

Black Square



HOT PAD

**REAL TAXIWAYS
USA MILITARY**

For Microsoft Flight Simulator

Just Flight™

Black Square

“Virtual Aircraft. Real Engineering.”

Real Taxiways 2024 User Guide

Please note that Microsoft Flight Simulator 2024 must be correctly installed on your PC prior to the installation and use of this taxiway sign data and appearance addon.

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Introduction

Microsoft Flight Simulator has ushered in a new era of airport scenery. Airports now resemble their real-world counterparts enough to be easily recognisable, but inaccurate taxiway names, unrealistic signs and objects placed in the middle of taxiways immediately destroy immersion. Black Square's Real Taxiways has been designed by real-world aviation professionals to fix these problems, resulting in unique airport signage that is functionally identical to its real-world counterparts.

If you've ever struggled while navigating the taxiways of an airport in MSFS because online ATC instructions or taxiway diagrams didn't match the signs around your aircraft, this is the product for you. With Real Taxiways you will be able to navigate airports using real-world taxiway diagrams and online ATC while you learn the nuances of airport surface navigation.

In previous versions of Flight Simulator, only expensive payware scenery could provide you with the quality of airport signage achievable with Real Taxiways. Crowd-sourced alternatives, like scenery gateway systems and freeware downloads lack consistency and coverage, even when professionally moderated, which frequently disappoints real-world pilots. Real Taxiways is a cost effective solution whereby you can have thousands of consistently enhanced airports with features which have never been seen before for the cost of a single payware airport.

Real Taxiways is extremely frame rate friendly - you won't experience any performance loss!

You can exclude any airport (or airports) from your Real Taxiways installation if you wish, avoiding conflicts with freeware, payware and World Update airports.

Feature Overview

The features of Real Taxiways fall into two major categories; corrections, and enhancements.

What's New In MSFS 2024?

- Custom taxiway sign model and textures, including improved nighttime emissives.
- LOD optimization makes signs readable much farther away with no popping.
- No longer requires separate texture installations. "Just works".
- 332 signs updated at 2 airports for MSFS 2024.
- Numerous small fixes to airport signs.
- Now available on Marketplace and XBOX.

Custom Sign Models and Textures

New fully custom taxiway sign models provide greater detail than the default models, with more realistic textures. The models are LOD optimized, and readable from much further away with no noticeable "popping" from great distances. The new sign textures include custom nighttime emissive lighting, making them more readable at night, with unlit segments being truly dark. These models and signs no longer require any separate installations, and "just work" with the one-time installation.

Other Features

- 100+ airports updated with 10,000+ taxiway signs!
- Real-world taxiway names
- Near real-world taxiway sign placement
- Multiple variations of all sign types
- Double-sided taxiway signs
- Sign sizes are appropriate to the airport
- Hundreds of airport sign 'personalities' for an authentic experience
- No signs obstructing taxiways or runways
- Signs easily readable from cockpit without zooming
- Destination signs match real-world charts
- Closed taxiways updated and signs added
- Sign text padding corrected and more readable

Corrections

Users familiar with the default airports in Microsoft Flight Simulator will have no doubt encountered frustrations, such as oversized taxiway signs placed on the centerline of taxiways, or hundreds of taxiway lights scattered in the grass, or in parking areas of airports. Real Taxiways has eliminated the possibility of many such immersion breaking occurrences, some which even payware airports struggle with. For a complete list of these corrections, see the “Detailed Features” section of this user guide.

Enhancements

In addition to correcting many unwanted aspects of the default airports in Microsoft Flight Simulator, Real Taxiways has added more than a dozen features that have either been lost over the years since their original appearances in the flight simulator series, or have never been seen in a flight simulator before. These include the addition of dynamically generated ground vehicle signs, runway safety awareness signs, runway distance remaining signs, and custom destination signs. As many variations of these signs, in content, size, and orientation, are generated at airports with different airport “personalities” to create realistic diversity. These, and many more, are enumerated in the “Detailed Features” section of this user guide.

