Adding Animated Traffic to Aerofly FS2

Have you ever wanted to add animated traffic (or objects) to your scenery project? Well now you can! Introducing the first working tutorial to allow for you to do this yourself.

So let's get started.

Prerequisites:

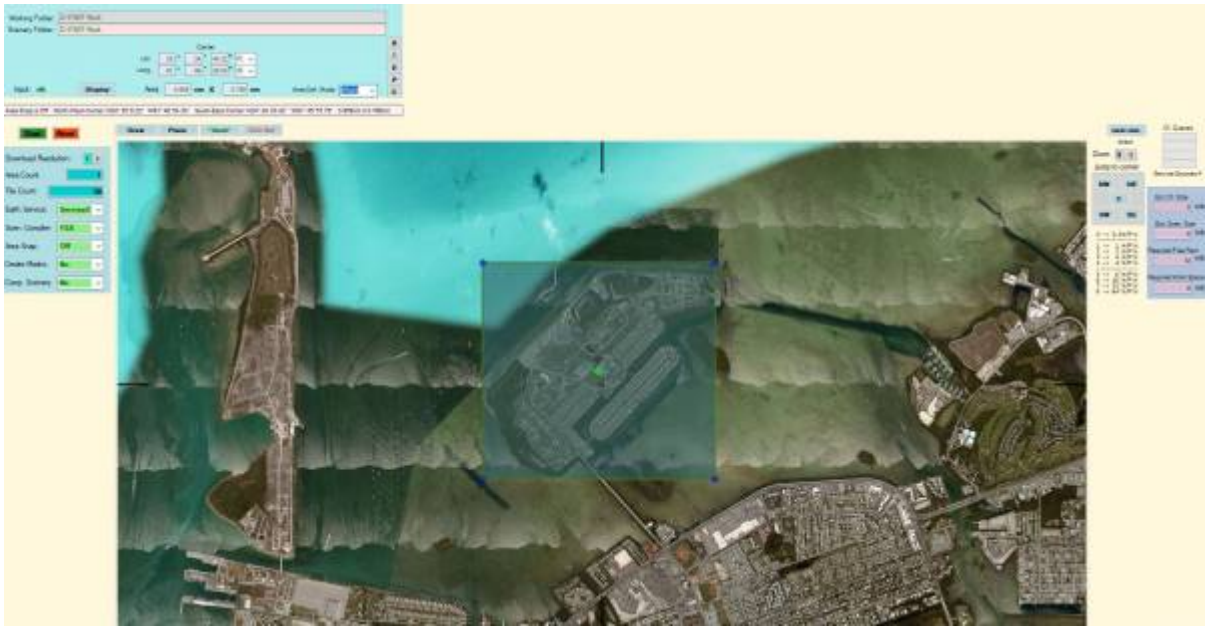
To get started you will need the following applications in order to add animated traffic

- FSET (or any applicable program that you can capture a scenery image, center coordinates, and distance of scenery area)
- 3DS Max
- Aerofly SDK - Content Converter
- IPACS plug-in for 3DS Max export

Obtaining Reference Image from FSET

Let's begin by choosing the location that you wish to have animated traffic at. Open up FSET to locate and obtain your reference image that you will use as your guide in 3DS Max. In this tutorial we will choose 'Dredgers Key' in Key West, Florida.

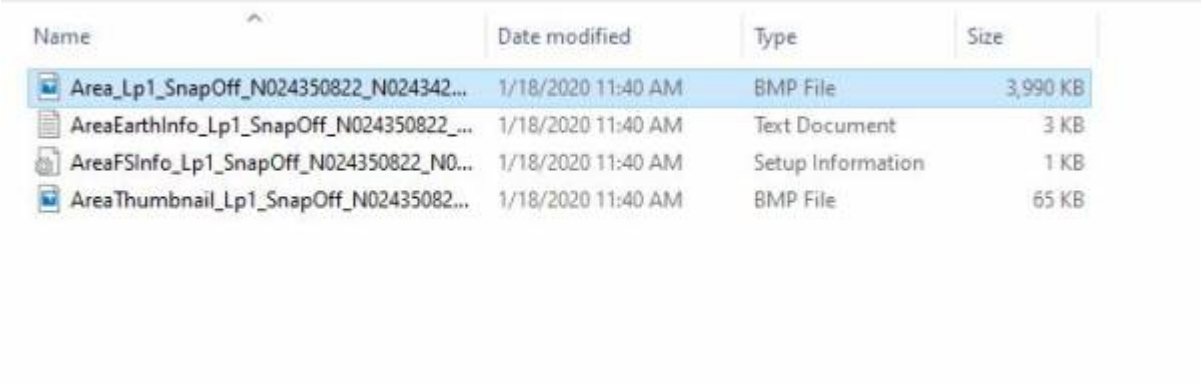
- In FSET change the Area Def. Mode to '1Point'. You will need to record the center coordinates and area to be used in 3DS Max. These items are the most important to align your reference image to the real world.
- Drag the box over the area that you wish to add your traffic, and start the job.
- Once you captured the image and recorded the center coordinates and area distances we have all that we need to begin in 3DS Max.



