

How to do your Taxi Edge Light

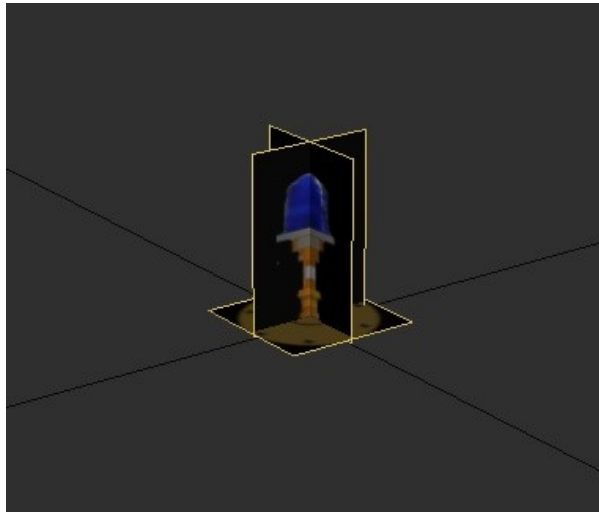
To be honest, I don't know which is the best way to do the taxi light in the airport. It depends on the size of the airport and your familiar with different kind of methods. There are variety of the methods here:

1. Make individual light, attached with effect and place the instance many time by xml. This is good for small airport with hundred of taxi lights but not thousand in big international airport since many xml placement will cause fps drop. The difficult of this is you have to place them many times and it is time consuming method. You can have difficulties placing along the straight line to make it perfectly strait.
2. Make the whole taxi light in gmax and export them in one file. This will keep XML minimal just only one time placement. Then use maxscript from [Nick Whittome](#) . I'll tell you my way to make taxi light by this method.
3. Make the same way as the second method but eliminate the use of effect. This will be the best from frame rate but less visibility range. You can see your light withing a few hundred meters.

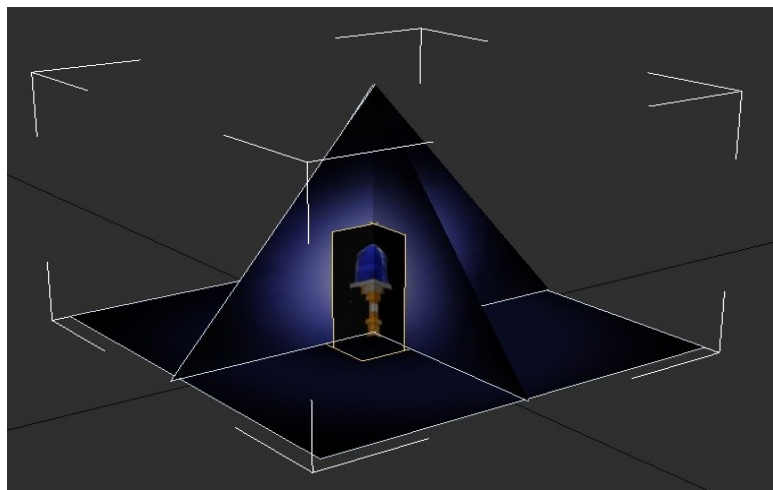
Please be aware that either method can cause frame rate drop dramatically if you use the default effect. So you need to modify the effect that you attached a bit.

I think I found the sweet spot between the second and the third method. My method is: making the taxi light model and use modified effect to use only one emitter. Please fell free to discuss this at [Fsdeveloper.com](#).

