aerodrome, etc. information as relevant for the safe flight of the aircraft.) ATC should provide this as much as possible, workload permitting, but may refuse such service if traffic/workload is too high.

Aircraft within ATS surveillance coverage may be radar identified and provided radar-based traffic information by the relevant APP/ACC unit.

VFR Flight Plans (Iceland)

In Iceland, plans are required for all VFR flights entering controlled airspace (which includes aircraft departing/arriving controlled aerodromes), as well as all VFR flights at night.

VFR flight plans on VATSIM are filed using VATSIM's standard ICAO-format flight plan submission form. Alternatively, if operating only within the Faxi TMA, pilots may file their flight plans via voice. The following pieces of information are required at minimum:

- Callsign
- Route of flight
- Estimated enroute time
- Endurance
- Name of pilot and number of passengers

An example of filing such a flight plan by voice from the pilot's side is:

“☞☞☞ (TF-)FFL, Reykjavík – Sandskeið – Reykjavík [*or touch and goes, East Training Area, etc.*], estimated time 1 hour, endurance 3 hours, [*PIC name*] solo [*or +1, 2, 3...*]

For aircraft filing flight plans via voice, controllers may create a VATSIM flight plan for the aircraft using Euroscope. First, ASEL the aircraft by clicking on its callsign or typing its callsign then pressing NUMPAD +, then press F1, then A, then finally press NUMPAD +. Alternatively, one may use the TopSky CREAPL function (see the plugin user manual for more information.)

Single Engine VFR Routes (BIKF and BIRK)

Five VFR routes are published within the BIKF & BIRK CTRs for single-engine aircraft. These are pre-defined routes follow designated visual reporting points (VRP) on the ground.

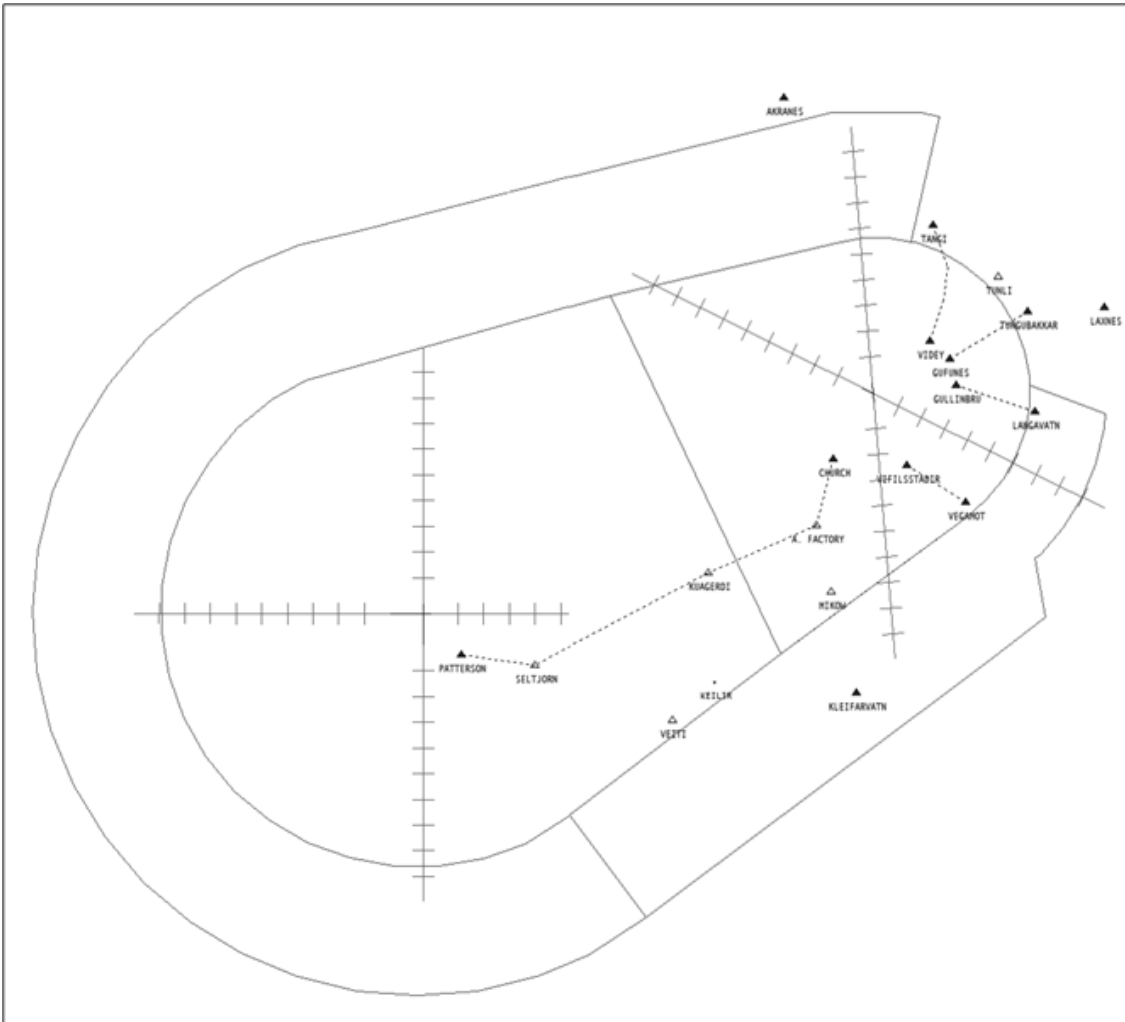
The VFR routes are for single-engine aircraft **ONLY**. Multi-engine aircraft should **NOT** be cleared onto the VFR routes!