- Next, let's prepare your work folders (this will make things more organized when you start your

project)

- Create a 3DS Max work folder and copy the image that was captured with FSET (note- the only file that you need is the BMP image shown in the below image)



Working in 3DS Max

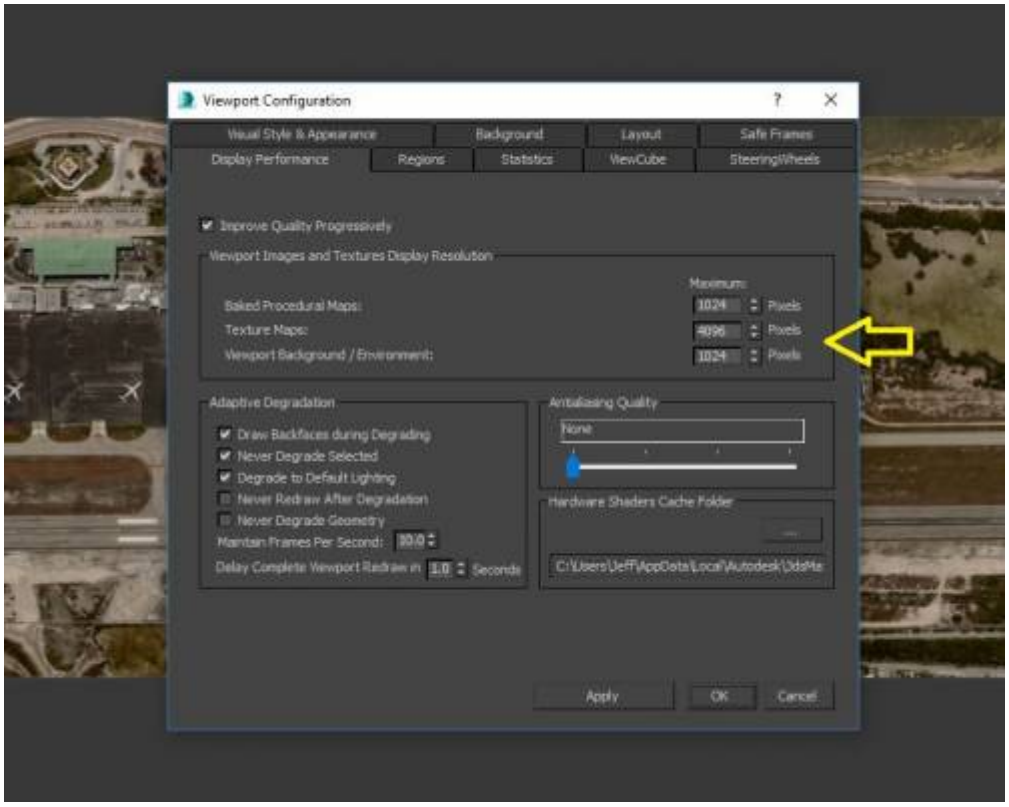
In order to build your traffic project correctly you will need to set up 3DS Max properly. There are only a couple of items required for this to insure you obtain the best results with your project.

View

For best results you should set your viewport to **one screen** with **perspective** and **shaded** selected

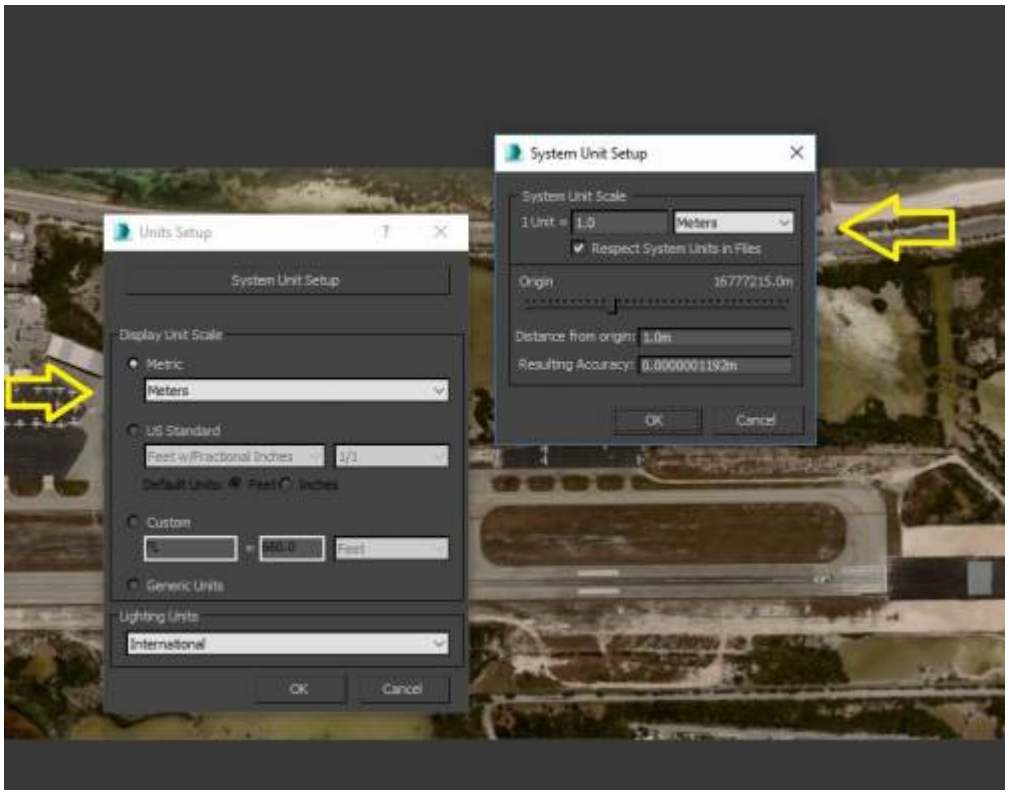
Resolution

The resolution is important to see roadways better. Let's set this setting by clicking on the little '+' in your viewport and select 'viewport configuration/display performance'. You want to change the 'texture maps' number to **4096**. This will give you a good reference image to work off of.



