

**Noise Liaison Group**

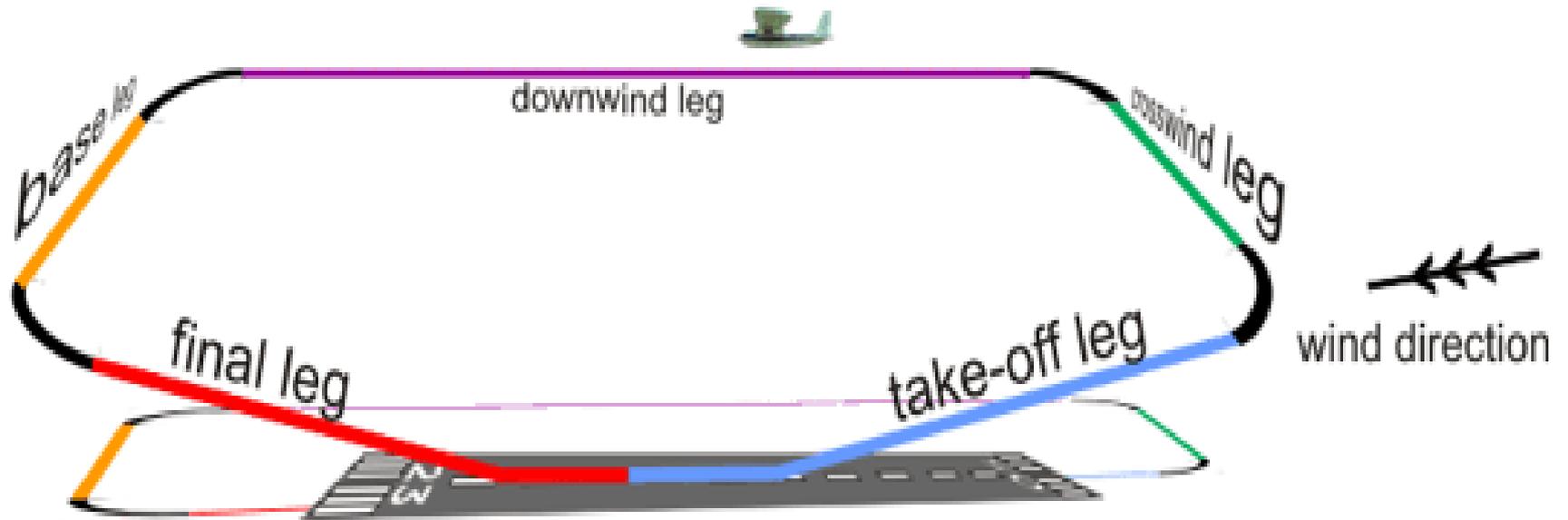
**PANLG**

**Presentation on Circuits**



**Peterborough  
Airport**

# THE CIRCUIT PATTERN



# Slide 2- The Circuit Pattern

Circuit training is the first stage of practical pilot training focused on take-offs and landings. It involves the pilot making approaches to the runway, touching down and then applying power to take off again. Circuit training is undertaken at most airports, particularly regional and general aviation aerodromes. Training during both day and night is important for