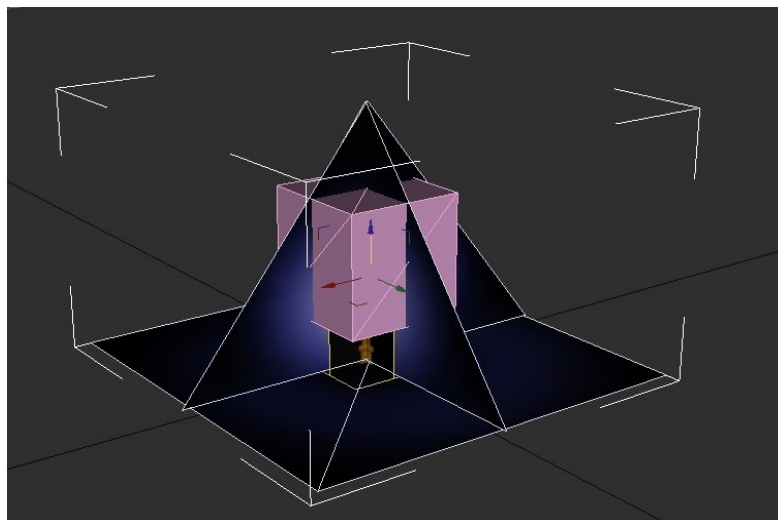
1. Pick one of the Taxi Edge Light by searching in Google such as this one. You get the picture as well as the size in real life. I picked one of this at [Medium Intensity Light](#)
2. Make your texture by using your taxi light with black background. Make another copy for the night texture. Make another layer and copy just the bulb light and use dodge tool to make it brighter. You make darken some part using another layer.
3. In Gmax you make a plane and map the texture in to suit the specification of height and width you have. Or you can make a little bit larger to make them easier to be noticed in the Flight Simulator.



Gmax Model of Taxi Light

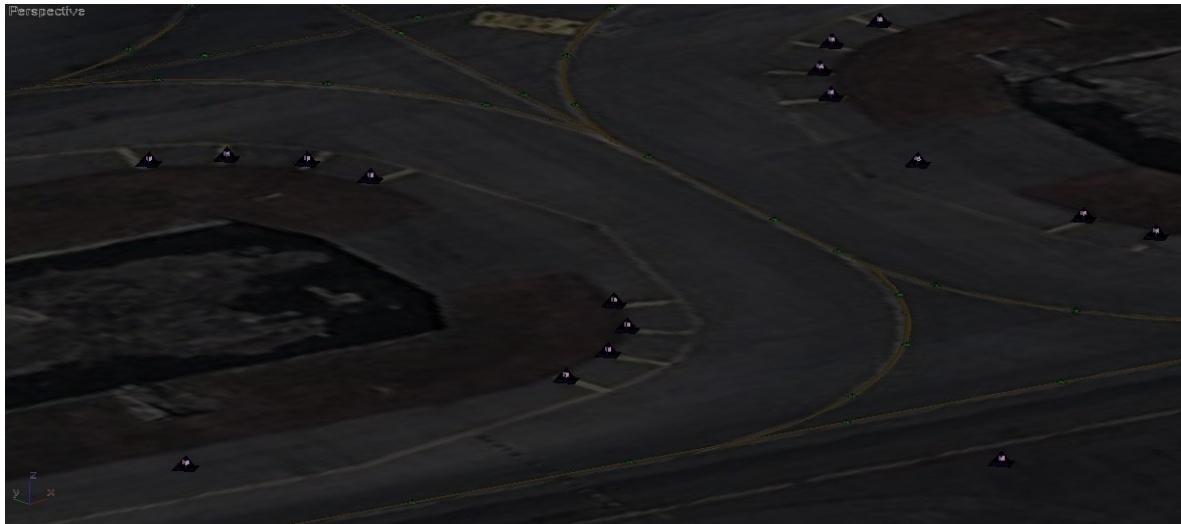


The light polygon over the taxi light model



The light polygon and the taxi light model with a box to attach the effect.

4. In FSX you need to set the properties as usual use the default transparency for taxi light model . In my model, I separate the light to separate texture and different material by setting Blend=SrcColor, Destination Blend=InvSrcAlpha. This will make the night alpha different from day alpha. Please take a look at this [thread](#) But if you use for FS9, you can choose different alpha for day and night texture.
5. Make a box in place where the light bulb is. Then you have to copy both of the taxi light model and box together all over the airport.



This is how they look like in Gmax. The pink little box is on top of the gmax model. Don't rename it or change the name or attach together. Leave it like the box and clone them, the box and the light and taxilight model together.