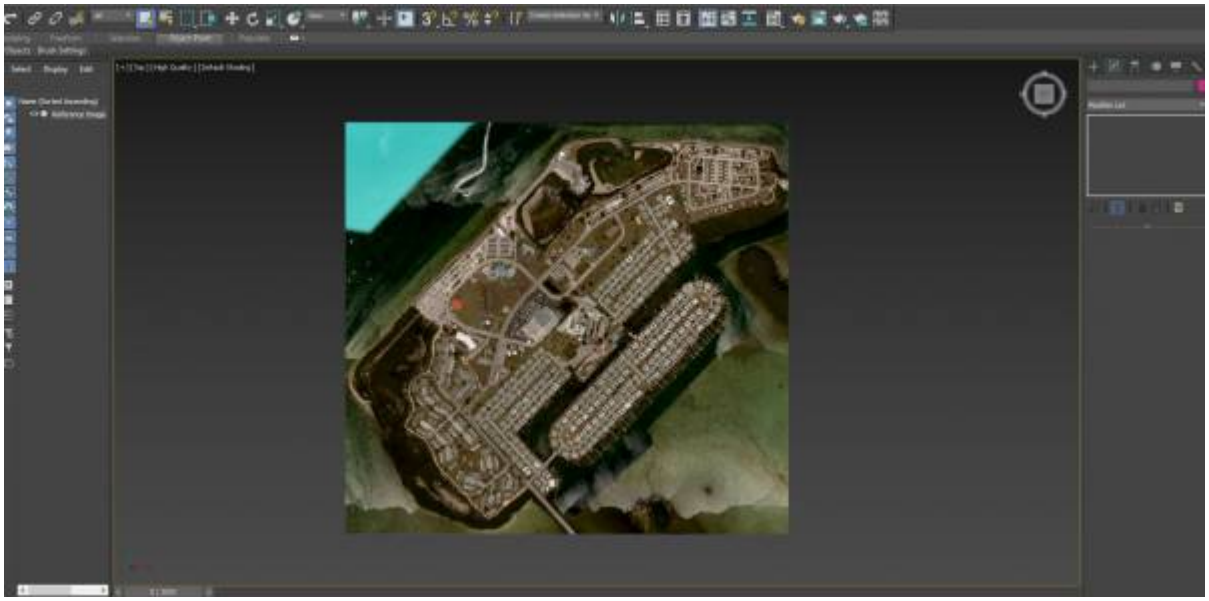
Coordinates

And the most important setting is to set your coordinate system within 3DS Max to match what's needed for the conversion into Aerofly. From within 'customize/unit setup' the **display unit scale** should be set to **metric/meters** and set the **system unit setup** to **1 unit-I meter**



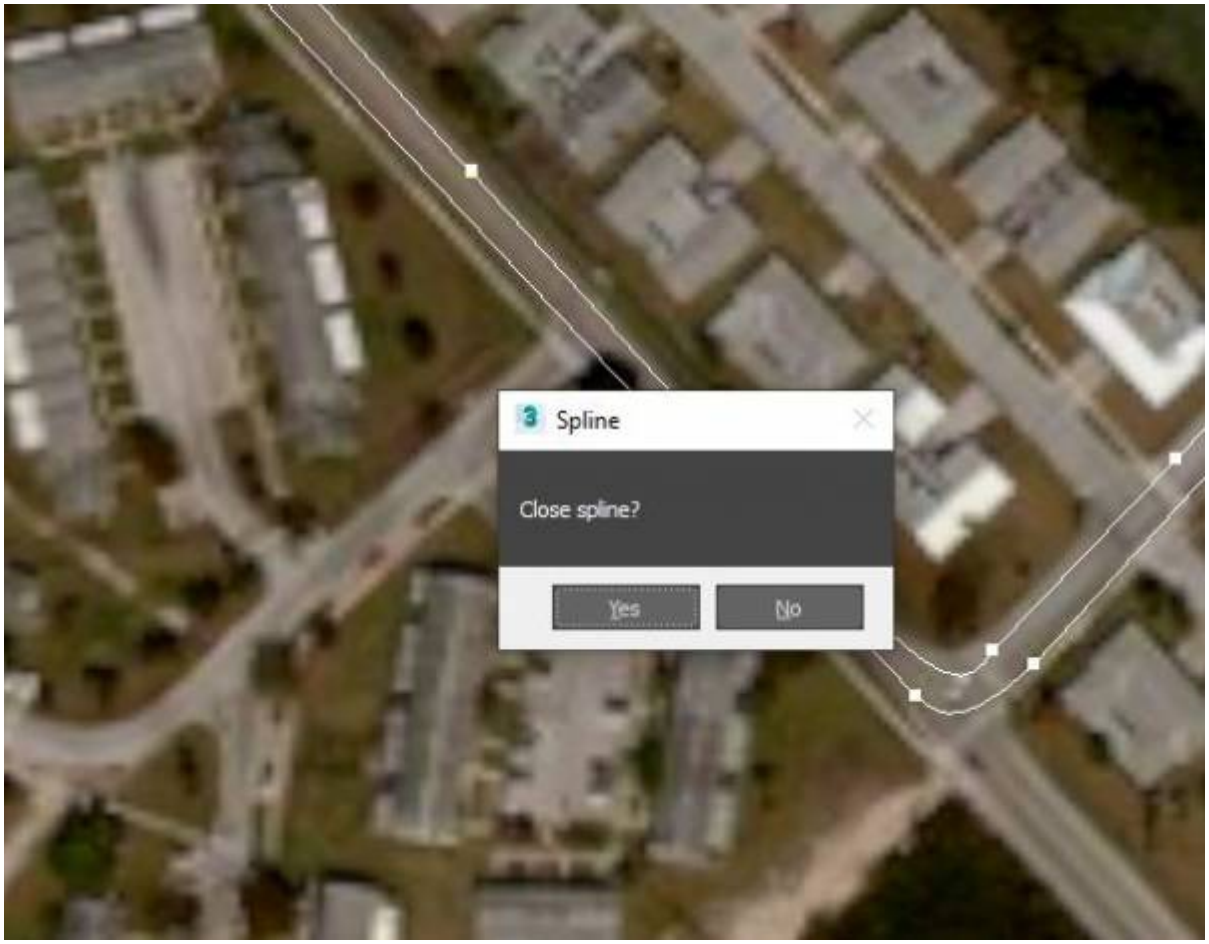
Now lets begin our project!

