Layer #7 - How to add tall buildings (kenventions 9/07/18)

Process Overview

1) use Google Earth Pro and OpenStreetMap.org to select & download the “downtown” area where you want to re-create tall buildings in FS2

2) use the OpenStreetMap file and ScenProc to generate tall buildings from the building coordinates in the osm file and output that group of buildings to your new tall buildings toc file

3) move that toc file to your airport folder under PLACES and update the airport tsc file to use your new toc file - then go for a test flight!

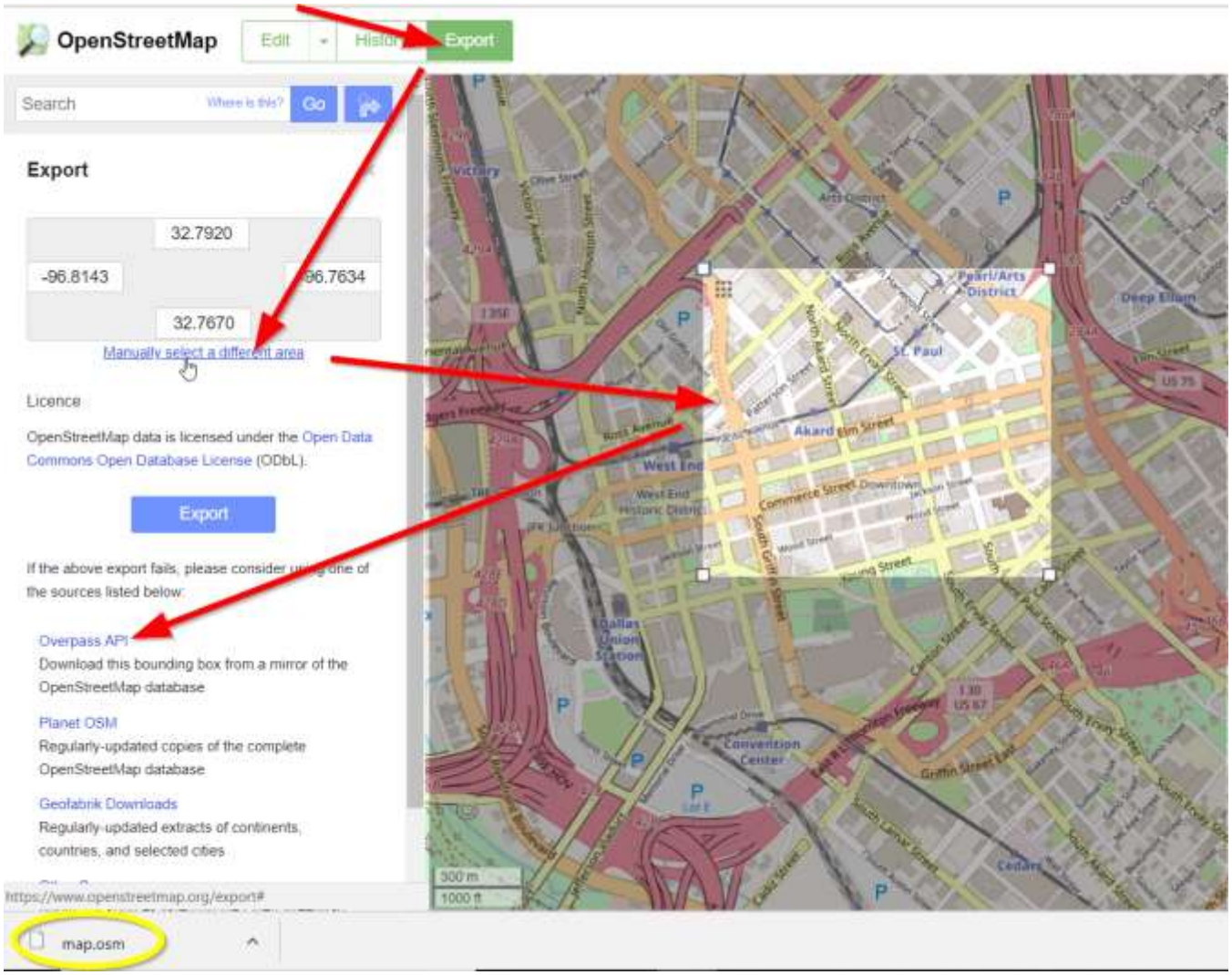
Step 1) Details

Download and install Google Earth Pro, then use it to get a rough idea of the boundary needed to include most of the tall buildings in your downtown area.

