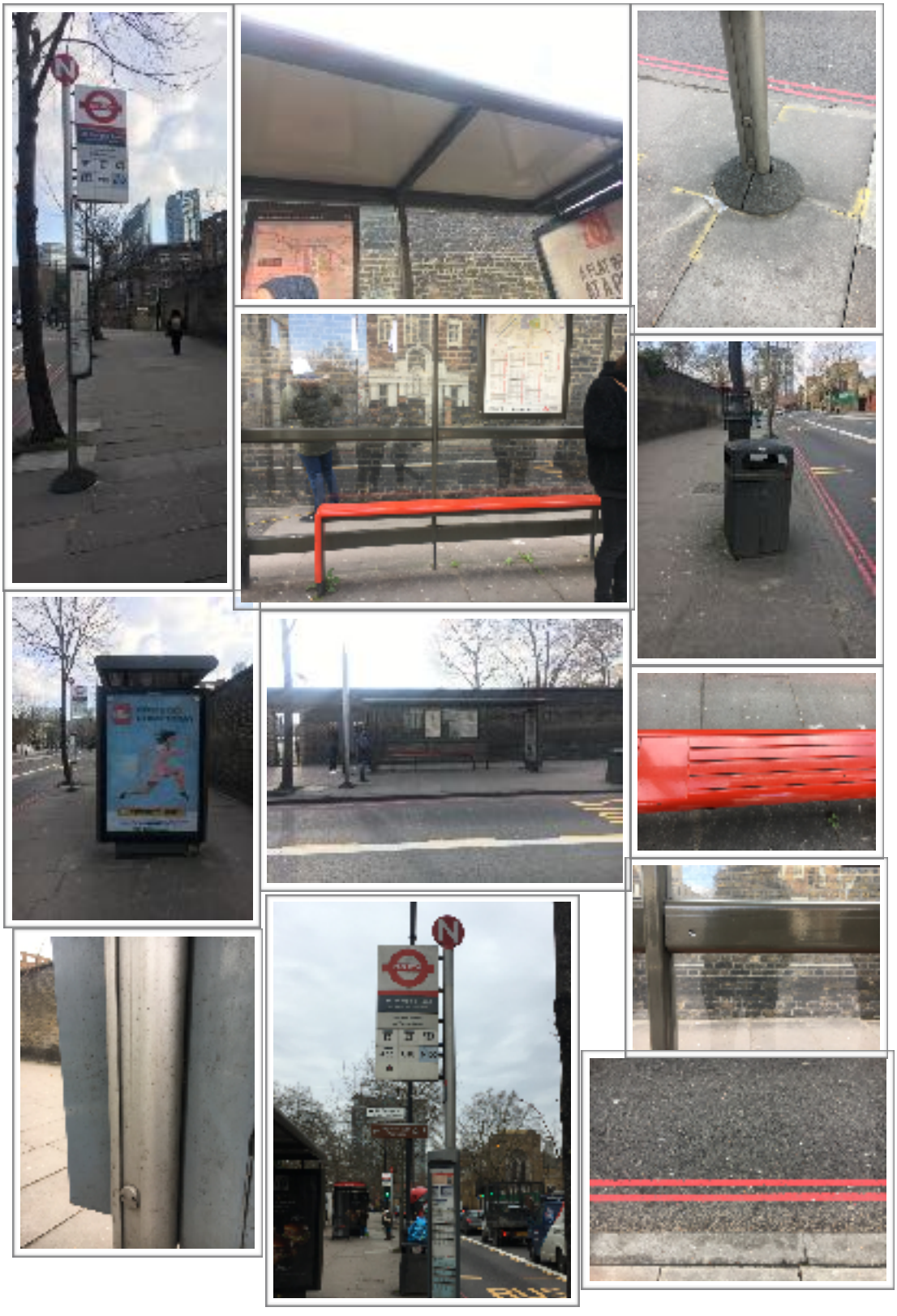
3DS Max Modelling
Bus Stop: Journal

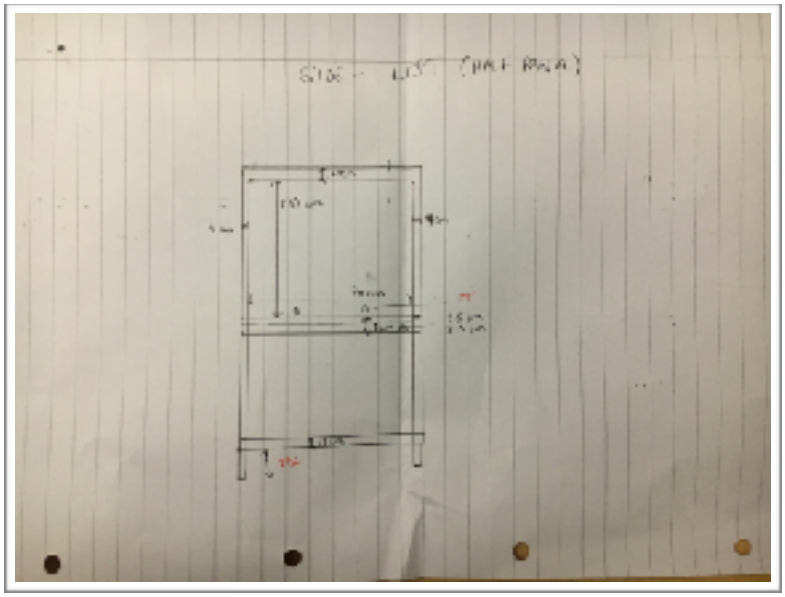
Contents

Bus Stop #1: Realistic

Step 1: References