- Begin by selecting 'plane' and define the exact same size as your FSET area. Do this by converting nautical miles to meters (used in 3DS Max). Once you convert the calculations make your plane the same size. Now add your image to the plane and rename 'plane1' to 'reference image'. Your project should now look like this.

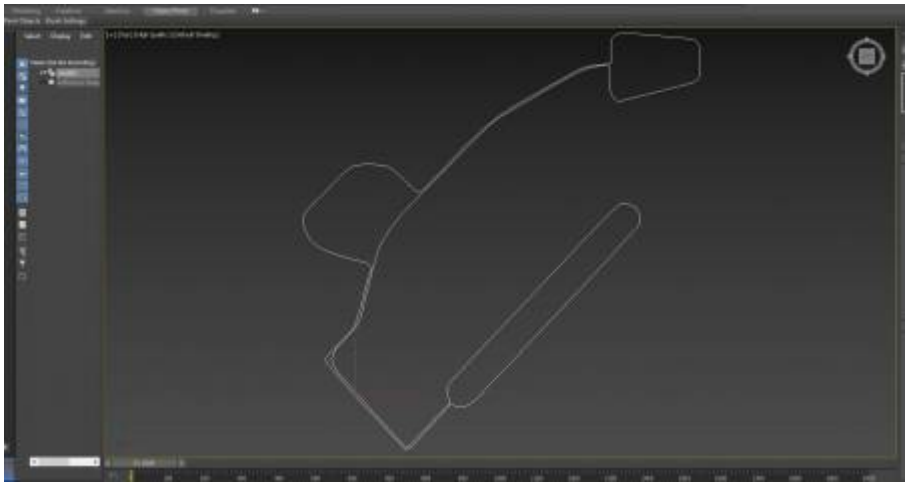


- Next you can choose your path that you want the traffic moving along. Select the 'line' object under splines and make your path along the road. Note- Make sure that whatever path you make be sure to close it to form a completed circuit. In this tutorial I will extend my path around the entire island (you can make a path anywhere you would like (roads, water, even air. For air you need to raise the completed path to the height you want to see your moving object). Note- you can zoom right into the road to better align your path, you can end a path then re-attach a new segment by selecting the line, selecting vertex mode and click on 'insert'

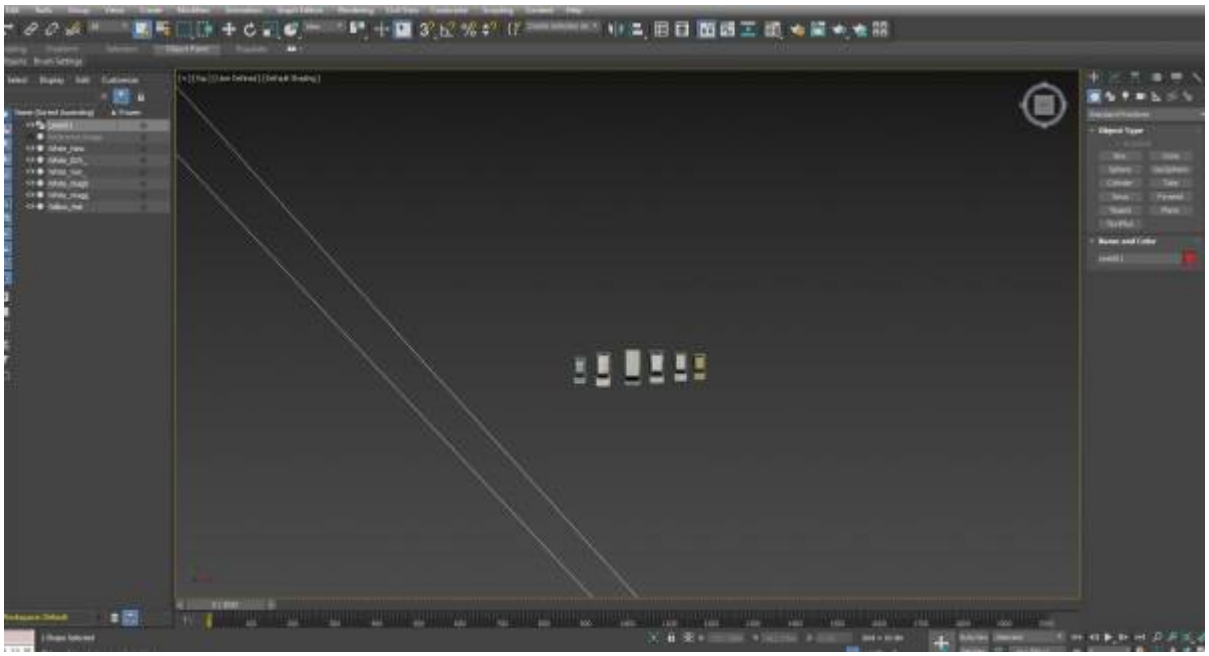
- Once you complete your path, make sure that you see the 'close spline' message when you click on your last vertex. Click on yes to close the spline.