For Pilots & Aspiring Pilots

Real Taxiways was born out of the desire for accurate taxiway naming and sign placement lacking in many flight simulators, past and present. As visual fidelity in flight simulators has increased, enthusiasts and pilots have been able to use simulators to practice airport operations, including ground navigation via real world charts. However, missing taxiway sign types, poorly placed signs, and downright misleading ones, stymie this effort. Real Taxiways aims to provide the best airport operations training environment for real world pilots looking to maintain proficiency, and aspiring pilots learning the challenges of ground operations for the first time by simulating accurate placement of taxiway signs of all types and sizes that would reasonably be found at airports around the world. Users should find that airports covered by Real Taxiways regions are now navigable via real world airport diagrams, the signs on the ground, most external moving-map programs, and ATC instructions.

Limitations

Real Taxiways is a patching system for the default airports of Microsoft Flight Simulator and therefore must work within the current limitations of the simulator's facility data and rendering engine. While Real Taxiways does its best to eliminate unwanted results, such as noted in the Corrections section above, it is always possible that unwanted results will still be present due to unforeseen conflicts with other custom scenery, terrain data or, in the rare case, a mistake on the part of the Real Taxiways patching process. Please keep this in mind while enjoying the airports covered by Real Taxiways.

Additionally, you are encouraged to report errors in Real Taxiways' core features that you believe can be readily fixed, such as poorly placed signs or incorrect sign content, on the Real Taxiways section of the Just Flight Forum.

Real Taxiways' largest single limitation is the elimination of rogue taxiway lighting at airports that also have green taxiway centreline lighting. Due to limitations in the Microsoft Flight Simulator SDK, it is not possible to BOTH eliminate rogue taxiway lighting entirely and to allow for the presence of green centreline lighting at larger airports. The developers of Real Taxiways have taken a 'some improvement is better than none' approach to this problem by removing the majority of rogue taxiway lighting on active taxiways on all airport surface areas that do not have green taxiway centreline lighting by default in Microsoft Flight Simulator.

Lastly, Real Taxiways does not currently remove windsocks, airport beacons or autogen buildings on taxiway surfaces, though this feature is in development and may be included in future versions of Real Taxiways.

For more information on this product's capabilities and the most up-to-date list of included features, see the store page at www.JustFlight.com.

Installation, Updates & Support

Installation

You can install this Real Taxiways software as often as you like on the same computer system:

1. Click on the 'Account' tab on the Just Flight website.
2. Log in to your account.
3. Select the 'Your Orders' button.
4. A list of your purchases will appear and you can then download the software you require.

Using the Automated Installer

Upon downloading and double-clicking the installer provided by Just Flight for Real Taxiways, the installer should be able to detect the correct directories for your Microsoft Flight Simulator installation and proceed with the install process. Clicking 'Next' and following the installer's instructions should result in a complete installation of Real Taxiways to your Community content directory.

Installing Packages Manually

If you are reinstalling Real Taxiways, wish to exclude airports, or otherwise wish to perform the installation manually, the process should be as easy as moving or renaming files within your Microsoft Flight Simulator Community content directory. For information on locating your Community content directory, see below.

Community Content Directory

This should be named "Community", though you may have set this location manually when installing MSFS". This is the directory where you may have installed other 3rd party addons for the simulator. The exact path varies based on the installation type, such as whether you purchased the simulator from the Windows Store, or from a 3rd party vendor, such as Steam.

For the Windows Store install:

C:\Users\[YourUserName]\AppData\Local\Packages\Microsoft.FlightSimulator_8wekyb3d8bwe\LocalCache\Packages\

For the Steam install:

C:\Users\[YourUserName]\AppData\Local\Packages\Microsoft.FlightDashboard_8wekyb3d8bbwe\LocalCache\Packages\

Important: Windows 10 by default hides the “AppData” folder, so you will have to go to “View” in the menu of File Explorer, and select “Hidden items” so as to see it.

For the Custom install:

If you used a custom location for your Flight Simulator installation, then proceed there.