6. Then Export just only the gmax model of the taxi lights. Put it through MCX to correct the curvature of the Earth.
7. Make another Gmax file and merge just the box from previous file. Run the max script to attach the effect inside. In this case, you will have your original file to make two sets of effect for both dawn/dusk and day/night. I save it as Day_Night Light.gmax and do the Friendly Name and GUID.
8. This is how you modify your max script: You need to put your effect name into the red letters of the script down here. The best way is use replace **MyEffectName** with your effect name. I use fx_TaxiBlueLight and I put my **DAY=0; NIGHT=1** to the effect Params (effect parameter) to control the effect during the night and day. You have to do this again for another set of boxes for DAWN=1; DUSK=1.

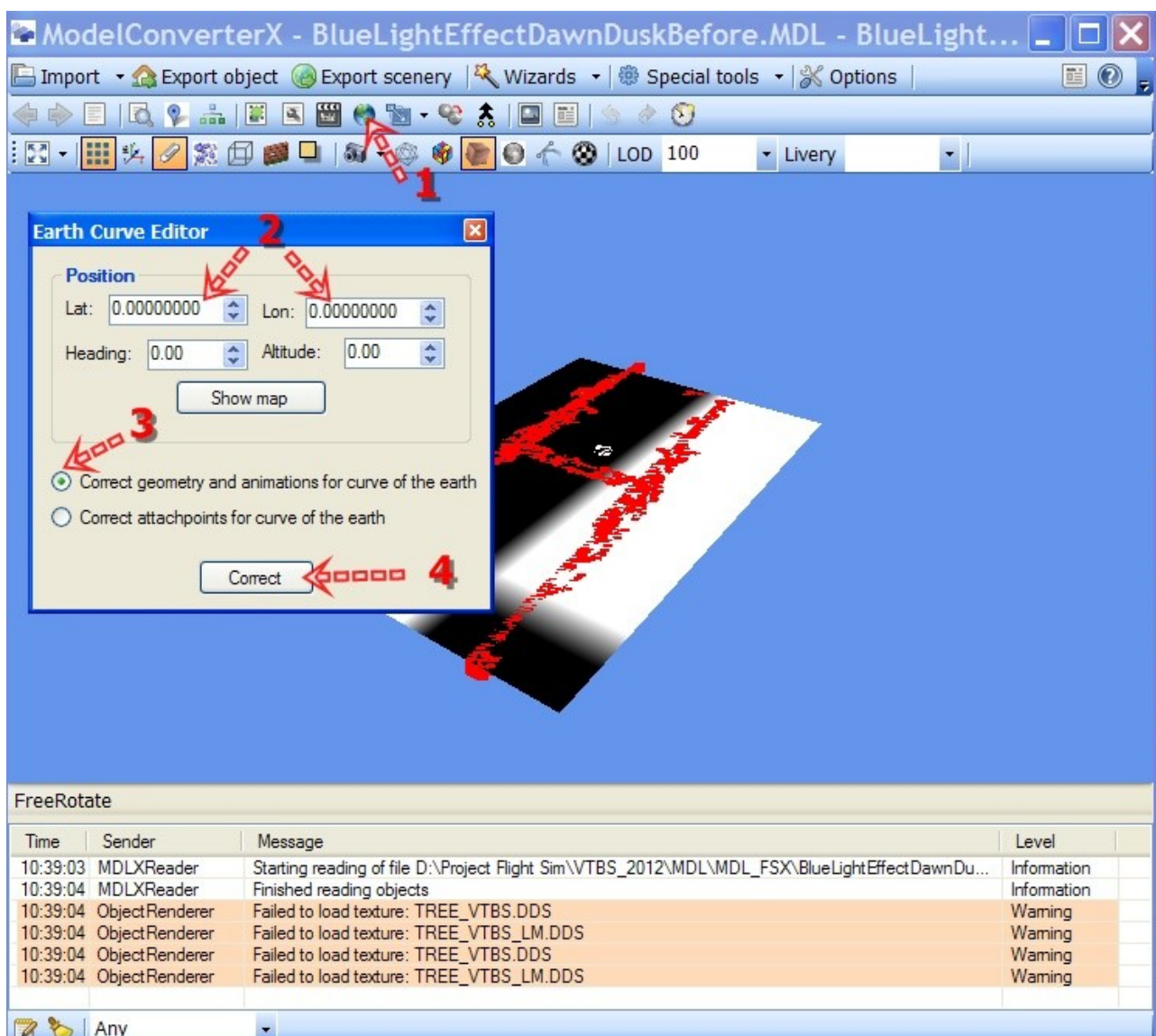
Before

```
strAttachNumber = 0
for obj in $box* do
(
    obj.name = ("attachpt_MyEffectName" + (strAttachNumber as string))
    strBufferText = ("<?xml version=\"1.0\" encoding=\"ISO-8859-1\" ?>
<FSMakeMdlData version=\"9.0\"><Attachpoint name=\"attachpt_MyEffectName\" +
(strAttachNumber as string) + "\"> <AttachedObject> <Effect
effectName=\"fx_MyEffectName\" effectParams=\"\"/> </AttachedObject>
</Attachpoint></FSMakeMdlData>")
    setUserPropBuffer obj strBufferText
    strAttachNumber += 1
)
```