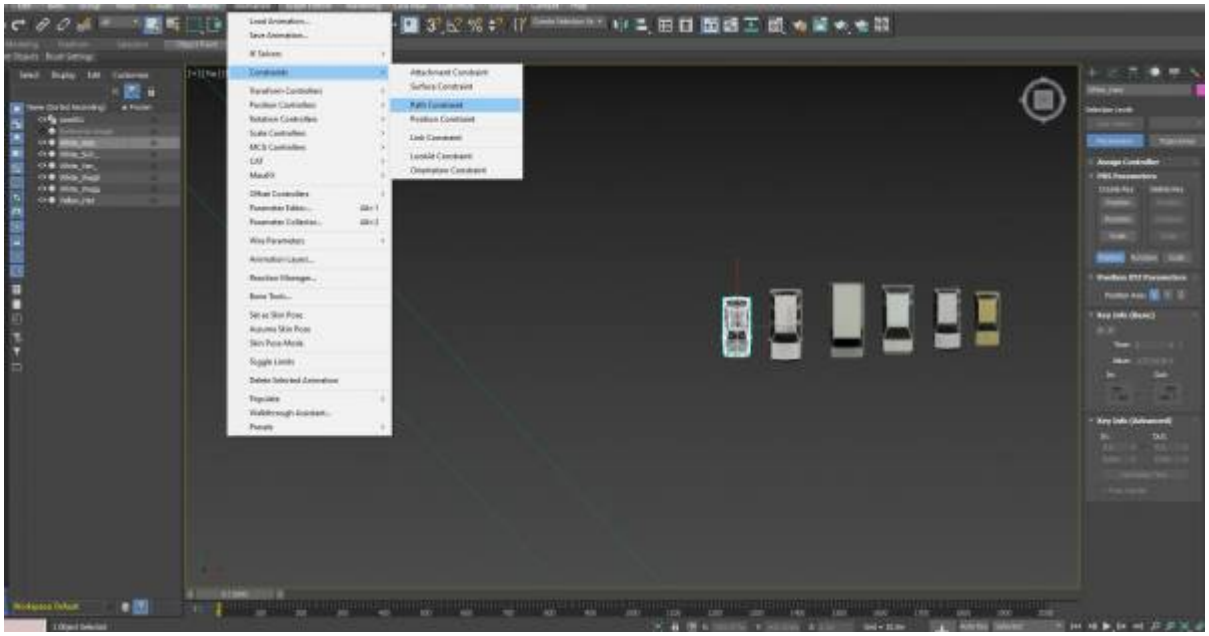
You can now see your first completed path.



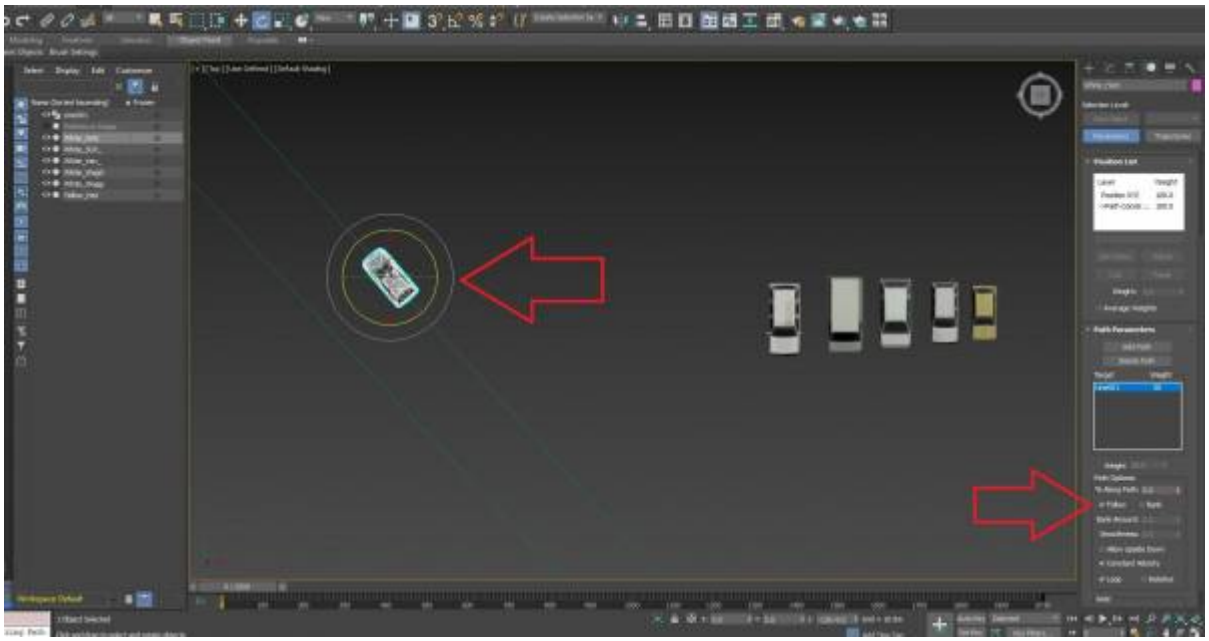
- Next step is to import some vehicles to your project. I will use a few cars that I had already made (you can use whatever object you want to animate on your own paths)
- To make it easier now that you have a completed path, go ahead and hide the reference image at this time.



- Now we want to begin attaching the vehicles to your path. Select one of the vehicles and choose 'animation/constraints/path constraints' and click on the path. You will see the vehicle snap to your path.