Now go to www.openstreetmap.org and search for your downtown location. Zoom in so you can compare the area to the Google Earth view.

Click on EXPORT and then click on MANUALLY SELECT A DIFFERENT AREA – now adjust the selection box to include most of the tall buildings in the Google Earth view.

Click on OVERPASS API to download the MAP.OSM file to your Downloads folder.



Rename the downloaded file to something like mapKDAL-tall.osm and move it to a MAP DOWNLOADS folder under your ScenProc folder.

Step 2) Details

Lookup the tallest building in your downtown area (wikipedia, google, etc). You'll use this number later to adjust the max number of random floors generating for your downtown buildings.

Download and install the latest development release of ScenProc from
https://www.scenerydesign.org/development-releases/ - then start ScenProc .

Copy and paste the code below into the top blank section

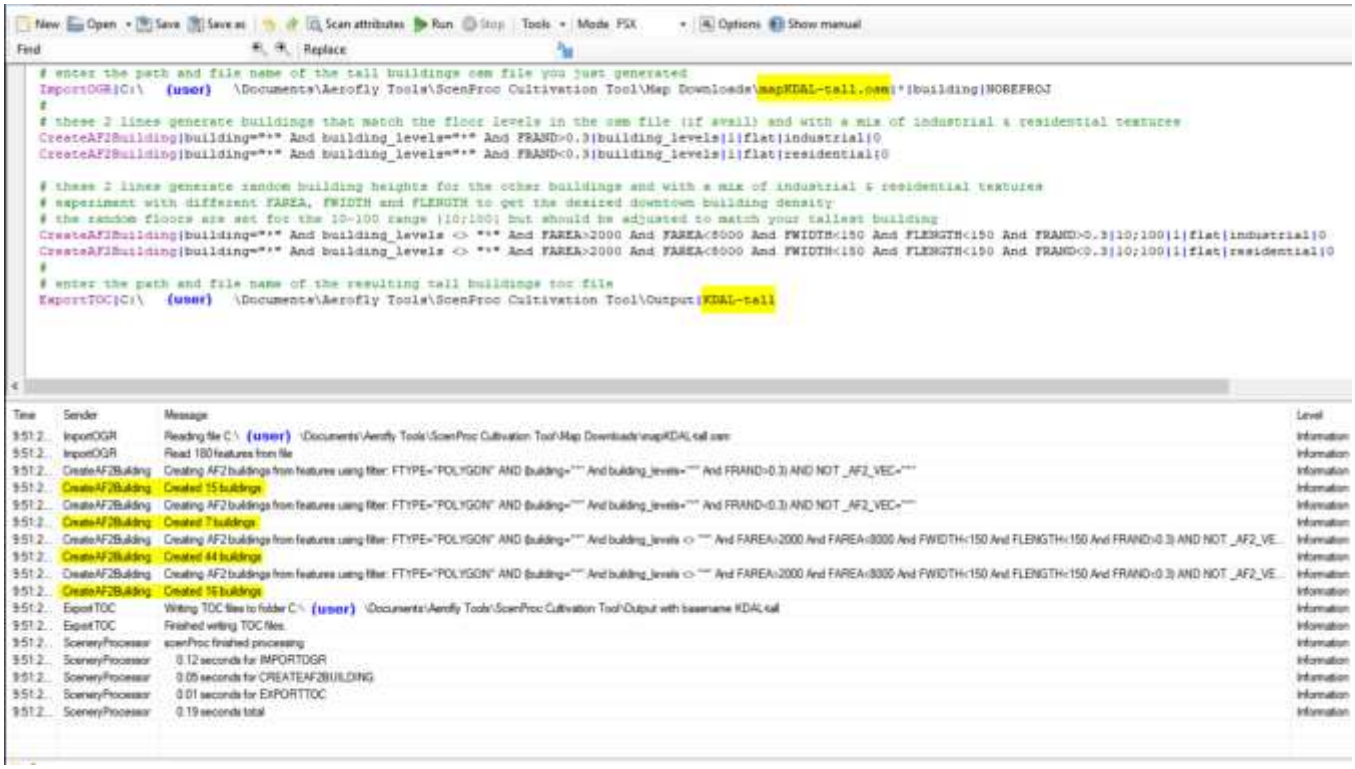
```
# enter the path and file name of the tall buildings osm file you just
generated
ImportOGR|C:\(user)\Documents\Aerofly Tools\ScenProc Cultivation Tool\Map
Downloads\mapKDAL-tall.osm|*|building|NOREPROJ

# these 2 lines generate buildings that match the floor levels in the osm
file (if avail) and with a mix of industrial & residential textures
CreateAF2Building|building="*" And building_levels="*" And
FRAND>0.3|building_levels|1|flat|industrial|0
CreateAF2Building|building="*" And building_levels="*" And
FRAND<0.3|building_levels|1|flat|residential|0

# these 2 lines generate random building heights for the other buildings and
with a mix of industrial & residential textures
# experiment with different FAREA, FWIDTH and FLENGTH to get the desired
downtown building density
# the random floors are set for the 10-100 range |10;100| but should be
adjusted to match your tallest building
CreateAF2Building|building="*" And building_levels <> "*" And FAREA>2000 And
FAREA<8000 And FWIDTH<150 And FLENGTH<150 And
FRAND>0.3|10;100|1|flat|industrial|0
CreateAF2Building|building="*" And building_levels <> "*" And FAREA>2000 And
FAREA<8000 And FWIDTH<150 And FLENGTH<150 And
FRAND<0.3|10;100|1|flat|residential|0

# enter the path and file name of the resulting tall buildings toc file
ExportTOC|C:\(user)\Documents\Aerofly Tools\ScenProc Cultivation
Tool\Output|KDAL-tall
```

