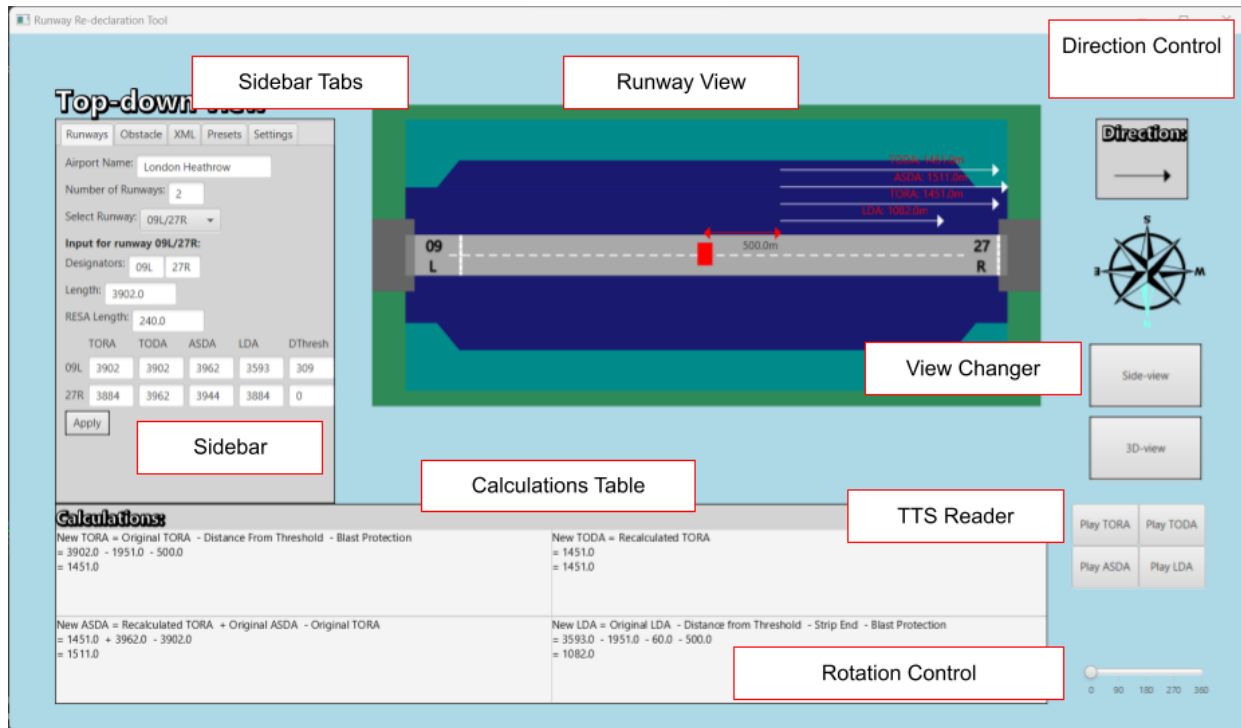# RUNWAY REDECLARATION TOOL: USER GUIDE

Usage

Setup

- Ensure that the latest version of Java 19 is installed: (https://www.oracle.com/uk/java/technologies/downloads/)
- Run the executable jar file

Runway Inputs

To input runway parameters:

- Switch to the Input tab on the Sidebar
- Select the runway you wish to edit
- Enter values into the Sidebar text boxes for:
  - Designators
  - Length
  - RESA
- Enter values into the Sidebar text box table for the runway parameters:
  - TORA
  - TODA

o   ASDA
o   LDA
- Any Displaced Threshold (use 0 for none)
- Select "Apply" to apply your changes

You should now see the runway configuration appear on the Runway View!
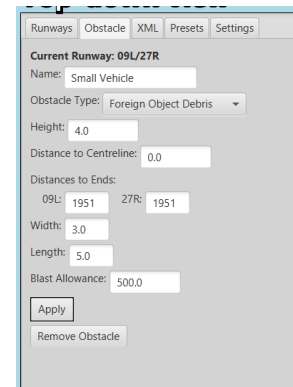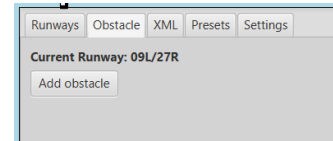
Obstacles

To input obstacle parameters:

- Switch to the Obstacle tab on the Sidebar
- Select "Add Obstacle" to add an obstacle

The obstacle should now appear on the Runway View with its default parameters. The Sidebar will also be updated to show all the parameters of the obstacle.

To change the obstacle parameters:

- Enter values into the text boxes in the Sidebar for:
    o   Distances from each runway designator
    o   Height, Width, Length
    o   Blast Allowance for aircraft
- Select "Apply" to apply your changes

Your obstacle should now appear correctly! Whenever obstacles are placed on the runway, the parameter recalculations can be seen in the Calculations Table.