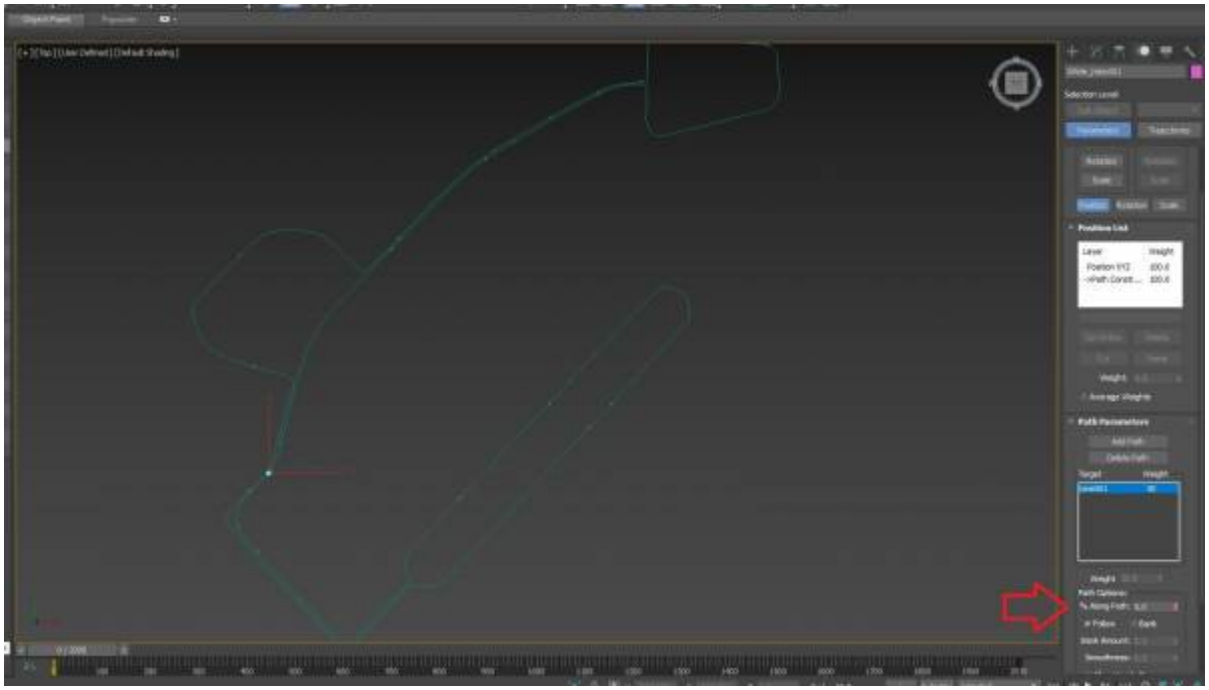


- Next you need to click on 'follow' and using the rotate tool align the vehicle to the path.



- Now let's populate that vehicles. This can be done a few different ways so you can try different techniques to see what works best for you, but for this tutorial we will keep it basic.
- Click on the vehicle that you just attached to your path and right click/clone. Clone as an instance and keep the naming that 3DS Max chooses for you. Next using the '% along path' choose a random number from 1-100. This will place a new vehicle at the percentage along the path that you chose.
- Keep doing this until you have the amount of vehicles you want along the path. Now do the same for the remaining vehicles that you imported. **Note-** There is no limit to the amount of vehicles you have along a path. It's up to you to randomize them how you want them.

You can always adjust any vehicle by clicking on it and changing the '% along path' for that object.



Populating Vehicles Recap

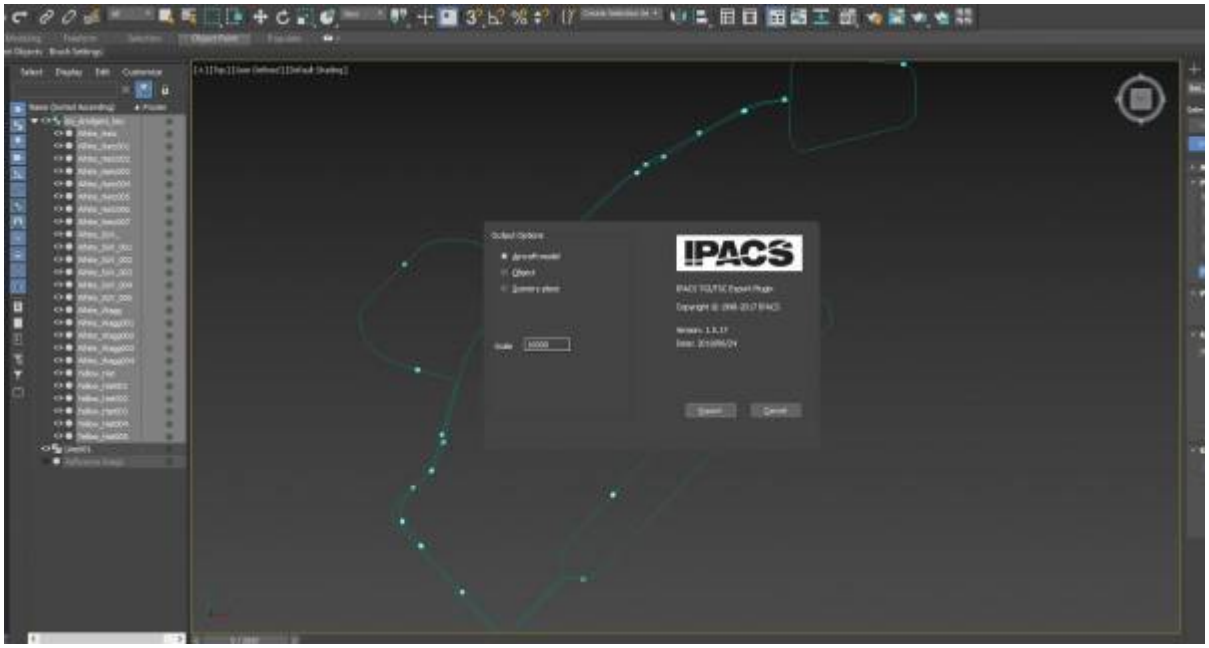
- 1. Import Vehicles
- 2. Attach vehicle to path
- 3. Choose follow and align the front of the vehicle to the path
- 4. Select vehicle and clone it
- 5. Choose the percentage along the path you want it
- 6. add as many vehicles that you want along the path