For example, you may have set:

[E:\Steam\steamapps\common\MicrosoftFlightSimulator\Community](#)

Uninstalling

To uninstall this product from your system, use one of the Windows App management features:

Control Panel -> Programs and Features

or

Settings -> Apps -> Apps & features

Select the product you want to uninstall, choose the ‘Uninstall’ option and follow the on-screen instructions.

Uninstalling or deleting this product in any other way may cause problems when using this product in the future or with your Windows set-up.

Updates and Technical Support

For technical support (in English) please visit the Support pages on the Just Flight website. As a Just Flight customer, you can get free technical support for any Just Flight or Just Trains product.

If an update becomes available for this software, we will post details on the Support page and we will also send a notification email about the update to all buyers who are currently subscribed to Just Flight emails.

Regular News

To get all the latest news about Just Flight products, special offers and projects in development, subscribe to our regular emails.

We can assure you that none of your details will ever be sold or passed on to any third party and you can, of course, unsubscribe from this service at any time.

You can also keep up to date with Just Flight via Facebook and Twitter.

Excluding Airports

Microsoft Flight Simulator employs a hierarchical scenery system that allows some scenery to overwrite, or be transparent to, other geographically related sceneries.

With In-Game Marketplace or XBOX Installations

With in-game marketplace or XBOX installations of Real Taxiways, the only option available to control which airports are enhanced or ignored by Real Taxiways is the Package Reorder Tool, which is described below.

With Direct or 3rd Party Store Installations (you ran an installer)

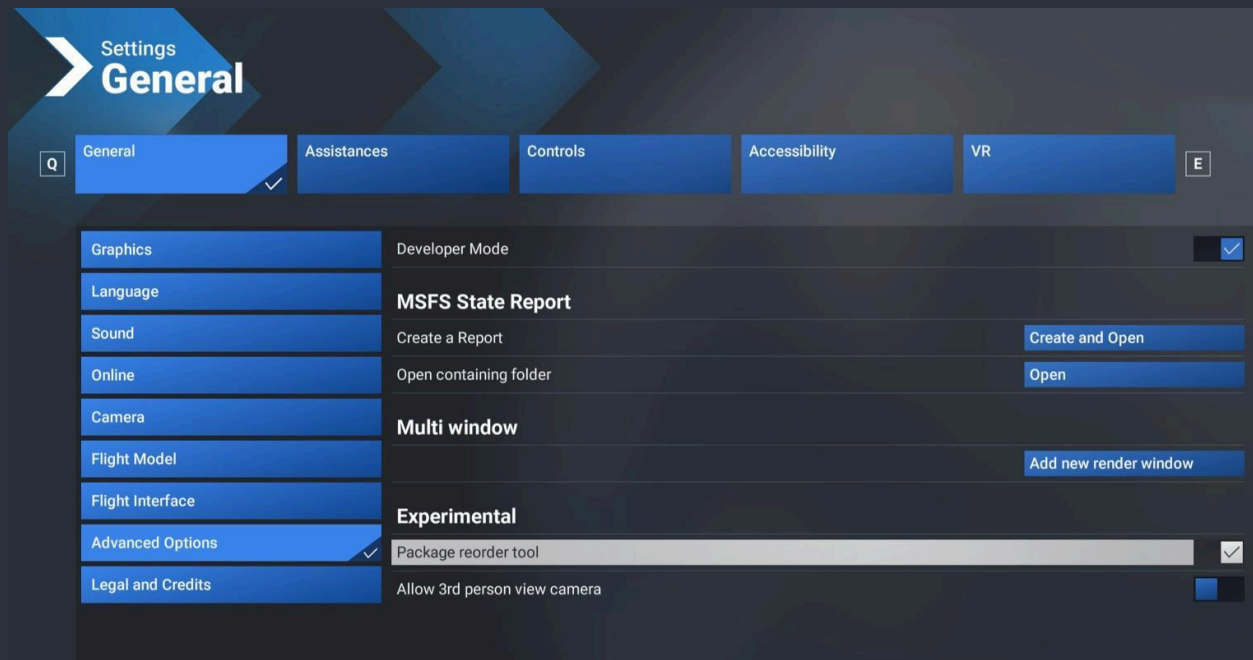
On PC/Desktop installations of Real Taxiways bought from an online store, you also have the option of excluding specific airports, **in addition to using the Package Reorder Tool.**

The easiest way to exclude an airport from your Real Taxiways installation is to remove or rename that airport's specific BGL file from the appropriate 'bksq-' package for your installation, such as 'bksq-us-bcde', in your Community folder. Within the package you will find the BGL files in the 'scenery\global\scenery' subdirectories.