After

```
strAttachNumber = 0
for obj in $box* do
(
    obj.name = ("attachpt_fx_TaxiBlueLight" + (strAttachNumber as string))
    strBufferText = ("<?xml version=\"1.0\" encoding=\"ISO-8859-1\" ?>
<FSMakeMdlData version=\"9.0\"><Attachpoint name=\"attachpt_fx_TaxiBlueLight\" +
(strAttachNumber as string) + "\"> <AttachedObject> <Effect
effectName=\"fx_fx_TaxiBlueLight\" effectParams=\"DAY=0; NIGHT=1\"/>
</AttachedObject> </Attachpoint></FSMakeMdlData>")
    setUserPropBuffer obj strBufferText
    strAttachNumber += 1
)
```

9. Run your script in the gmax. Before exporting, you need to know that you cannot export just only the effect attachment. You need a plane to cover all the boxes attached effect. Make a plane to cover all the place and apply texture that you use for other object but unwrap to where the alpha of that texture is. So the plane that you use will be invisible. You might need to cut the plane to make them less than 100 meters for each polygon. Then export the whole thing as usual.
10. Open Model Converter X (latest developmental release). Open MDL and click on Curvature of the Earth Correction tool and apply the coordinate and click on the first option to correct the curvature of the Earth.



In this picture, after you load you model up to MCX, click on arrow 1. Then the window or Earth Curve Editor will pop out. Enter your coordinate in arrow 2 and the altitude and heading (if you have). Then use the option on arrow 3. Click on 4 and you are done. The red dot you see on the model is the attached effect and the black and white is the plane that cover all the area.

11. Make another gmax and merge those boxes in again and change you script to other file. I saved it as Dawn dusk script. You need to change `effectParams=\"DAY=0; NIGHT=1` into `effectParams=\"DAWN=0; DUSK=1` and run the script again. You will have another set for dawn/dusk. I save it as Dawn_Dusk Light.gmax and do the Friendly Name and GUID. Then export again. You can have both Day/Night and Dawn/Dusk in the same file if your total attach points are less than 2000 attachment. My project is big. Just only day/night there are 1365 points already. So, I think it might be safer if you separate the file. In case that you mixed up. Just only my thought.
12. Now making your own effect. You just go to the FSX/effect folder. Copy `fx_navwhi.fx` and then paste to the same palce. You will get Copy of `fx_navwhi.fx`, then rename it as you wish. So that you will not alter the default fx file. Double click on it and choose note pad to open it. You will see this code on the next page. Don't be afraid of it. I don't know all the properties either. We need to adjust only a few things here.

```

[Library Effect]
Lifetime=5
Version=1.00

[Properties]
Spot=1
Tower=1
Map=1

[Emitter.0]
Lifetime=0.50, 0.50
Delay=0.00, 0.00
Bounce=0.00
No Interpolate=1
Rate=1.00, 1.00
X Emitter Velocity=0.00, 0.00
Y Emitter Velocity=0.00, 0.00
Z Emitter Velocity=0.00, 0.00
Drag=0.00, 0.00
X Particle Velocity=0.00, 0.00
Y Particle Velocity=0.00, 0.00
Z Particle Velocity=0.00, 0.00
X Offset=0.00, 0.00
Y Offset=0.00, 0.00
Z Offset=0.00, 0.00

[Particle.0]
Lifetime=0.00, 0.00
Type=19
X Scale=1.00, 1.00
Y Scale=1.00, 1.00
Z Scale=0.00, 0.00
X Scale Rate=0.00, 0.00
Y Scale Rate=0.00, 0.00
Z Scale Rate=0.00, 0.00
Drag=0.00, 0.00
Color Rate=0.00, 0.00
Fade In=0.00, 0.00
Fade Out=0.00, 0.00
Rotation=0.00, 0.00
Static=1
Face=1, 1, 1

[ParticleAttributes.0]
Blend Mode=2
Texture=fx_2.bmp
Bounce=0.00
Color Start=55, 52, 50, 100
Color End=55, 52, 50, 0
Jitter Distance=0.00
Jitter Time=0.00
uv1=0.00, 0.00
uv2=0.50, 0.50
X Scale Goal=0.00
Y Scale Goal=0.00
Z Scale Goal=0.00
Extrude Length=0.00
Extrude Pitch Max=0.00
Extrude Heading Max=0.00

[Emitter.1]
.....Properties here.....

[Particle.1]
.....Properties here.....

[ParticleAttributes.1]
.....Properties here.....

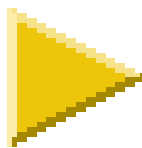
[Emitter.2]
.....Properties here.....

[Particle.2]
.....Properties here.....

[ParticleAttributes.2]
.....Properties here.....