Note If you now press the play button you will see your vehicles moving along the path. Note- Don't worry about the speed of your animations, this will be adjusted on the TSC file later.

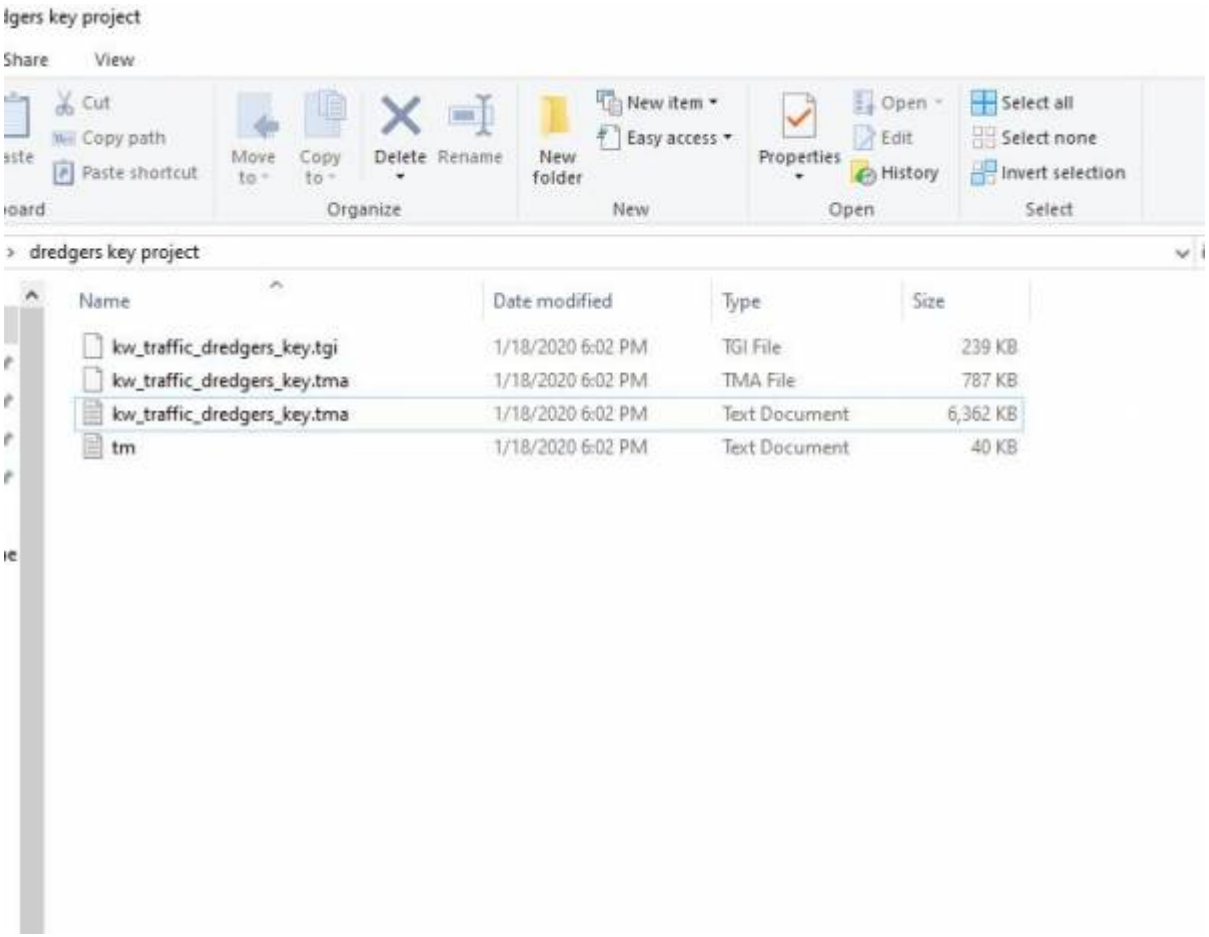
Once you have completed your path and added your vehicles to it, now it's time to export your creation.

Exporting

- 1. First let's group all of your vehicles. Select all vehicles that you attached to your path (do not include the path line to the group)
- 2. Name the group something that references that roadway.
- 3. Highlight the entire group along with the group name and choose 'export selected'
- 4. Create a project folder in a location of your choice and export using the IPACS TGI/TSC Exporter
- 5. Name your output file and use the 'aircraft model' export option. Note- Make sure that the scale is shown as '10000' otherwise change it now.



- 6. Once your export is complete you should now see three files and a TM log in your project folder



- 7. Now lets add the needed files into your project folder; You need the 'content converter config file', TSC file, and any texture map files (for your vehicles). In this tutorial I've included the content converter and TSC files that match this tutorial.