The routes are defined as follows:

- **Route 1 “Videyhouse”:** Videyhouse - Lundey - Brimnes - Tangi (in Hofsvik)
- **Route 2 “Gufunes”:** Gufunes - Tungubakkar (BIMS)

Route 2 is **ONLY** for aircraft to/from Tungubakkar airfield (BIMS)!

- **Route 3 “Gullinbru”:** Gullinbru - Langavatn
- **Route 4 “Vifilsstadir”:** Vifilsstadir - Vegamot
- **Route 6 “Straumsvik”:** Gardachurch - Aluminium Factory - Kuagerdi - Seltjorn - Patterson



While each route has a name, they are typically referred to by their numbers, e.g., "route 6," in radio communications.

All routes are flown at **1500ft**, except route 6 which is flown at **1000ft**. All routes are bidirectional, and have a maximum speed of **120 KTS**.

Preferred Routes (BIRK)

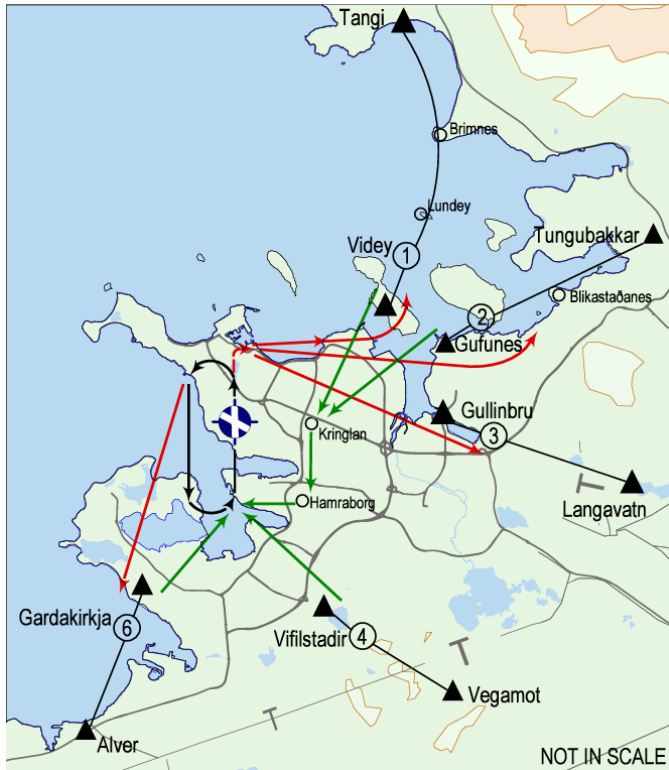
At BIRK, certain routes are preferred for departures and arrivals, depending on the runway in use. For all runways except RWY 19, route **4** is preferred for inbound traffic from the East, and route **3** is preferred for outbound traffic to the East.

This is reversed when RWY 19 is in use — i.e., route **3** is preferred for inbounds from the East, and route **4** is preferred for outbounds to the East.