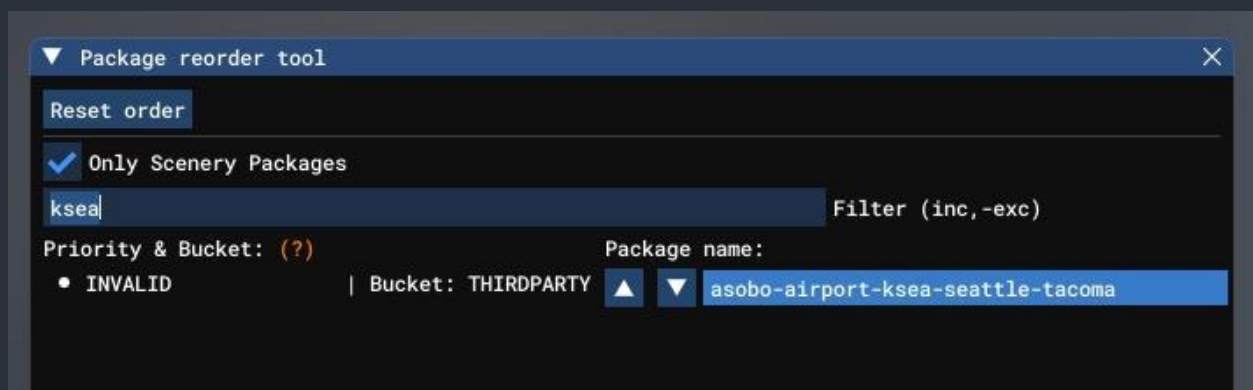
To avoid misplacing or losing specific airport files, it is recommended that you simply rename the airport file you wish to be excluded by adding the extension, '.bak' to the BGL. Doing so will prevent Flight Simulator from loading the file and making modifications to the airport. If you do lose the original airport's BGL file, a new one can be obtained by reinstalling Real Taxiways from your Just Flight account.

The Package Reorder Tool

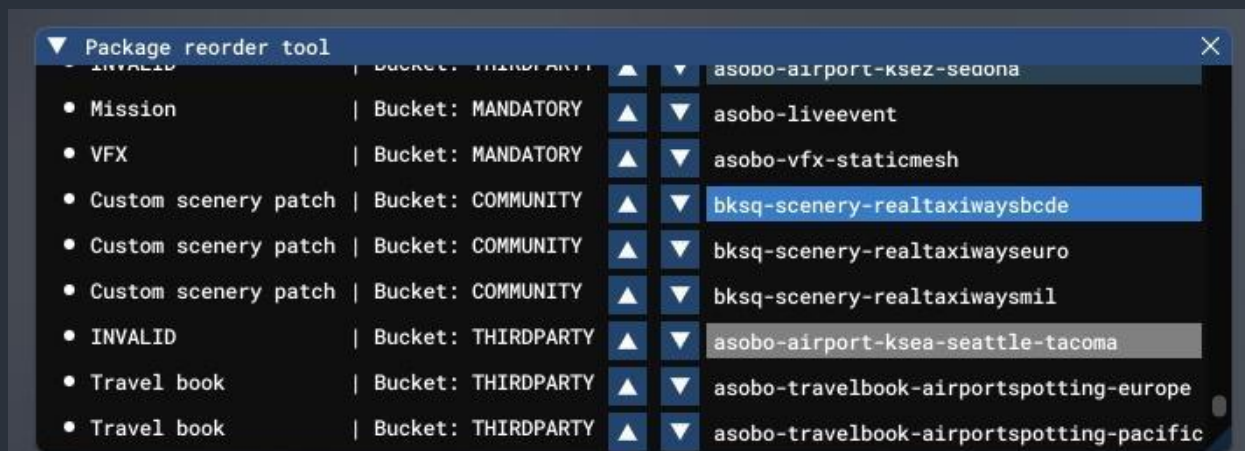
The Package Reorder Tool is an experimental feature now available in MSFS 2024. This tool can be used to customize the priority of custom scenery packages. The Package Reorder Tool can be enabled by clicking the gear icon in the upper-right hand corner of the main menu screen in MSFS 2024. From the general settings tab, click the advanced options subsection. Under the experimental heading, enable the Package Reorder Tool.