- 8. Next step is to modify the content converter config file. Open the file with Word Pad or equivalent. All that you need to change in this file is the output location. Make your edit and save/close the file.

```
<[file][][]
    <[tm_config][][]

        <[string8][base_output_folder][]>  // if this is empty
it defaults to "C:/Users/USERNAME/Documents/Aerofly FS 2/"
        <[string8][texture_base_type][ttx_dxt]>

        <[list_tm_config_folderpair][folder_pairs][]

            <[tm_config_folderpair][element][1]
                <[string8][input_folder][./]>
                <[string8][output_folder]
[scenery/places/dredges_traffic/]>
                <[string8][type][place]>
                <[uint32][recurse_level][0]>
                <[list_string8][file_types][tsc tgi tma jpg bmp
tif png ]>
                <[list_tm_texture_settings][texture_settings][]
                    <[tm_config_folderpair][element][0]
                        <[list_string8][regex][.*]>
                        <[bool][compressed][true]>
                        <[bool][compress_file][true]>
                        <[bool][flip_vertical][false]>
                        <[bool][mipmaps][true]>
                        <[uint][max_size][2048]>
                        <[bool][make_square][true]>
                    >
                >
                <[tm_config_geometry_settings]
[geometry_settings][]
                    <[float32][collision_mesh_quality][0]>
                >
            >

        >
    >
>
```

- 9. Open the TSC file to begin making your edits for the project that you are working on.
- 10. The first edit to make in your TSC file is the coordinates which match your 3DS Max reference image with the real-world center point. To do this you will need to convert the center coordinates (Degrees, Minutes, Seconds) that you captured with FSET to Aerofly coordinates (Decimal Degrees). For this I use the following site but you can use any site.

https://rechneronline.de/geo-coordinates/

- 11. Obtain the coordinates and enter them into the TSC (Make sure that follow the LONGLAT format)

```
<[file][][]
    <[tmsimulator_scenery_place][][]
        <[string8][type][]>
        <[string8][sname][dredgestraffic]>
        <[string8][lname][dredgestraffic]>
        <[string8][icao][]>
        <[string8][country][]>
        <[string8][coordinate_system][lonlat]>
        <[vector2_float64][position][-81.7739 24.578978]>
        <[float64][height][0]>
        <[float64][size][5000]>
        <[vector2_float64][tower_position][0 0]>
        <[float64][tower_height][0]>
        <[bool][autoheight][true]>
        <[string8][autoheight_method][]>
        <[list_tmsimulator_scenery_object][objects][]
                >
        <[list_tmsimulator_scenery_object_animated]
[objects_animated][]
<[tmsimulator_scenery_object_animated][element][0]
                <[string8][geometry][kw_traffic_dredgers_key]>
                <[string8][animation][kw_traffic_dredgers_key]>
                <[vector3_float64][position][-81.7739 24.578978
0]>
                <[float64][rot_in_degree][0]>
                <[float64][duration][0]>
                <[float64][time_scale][0.03]>
                <[bool][autoheight][true]>
            >
        >
        <[list_tmsimulator_runway][runways][]
        >
        <[list_tmsimulator_helipad][helipads][]
        >
        <[list_tmsimulator_startposition][start_positions][]
        >
        <[list_tmsimulator_parking_position][parking_positions]
[]
        >
        <[list_tmsimulator_view_position][view_positions][]
        >
        <[list_tmsimulator_scenery_cultivation]
[cultivation_files][]
                        >
        >
    >
>
```

- 12. Since these coordinates are the center points for both the project center and traffic path center the coordinates need to go into two locations
- 13. The final edits in the TSC that needs your attention are shown in the image below

```
<[file][][]
    <[tmsimulator_scenery_place][][]
        <[string8][type][]>
        <[string8][sname][dredgestraffic]>
        <[string8][lname][dredgestraffic]>
        <[string8][icao][]>
        <[string8][country][]>
        <[string8][coordinate_system][lonlat]>
        <[vector2_float64][position][-81.7739 24.578978]>
        <[float64][height][0]>
        <[float64][size][5000]>
        <[vector2_float64][tower_position][0 0]>
        <[float64][tower_height][0]>
        <[bool][autoheight][true]>
        <[string8][autoheight_method][]>
        <[list_tmsimulator_scenery_object][objects][]
                >
        <[list_tmsimulator_scenery_object_animated]
[objects_animated][]
<[tmsimulator_scenery_object_animated][element][0]
                <[string8][geometry][kw_traffic_dredgers_key]>
                <[string8][animation][kw_traffic_dredgers_key]>
                <[vector3_float64][position][-81.7739 24.578978
0]>
                <[float64][rot_in_degree][0]>
                <[float64][duration][0]>
                <[float64][time_scale][0.03]>
                <[bool][autoheight][true]>
            >
        >
        <[list_tmsimulator_runway][runways][]
        >
        <[list_tmsimulator_helipad][helipads][]
        >
        <[list_tmsimulator_startposition][start_positions][]
        >
        <[list_tmsimulator_parking_position][parking_positions]
[]
        >
        <[list_tmsimulator_view_position][view_positions][]
        >
        <[list_tmsimulator_scenery_cultivation]
[cultivation_files][]
                    >
        >
    >
>
```

Name per your project

Distance to engage TSC

Name of export file

Speed of traffic

- 14. Finally right click and select 'Run with Aerofly Content Converter'
- 15. You should now find a completed output folder in your Documents\Aerofly FS 2\scenery\places folder
- 16. Run Aerofly and head over to the area that you created your animated traffic and you should now see it in-game!

Note: If your traffic doesn't line up well with the actual in-game roadways you may need to make adjustments in 3DS Max, re-export the output files and re-compile your job.

Note: You can change the speed of your traffic by editing the decimal in your TSC file

Note: You can add multiple paths to a single TSC