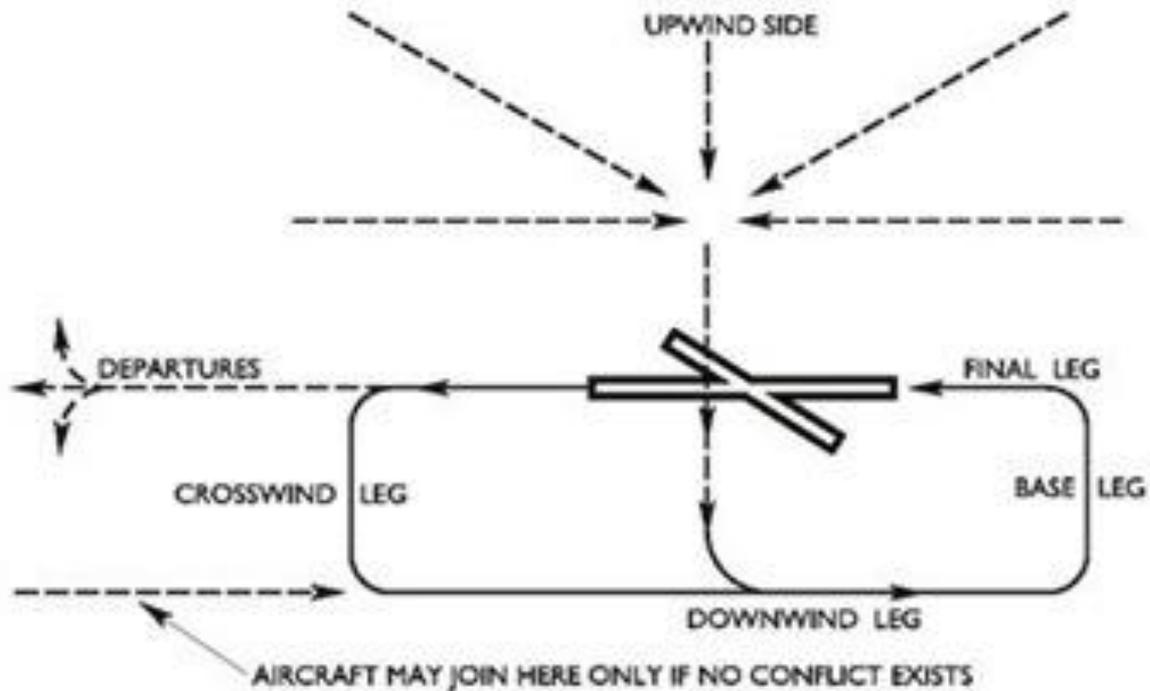
developing pilot competencies, as is experience with using different types of navigational aids.

A circuit consists of five legs – the take-off, crosswind, downwind, base and final approach to the runway. A simplified representation is shown in this picture.

The take off and final stage of the circuit is flown into the wind, as this is the safest way for an aircraft to operate.

# Left Hand Circuits

Figure 4.6—Standard Left-hand Circuit Pattern



Source TC AIM (online 10 Mar 08)