Within the dialog that opens, higher priority packages are positioned at the bottom of the list. By default, Real Taxiways will place itself in a high priority position, as it is designed to augment all default airports, bespoke airports, and World Update airports. If you wish for a 3rd party airport that you have installed in your community folder or purchased on the in-game marketplace to override Real Taxiways, first locate this package by typing the airport identifier or another keyword into the search box at the top of the window.



Then, use the arrow buttons to position the 3rd party airport BELOW the Real Taxiways packages. You may have to click the arrow button multiple times for the package to appear in a different position in the list due to hidden packages. If you make a mistake, or otherwise want to reset the package order, use the Reset Order button at the top of the window.



It may be necessary to restart the simulator to see the effect of your changes, depending on what world data is currently loaded from your last flight.

Frequently Asked Questions (FAQ)

How accurate is the placement and content of each sign?

There is no international database of taxiway sign content and placement; therefore, Real Taxiways generates signs and places them based on ICAO and FAA guidelines, after a streamlined manual process is used to assign taxiway names and special properties based on charts and satellite imagery. While the results may not be perfect, the added signs are functionally identical to their real world counterparts.

How well will using Real Taxiways prepare me for my actual flying?

Real Taxiways was created specifically to provide a realistic training environment for pilots and aspiring pilots. There is so much left to be desired by the default airports in Microsoft Flight Simulator, much of which has a substantial impact on the quality of real world training possible, such as the omission of safety critical signage, incorrect taxiway names, and downright misleading sign placement or content. With Real Taxiways, you will be able to navigate airports using real world charts, receive instruction from simulated, and online ATC, and navigate on airport ground surfaces in a functionally identical manner to how you would in the real world, and develop essential situational awareness at your local airfields.

Will Real Taxiways interfere with Microsoft Flight Simulator's World Updates?

Real Taxiways does not intend to cover "bespoke" airports provided in World Updates; however, the scope of these updates may expand over time. If you are aware of an airport which has received special treatment in a World Update, and you no longer wish to use the Real Taxiways version of that airport, you may always exclude that airport. For instruction on how to do this, see the "Excluding Airports" and "The Package Reorder Tool" sections, above.

Will Real Taxiways interfere with 3rd party freeware/payware airports?

If you download or purchase a 3rd party airport, and you no longer wish to use the Real Taxiways version of that airport, you may always exclude that airport. For instruction on how to do this, see the "Excluding Airports" and "The Package Reorder Tool" sections, above.

Can Real Taxiways be used to enhance 3rd party airports?

By default Real Taxiways will attempt to enhance all airports, including installed 3rd party ones. While Real Taxiways does not officially support any specific 3rd party airports, it might be possible to combine Real Taxiways with these airports, especially freeware ones that typically use the default MSFS taxiway sign system. If this results in undesirable outcomes, you may always exclude that airport from Real Taxiways. For instruction on how to do this, see the "Excluding Airports" and "The Package Reorder Tool" sections, above.

Will Real Taxiways signs models/textures interfere with other addons?

There are several other addons that attempt to improve the appearance only of taxiways signs. Real Taxiways is not compatible with these addons, because it requires its own custom taxiway sign textures to create all the enhanced features listed in this manual.

Do external programs, like moving maps, also benefit from Real Taxiways?

This depends on the exact implementation of the scenery database in whichever software you are trying to use. Some such programs generate their scenery database with the inclusion of 3rd party scenery in your community folder, while others do not. Only ones that take scenery in the community folder into account will see correct taxiway naming and lighting. Applications intended for use with real world aircraft should align well with Real Taxiways airports.