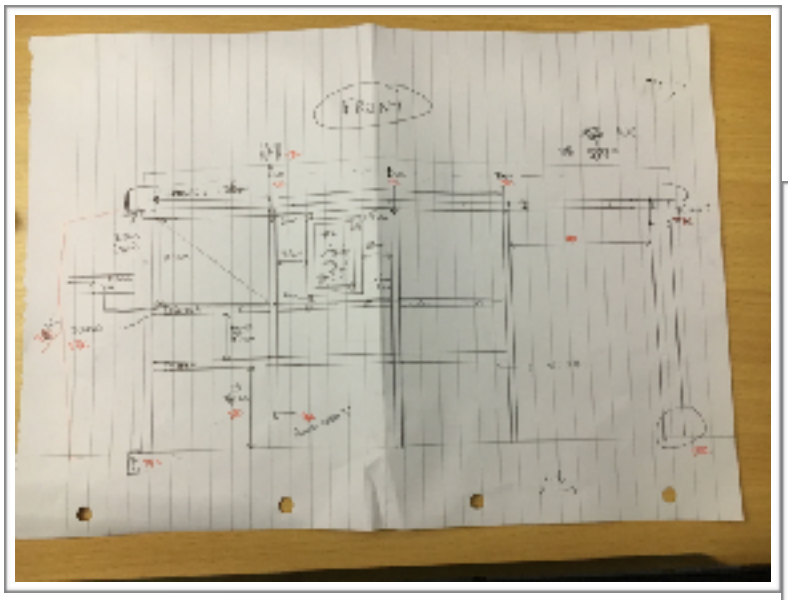
My first task was go to the bus stop to take pictures and measurements:





I recorded measurements on paper and also directly on phone pictures.