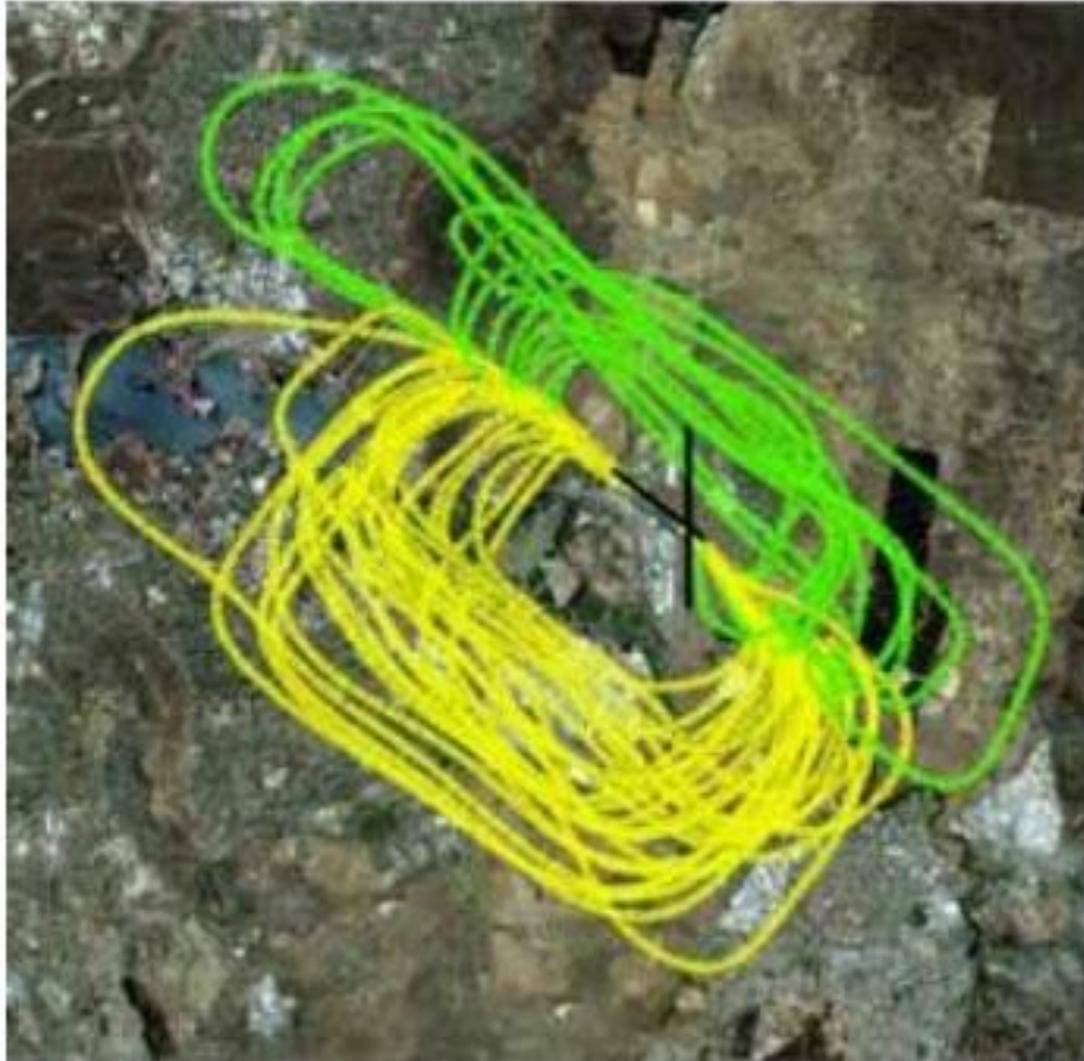
# Slide 4 – Left Hand Circuits

The picture depicts a left hand circuit with the aircraft turning left after take-off and flying anticlockwise.

This is the most common type of circuit operation. The pilot is seated on the left side of the aircraft, it makes sense that if you do a left hand circuit, and the airfield remains to your left, that you, as the pilot, will have the best view of your landing path, no matter where you are in the circuit. Arrival paths in the circuit have been designed to give pilots the best visibility of other aircraft in the circuit or approaching the airport from outside the circuit.

Transport Canada rules for VFR circuit procedures at uncontrolled Mandatory Frequency Area aerodromes (Peterborough) states, that incoming aircraft make all descents to the circuit altitude on the upwind side, then cross the aerodrome at mid-field, at 1000 ft above aerodrome elevation (AAE) or at the published circuit altitude. Aircraft may also enter the circuit from the downwind, only if no conflict exists.

# Aircraft Noise Impact



# Slide 6 – Aircraft Noise Impact

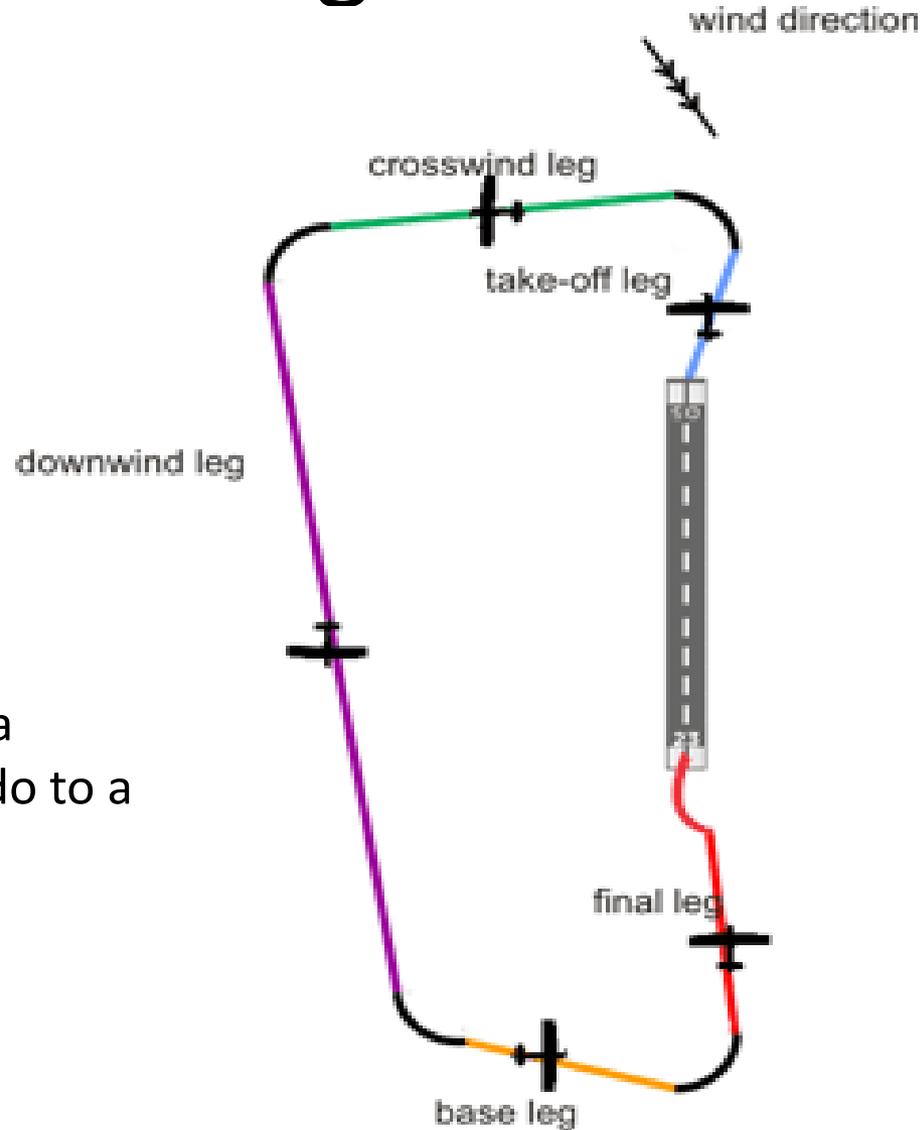
The circuit length, and therefore the area over flown, depends on how quickly the aircraft can climb to the required height for the downwind leg.