Troubleshooting

I don't see any changes to airports after installing Real Taxiways.

Make sure that you completed the installation process as outlined in this User Guide. To double-check this, look in your Community content folder and see if you have the correct 'bksq-' package for your installation, such as 'bksq-us-bcde'. If you do, and its 'scenery/global/scenery' folder is populated with BGL files, then the problem lies within the simulator, possibly due to a recent update. If this is the case, contact Just Flight Technical Support. Advanced users might be able to further diagnose the problem by using Developer Mode to inspect the virtual file system and confirm whether the BGL files are being loaded from the Community folder.

Everything installed correctly but some airports don't seem to be enhanced.

It is unlikely that only some airports have been enhanced by Real Taxiways, but not all the airports which should be covered. Double-check the list of included airports on the following pages to ensure that you are at one of the airports covered. Since it is possible to exclude some airports, as explained in the Excluding airports section, make sure that you retain back-ups of any files you remove from the Real Taxiways package in your Community folder, and simply replace them if you want to restore Real Taxiways functionality at those airports.

I still see incorrect taxiway signs, signs facing the wrong way or signs placed in the middle of taxiways, runways or aprons, and I am definitely at one of the covered airports.

Time to report an issue! Please contact Just Flight Technical Support to report the bug and it will be fixed in a subsequent update to your Real Taxiways edition. Remember, Real Taxiways aims to provide a functionally identical airport environment to the real world but may not match it exactly. Please only report errors that you believe have an impact on immersion or the functionality of an airport's surface navigation aids.

Included Airports

KADW	KBAB	KBAD	KBIF	KBIX	KBKF	KBLV
KCBM	KCEF	KCOF	KCVS	KDAA	KDLF	KDMA
KDOV	KDPG	KDYS	KEDW	KEGI	KEND	KEOD
KFBG	KFFO	KFHU	KFMH	KFTK	KGRF	KGSB
KGTB	KGUS	KHLR	KHMN	KHOP	KHRT	KHST
KHUA	KIAB	KLFI	KLGF	KLHW	KLRF	KLSF
KLSV	KLTS	KLUF	KMCF	KMER	KMGE	KMIB
KMMT	KMTC	KMUO	KMXF	KNBC	KNBG	KNCA
KNDZ	KNEL	KNFG	KNFL	KNFW	KNGU	KNHK
KNID	KNJK	KNKT	KNKX	KNLC	KNMM	KNOG
KNQI	KNQX	KNRB	KNSE	KNTD	KNTU	KNUQ
KNUW	KNYG	KNYL	KOZR	KPAM	KPMD	KPOB
KPOE	KRCA	KRIV	KRND	KSKA	KSLI	KSPS
KSSC	KSUU	KSVN	KSZL	KTCM	KTIK	KTNX
KVAD	KVBG	KVOK	KVPS	KWAL	KWRB	KWRI
KXMR	KXNO	PAED				

Credits

Real Taxiways 2024

Publishing

Manual

Testing

Nicholas Cyganski

Just Flight

Nicholas Cyganski

Just Flight Testing Team

Dedication

This software is dedicated to the Father of Flight Simulation, Bruce Artwick, and the subLOGIC team. Flight simulator enthusiasts, and likely many developers, have little idea of how much remains in Microsoft Flight Simulator (2020) from the original versions of subLOGIC Flight Simulator, released in the early 1980's, more than forty years ago. This heritage is evident nowhere more than in the basis of all flight simulator scenery, the BGL file. BGL stands for BAO Graphical Language, BAO standing for Bruce Artwick Organisation. Through the creation of this addon for Microsoft Flight Simulator, I have had the pleasure of becoming intimately familiar with the ingenious, space-saving, immensely efficient bytecode created by Bruce Artwick for the storage of flight simulator facilities data. This is my small thank-you to Mr. Artwick and his team for creating the hobby that we all love so much, and inspiring generations of software engineers and pilots alike. Thanks to you and your team, I have never felt closer to the pioneers of personal computing, whom I admire so much.

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