Calculations:

New TORA = Original TORA - Distance From Threshold - Blast Protection = 3902.0 - 1951.0 - 500.0 = 1451.0	New TODA = Recalculated TORA = 1451.0 = 1451.0
New ASDA = Recalculated TORA = 1451.0 = 1451.0	New LDA = Original LDA - Distance from Threshold - Strip End - Blast Protection = 3902.0 - 1951.0 - 60.0 - 500.0 = 1391.0

Switching Directions and Views

To change the aircraft travel direction:

- Select the Direction Arrow in the top right corner
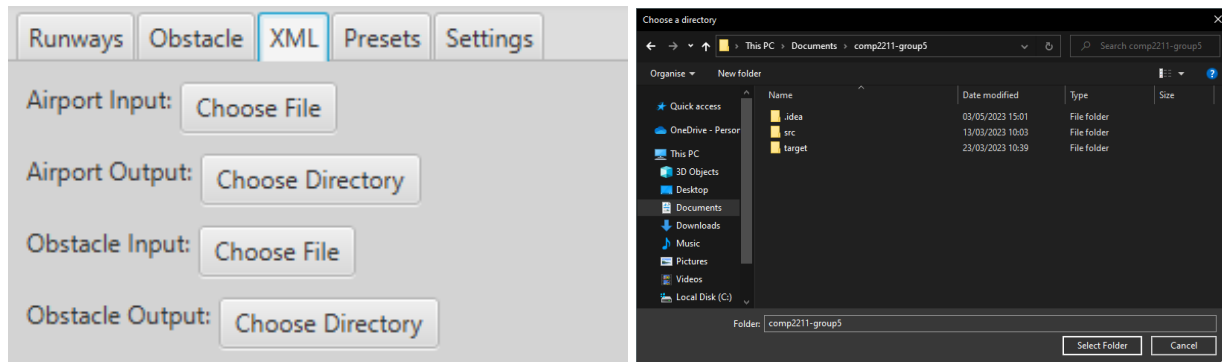
To rotate the Runway View:

- Click and drag the Rotation Slider

To change the Runway View's orientation:

- Select the View Changer button to switch to the side view
- Select it again to switch back to the top-down view
- Select the 3D View button to open the 3D View, you can rotate the 3D View by clicking and dragging

Using XML

XML files are used to store your runway or obstacle configurations for later use.

To store a configuration:

- Switch to the XML tab on the Sidebar
- Select either "Airport Output" or "Obstacle Output"
- Navigate to the directory in your file explorer where you want new configuration files to be stored

To load a configuration:

- Switch to the XML tab on the Sidebar
- Select either "Airport Input" or "Obstacle Input"
- Navigate to the configuration file in your file explorer
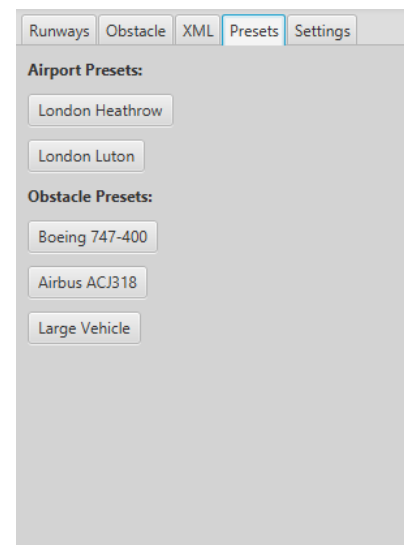
Using Presets

Presets are used for some of the biggest UK airports, such as Luton and Heathrow.

Presets also contain some common obstacles an ATC worker may face when redeclaring distances

- Boeing 747-400s
- Airbus ACJ318s
- Large vehicles

To use presets:

- Navigate to the Presets tab and select one of the given presets.
- Selecting a runway will alter your inputs on the Runways tab
- Selecting an obstacle will add an obstacle (if one already doesn't exist) and update its inputs to the specified obstacle.
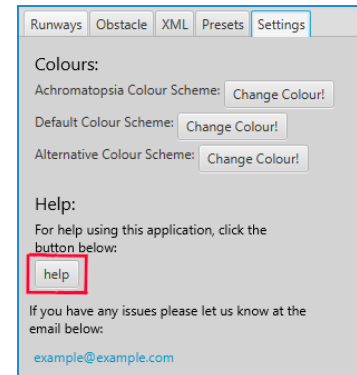
Additional Help

The program contains a glossary of useful terms and their definitions. To open it:

- Navigate to the Settings tab
- Press the "Help" button

The Settings tab also contains options for alternative colour schemes. Simply select the appropriate button in the Settings tab.

Frequently Asked Questions

- I can't launch the program!

Your Java version may be outdated. You can check your Java version by launching CMD and typing "java -version".

- I can't see the runway that I want!

You may be looking at the wrong runway. Go to the Runway tab on the sidebar and ensure that your runway is selected from the dropdown menu.

- How do I change the runway I'm seeing?

Press the directional arrow on the top right of your screen in order to change the runway.

- Obstacles aren't appearing on the runway!

Make sure that you've selected "Add Obstacle" in the Obstacles tab, or used a preset obstacle from the Presets tab.

- The parameters in the Sidebar Table do not match what I see on the Runway View!

This is normal. When an obstacle is present on the runway, the Runway View shows the recalculated parameters instead. You can find a breakdown of the calculations in the Calculations Table.

- Why are all of my parameters set to 0?

Check that your runway and obstacle parameters are correctly defined. Parameters may be 0 if the obstacle's presence covers a larger space than the runway length.

- Why is my runway bent at a weird angle?

If the Runway View is tilted, try adjusting the Rotation Slider back to 0 for a horizontal view of the runway.

- What does [Thing] mean?

Many acronyms and terms are taken directly from CAP 168: Licensing for Aerodromes (http://www.caa.co.uk/cap168). A quick overview of the terms used and rules for calculations can be found on the Glossary page.