This circuit varies between aircraft and is affected by meteorological conditions (including wind, cloud cover, and temperature), other aircraft in the circuit, and pilot proficiency.

The size and location of the circuit is to ensure the safety of all aircraft operations at the airport. This may result in flying being undertaken over populated areas, especially where these are in close proximity to the aerodrome.

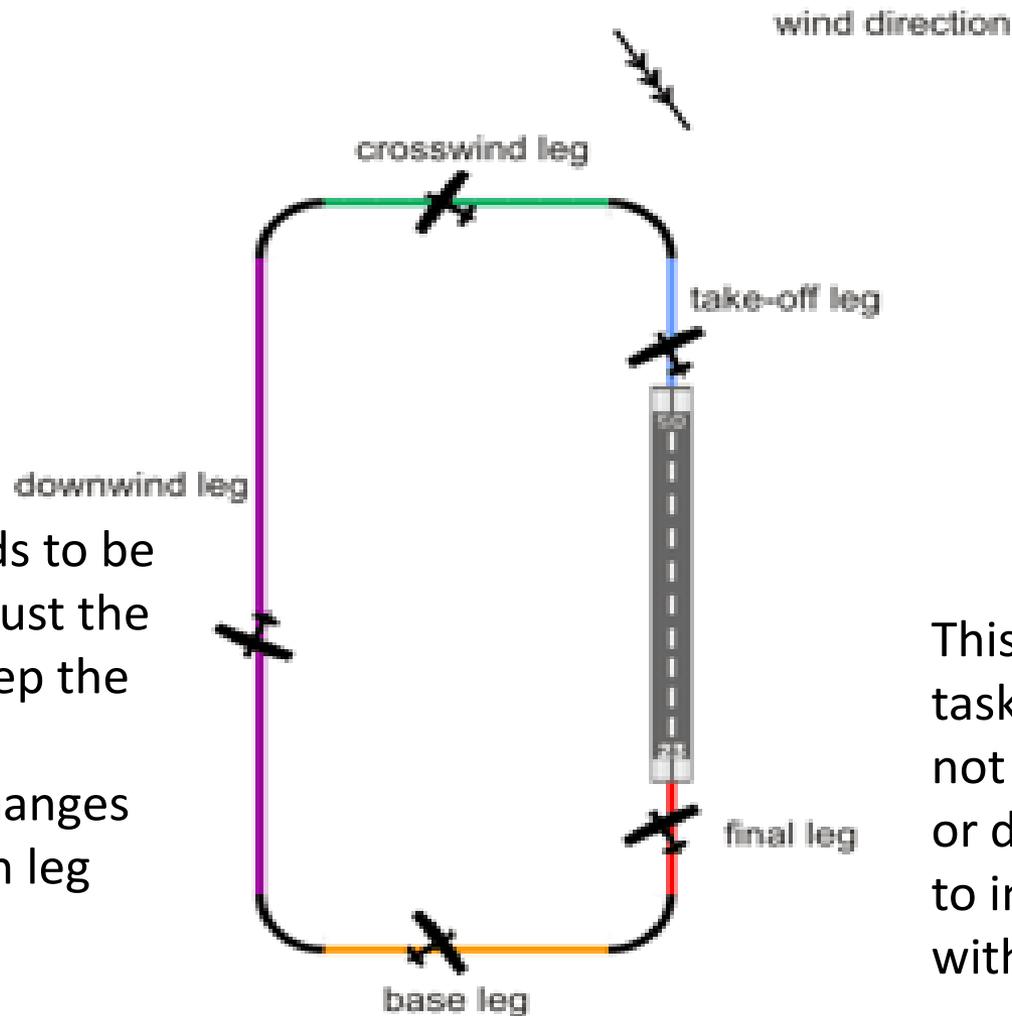
The picture above shows typical variations in circuit pattern. The yellow circuit depicts circuits when the wind is blowing from the north, whereas the green circuit depicts circuits when the wind is from the south.