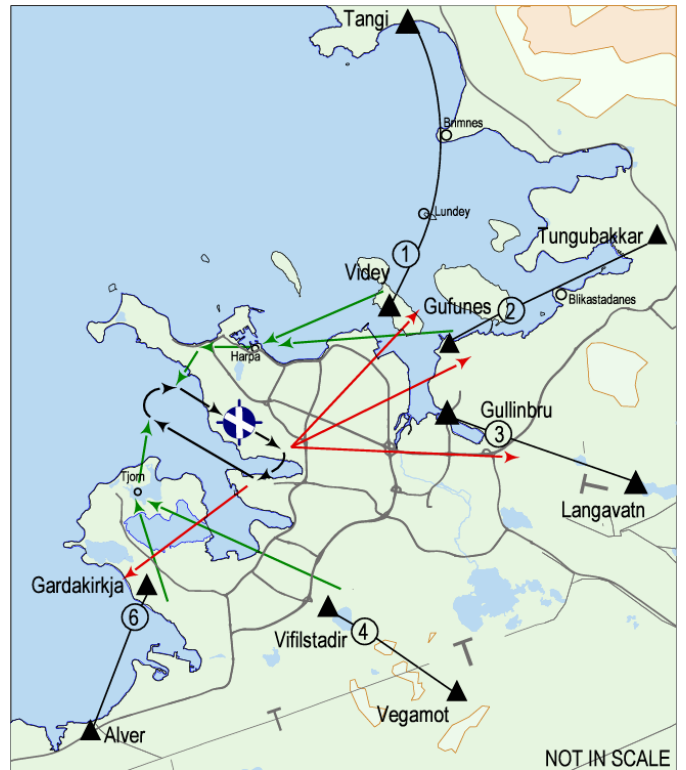
Inbound and Outbound Routes (BIRK)

BIRK also has defined **inbound** and **outbound** routes, which single-engine aircraft are to follow when joining the circuit from a VFR route, or leaving the circuit to join a VFR route respectively. These routes are reflected in the diagrams below.

RWY 01



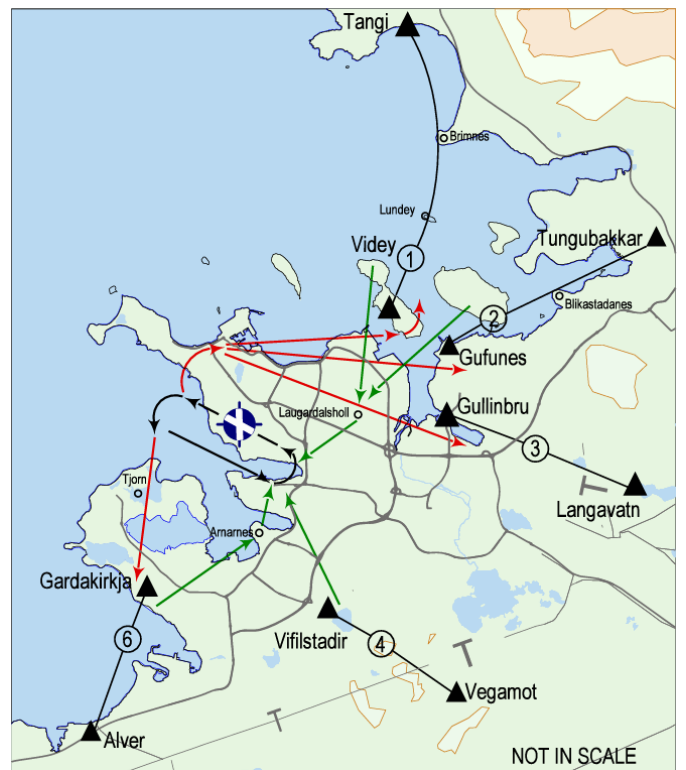
RWY 13



RWY 19



RWY 31



VATSIM pilots are often unfamiliar with these inbound and outbound routes. Therefore, while not required, it can often be helpful to explicitly describe the inbound/outbound route to the pilot, for example "from Vifilstadir join base runway 31."

Special Airspace

There are several special airspace areas in Iceland, including recreational, training, prohibited, and restricted areas. In general, most are uncontrolled, but some are near or underly controlled airspace.

For aircraft flying to such areas, one may adapt typical VFR phraseology as needed. For example:

“☐ (TF-)ISN, right turn towards Austursvaedi, 1500ft, winds 170 degrees 8 knots, Runway 19, cleared for takeoff.”

Some regions require ATC approval to enter. In such cases, provided there is no reason the aircraft may not enter that airspace, TWR may tell aircraft they are “cleared to enter [NAME OF AREA]”

Once the aircraft is approaching a special airspace area, then one should:

- Tell them “frequency change approved.” This means they should monitor UNICOM, as well as maintain listening watch on any other frequencies as required by some restricted areas
- Add appropriate text to the ATIS as required by local operating procedures to indicate that traffic is active in that area. E.g., "GLIDERS OPERATING AT SANDSKEID."
- Coordinate with relevant neighboring ATC (e.g., TWR with APP) to notify them of traffic known to be in certain areas.

See the Iceland AIP, ENR 5 (particularly 5.1 and 5.2) for information regarding such areas.