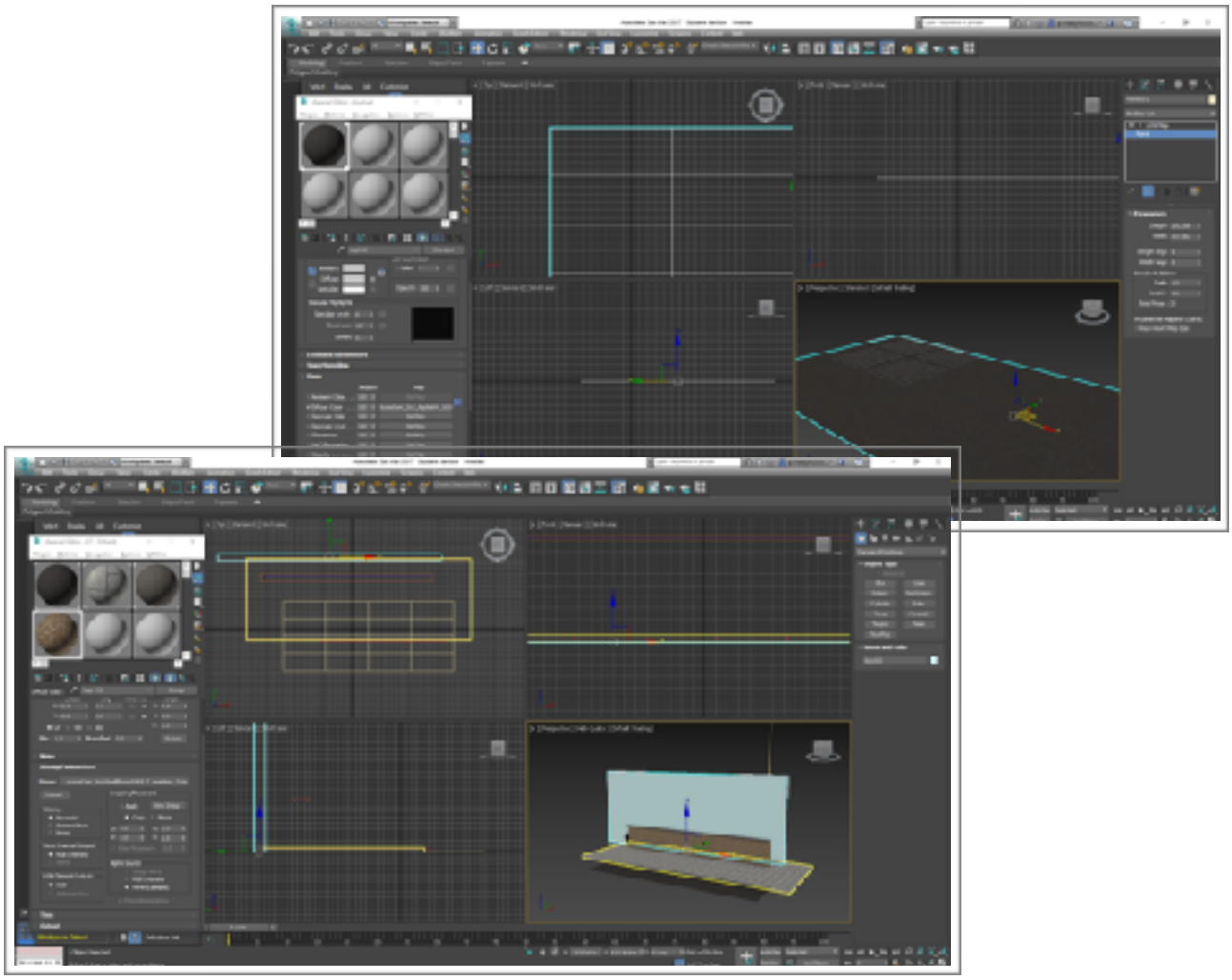
Unfortunately some measurements were impossible for me to get (height of the bust stop, height of the shelter, height of the bus sign, etc.) but I tried to measure anything that might be relevant. My goals were to get an idea of the overall scale of the bus shelter vs world space, and to have real-life measurements for model's main features (width of the bench bars, beams, glass panes, etc.).