# Dealing with Winds



Example of what a crosswind might do to a circuit pattern

# Wind Correction Methods

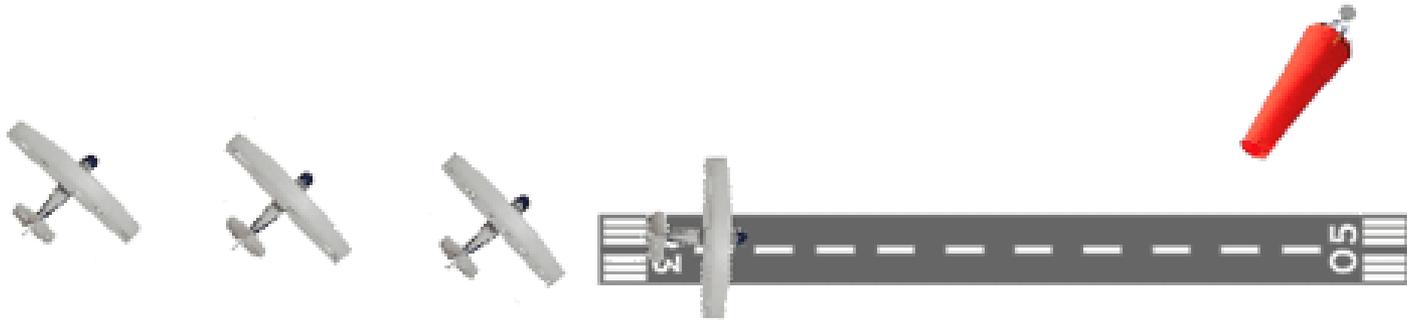


The aircraft needs to be in a position, at just the right angle to keep the leg heading, and anticipate the changes required for each leg flown.

This is NOT an easy task! The winds are not steady in speed or direction, and tend to increase and veer with altitude.

# Landing with Winds

Various methods used on the final leg to land the aircraft in a crosswind



**Crabbing** (angled into the wind until near touchdown)



**Slipping**  
(approach the runway straight on, with the into-wind wing lower)



# Peterborough Noise Abatement Procedures

Noise abatement procedures will be implemented on **July 4, 2017**. The procedures will require pilots to follow Noise Operating Criteria. The procedures will read in the Canada Flight Supplement as:

PRO:

NOISE:

Noise Operating Criteria (CAR 602.105):

Rwy 09/27 VFR tkof/climb, no turns below 1000 AAE. Avoid overflight of noise sensitive areas while joining/departing circuit etc opr for details.

Known Noise Sensitive Areas



## Notes

- These procedures are implemented under CAR 602.105, Noise Operating Criteria
- No turns below 1000 feet above aerodrome elevation on take-off and climb from runways 09 & 27
- If/when possible, avoid overflight of noise sensitive areas – marked on the map
- Peterborough Airport is uncontrolled with a Mandatory Frequency on 123.00 MHz