```

- i. There are three [Emitters.X] along with them are [Particle.X] and [ParticleAttributes.X]. You have to delete all other emitters out. The letters I show in red have to be deleted. I putProperties here..... to represent the long listing codes here (which spread through 3 pages).
- ii. Now you have only one emitter. You can change the color by changing the blue letters which represent the color code in RGB. How do you know that? Get this code from Photoshop or any paint program. When you pick the color for your brush, the code is there. Put the numbers in for your color.
- iii. The the box on the right is my fx_TaxiBlue.fx file.
- iv. I don't put controller like Nick mention. I don't really know that how it would be. If you have problem, you can put that later .



```

[Library Effect]
Lifetime=5
Version=1.00

[Emitter.0]
Lifetime=0.50, 0.50
Delay=0.00, 0.00
Bounce=0.00
No Interpolate=1
Rate=1.00, 1.00
X Emitter Velocity=0.00, 0.00
Y Emitter Velocity=0.00, 0.00
Z Emitter Velocity=0.00, 0.00
Drag=0.00, 0.00
X Particle Velocity=0.00, 0.00
Y Particle Velocity=0.00, 0.00
Z Particle Velocity=0.00, 0.00
X Offset=0.00, 0.00
Y Offset=0.00, 0.00
Z Offset=0.00, 0.00

[Particle.0]
Lifetime=0.00, 0.00
Type=19
X Scale=2.0, 2.0
Y Scale=2.0, 2.0
Z Scale=0.00, 0.00
X Scale Rate=0.00, 0.00
Y Scale Rate=0.00, 0.00
Z Scale Rate=0.00, 0.00
Drag=0.00, 0.00
Color Rate=0.00, 0.00
Fade In=0.00, 0.00
Fade Out=0.00, 0.00
Rotation=0.00, 0.00
Static=1
Face=1, 1, 1

[ParticleAttributes.0]
Blend Mode=2
Texture=fx_2.bmp
Bounce=0.00
Color Start=50, 80, 255, 100
Color End=52, 52, 250, 0
Jitter Distance=0.00
Jitter Time=0.00
uv1=0.00, 0.00
uv2=0.50, 0.50
X Scale Goal=0.00
Y Scale Goal=0.00
Z Scale Goal=0.00
Extrude Length=0.00
Extrude Pitch Max=0.00
Extrude Heading Max=0.00

```

13. Now you have your own effect and the model already. I think you can see in FSX.



Hope this help you a little bit with taxi lights. You have your choices as I mentioned earlier. Sometimes, effect hurt fps so much so you might want only light texture. But this method will make a compromise between fps friendly and visibility range of the lights.

Enjoy Your Flight

Jirayu Tanabodee
jtanabodee@yahoo.com

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