The lower portion of the window will display error messages or processing info.

After you have resolved any error messages, SAVE the file so you can use it as a TALL-TOC SCRIPT template for other downtown areas.

Click RUN and ScenProc will generate buildings from the OSM coordinates file and save them in a TOC file.

An example of the ScenProc window is shown below.



Review the number of buildings created to make sure the total is roughly what you expected. If it's not, adjust the FAREA numbers above to include or exclude more buildings. For example, reducing the FAREA minimum to less than 2000 will include more small buildings in the output.

TIP – if you're happy with the quantity of buildings but don't like the mix of tall & short buildings (after taking a test flight), just re-run your script again to generate a new set of random buildings heights and repeat Step 3).

Step 3) Details

Move your new tall buildings TOC file to your airport folder located under the PLACES folder.

Edit your airport TSC file using a program like Notepad++ to include the new tall buildings TOC reference in the cultivation section at the end of the TSC file.

```
////////////////////////////////////////////////////////////////////////////
//
// cultivation_files
//
// Add filename here if you have some cultivation
//
////////////////////////////////////////////////////////////////////////////
<[list_tmsimulator_scenery_cultivation][cultivation_files][]
            <[tmsimulator_scenery_cultivation][element][0]
                <[string8][filename][KDAL-map]>
                <[bool][auto_height][true]>
            >
            <[tmsimulator_scenery_cultivation][element][1]
                <[string8][filename][KDAL-trees]>
                <[bool][auto_height][true]>
            >
            <[tmsimulator_scenery_cultivation][element][2]
                <[string8][filename][KDAL-tall]>
                <[bool][auto_height][true]>
            >
```

Also make sure the viewing/loading distance located at the top of the TSC file has been updated to a radius of at least 50000m and then SAVE your modified TSC file. If you're far from your downtown and the buildings start to look transparent, the fix may be to extend the radius setting to 100000 (versus 50000).

```
<[file][][KDAL] //4
 <[tmsimulator_scenery_place][][]
    ////////////////////////////////////////////////////////////////////////////////
    //
    // general information
    //
    ////////////////////////////////////////////////////////////////////////////////
    <[string8]    [type]           [airport]>
    <[string8]    [sname]          [Love]>
    <[string8]    [lname]          [Dallas Love Field ]>
    <[string8]    [icao]           [KDAL]>
    <[string8]    [country]        [us]>
    <[tmvector2d][position]        [-96.85009480 32.84438747]>    //This is the distinctive reference point for your model
    <[float64]    [height]         [145.69]>
    <[float64]    [size]           [50000]>
    <[vector2_float64][tower_position][-96.85009211 32.84438972]>
    <[float64]    [tower_height]   [30.0]>
    <[bool]       [autoheight]     [true]>
    <[string8]    [coordinate_system][lonlat]>
```

Time for that test flight!

A big thanks to Arno for his latest ScenProc version that makes random building heights possible!