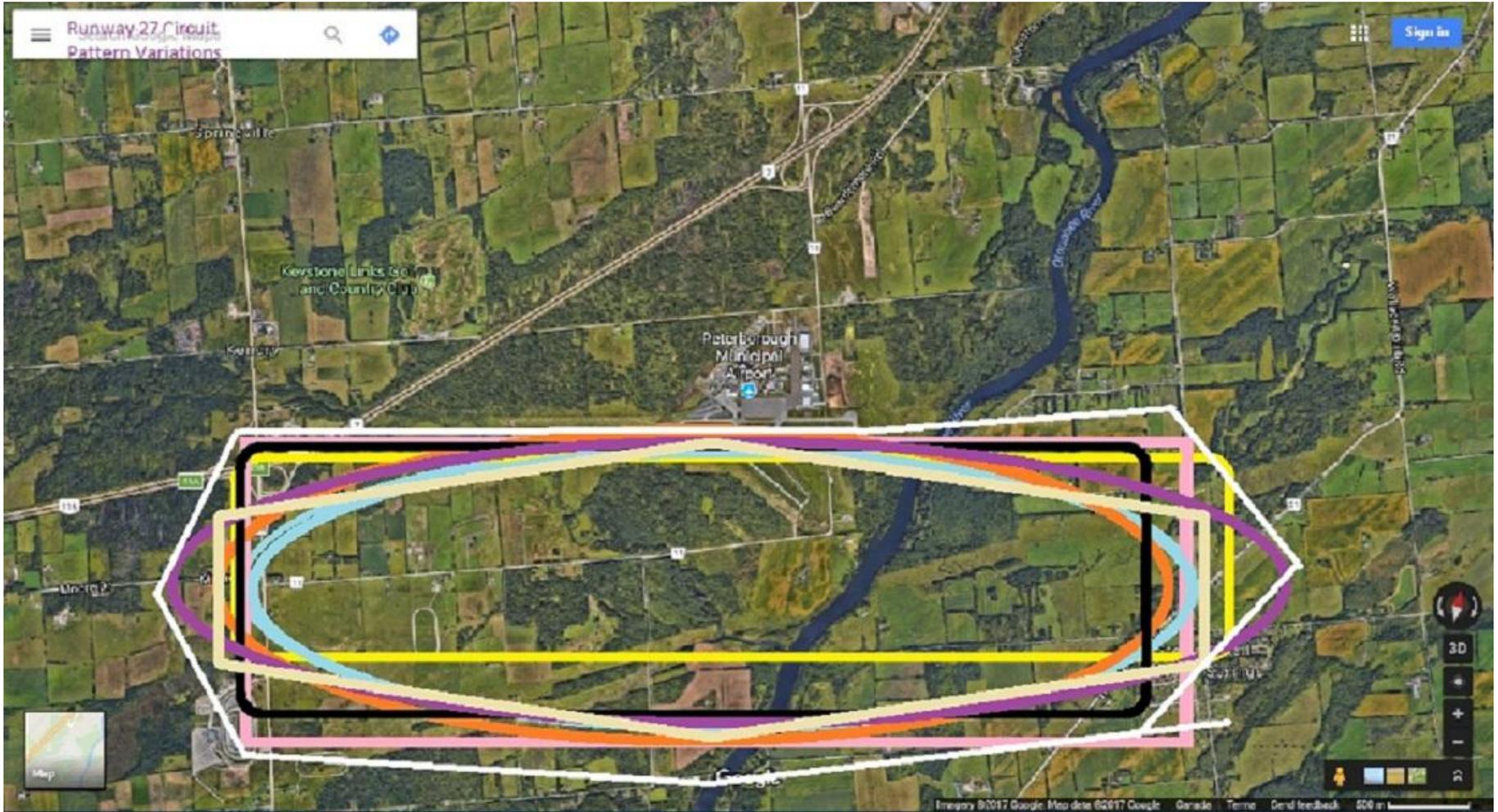
# Slide 11 – Noise Abatement Procedure

On July 4<sup>th</sup> 2017 the Peterborough Noise Abatement Procedures came into effect with the issuance of a NOTAM.

-No turns below 1000 feet above aerodrome elevation on take-off and climb from runways 09 & 27

If/when possible, avoid over flight of noise sensitive areas – marked on the map

# Runway 27 Circuit Variations Example



# Slide 13- Runway 27 Circuit Variations

## Example

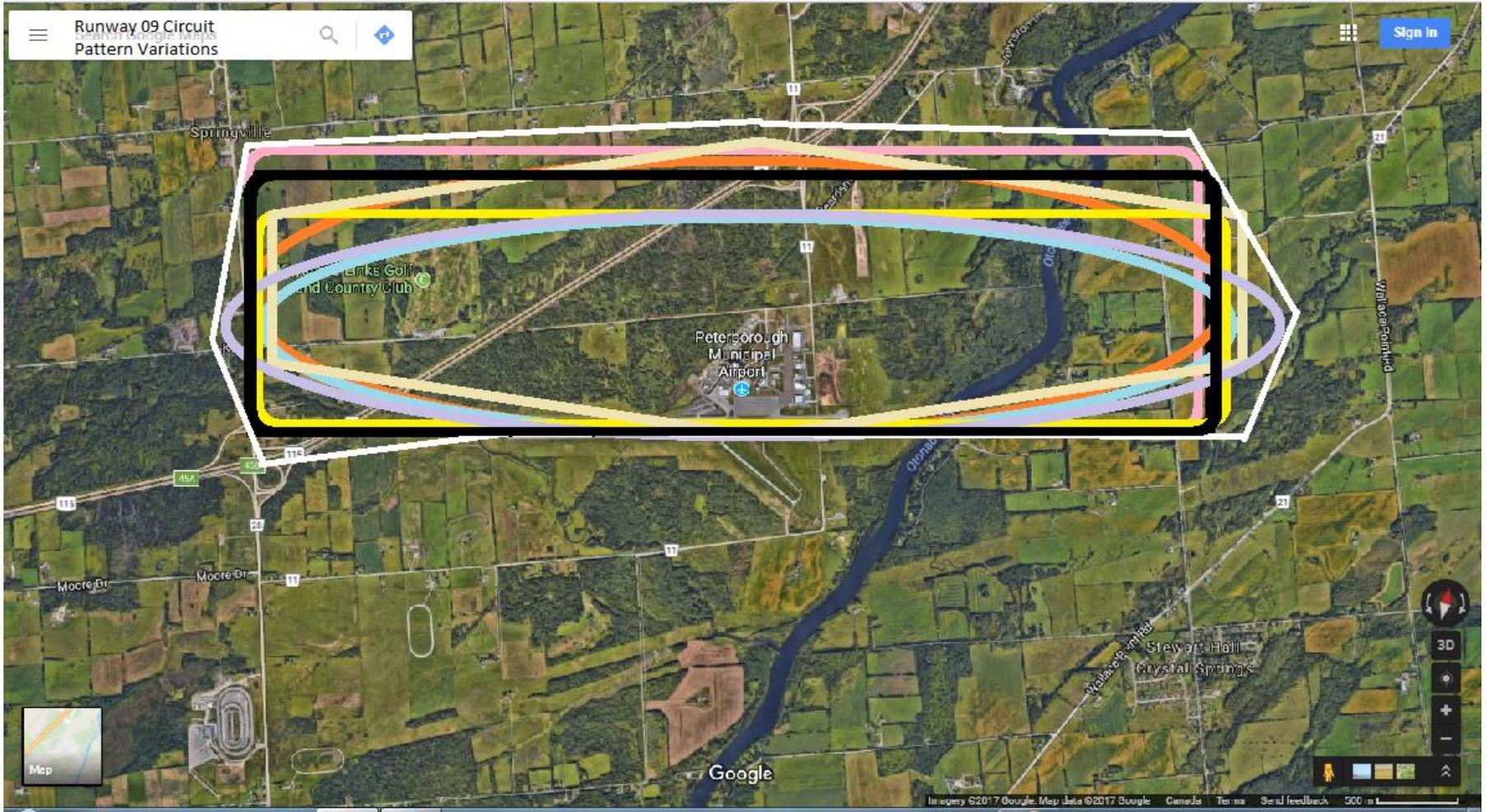
Runway 27:

Aircraft taking off from runway 27, climbing to circuit altitude (1000' Above Airport Elevation) before turning crosswind.

The black line indicates the new standard circuit pattern guideline.

The white line encompasses the different circuit pattern variations.

# Runway 09 Circuit Variations Example



# Slide 15- Runway 09 Circuit Variations Example

Runway 09:

Aircraft taking off from runway 09 from the intersection at the taxiway Hotel, climbing to circuit altitude (1000' Above Airport Elevation) before turning crosswind.

The black line indicates the new standard circuit pattern guideline.

The white line encompasses the different circuit pattern variations.



**Questions?**