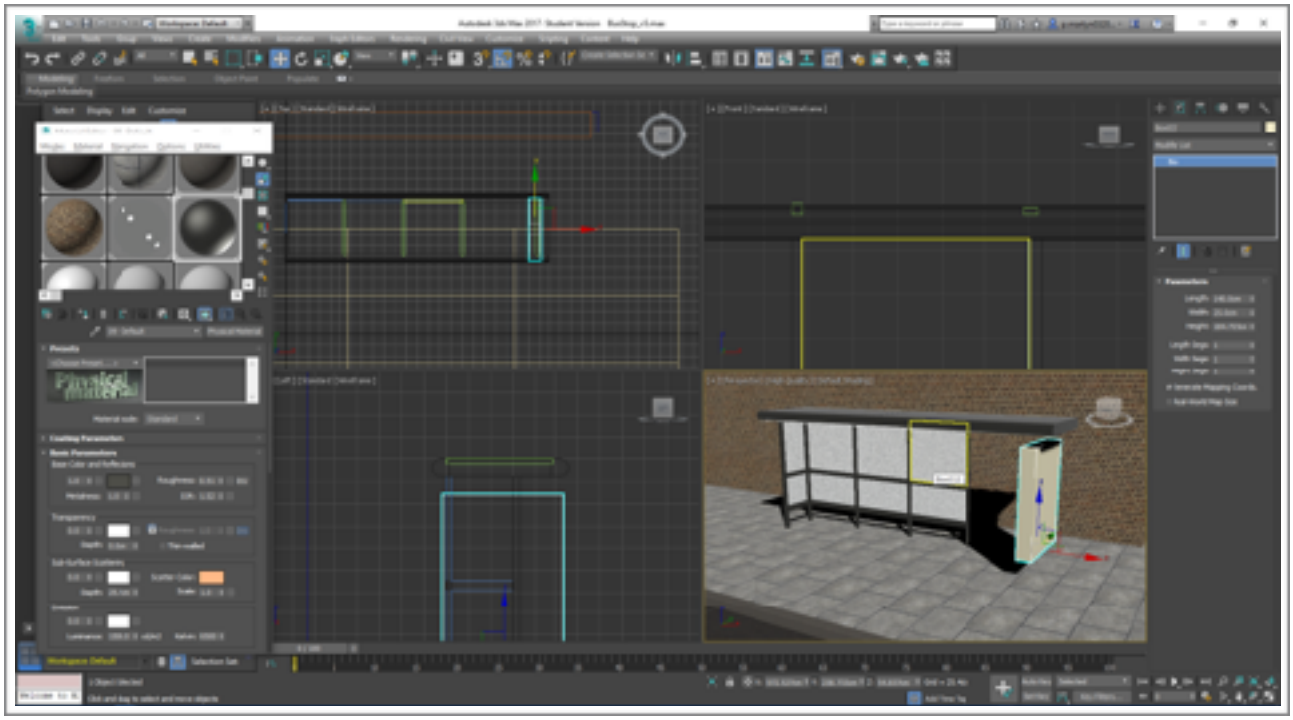


I went back a second time to check additional measurements and detailing, and to photograph the up-to-date adverts.

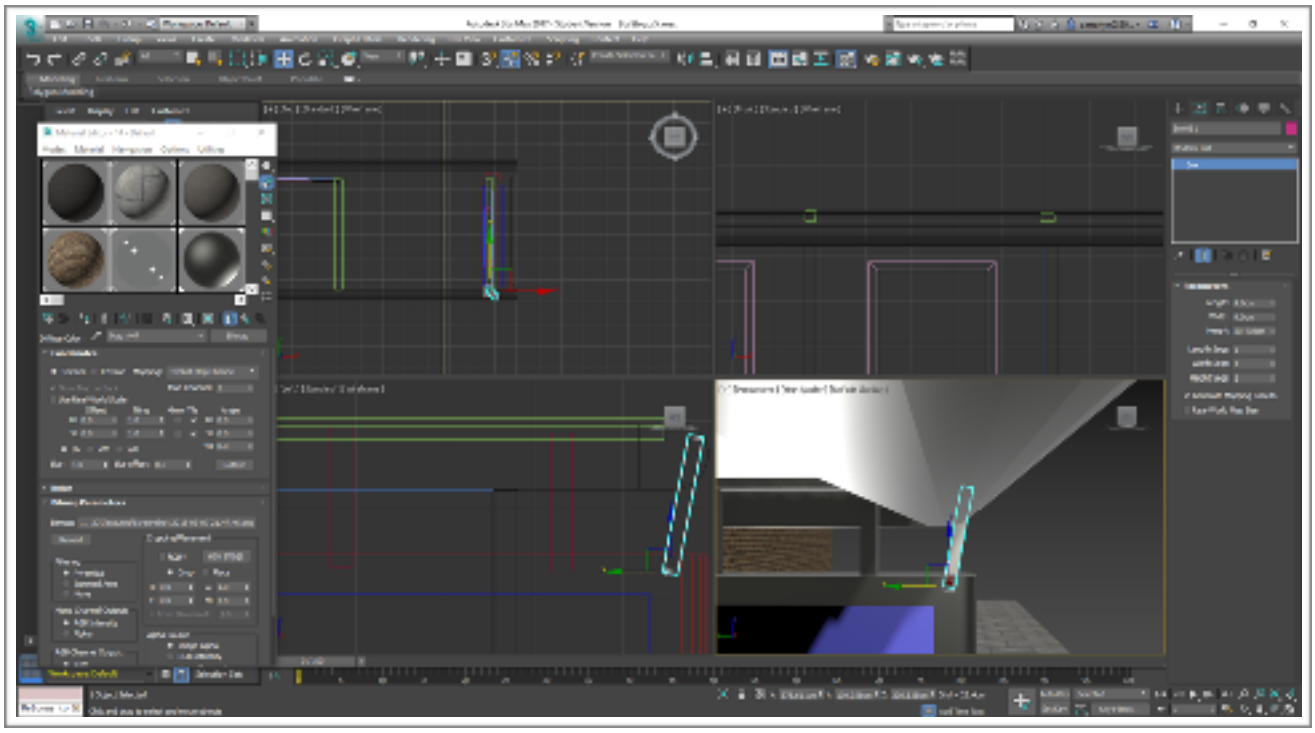
Step 2: Bus Shelter

Once I had the measurements, I started building the bus shelter in 3DS Max. To help with scale, I changed units to centimetres and input my measurements directly into 3DS Max to create or rescale objects.

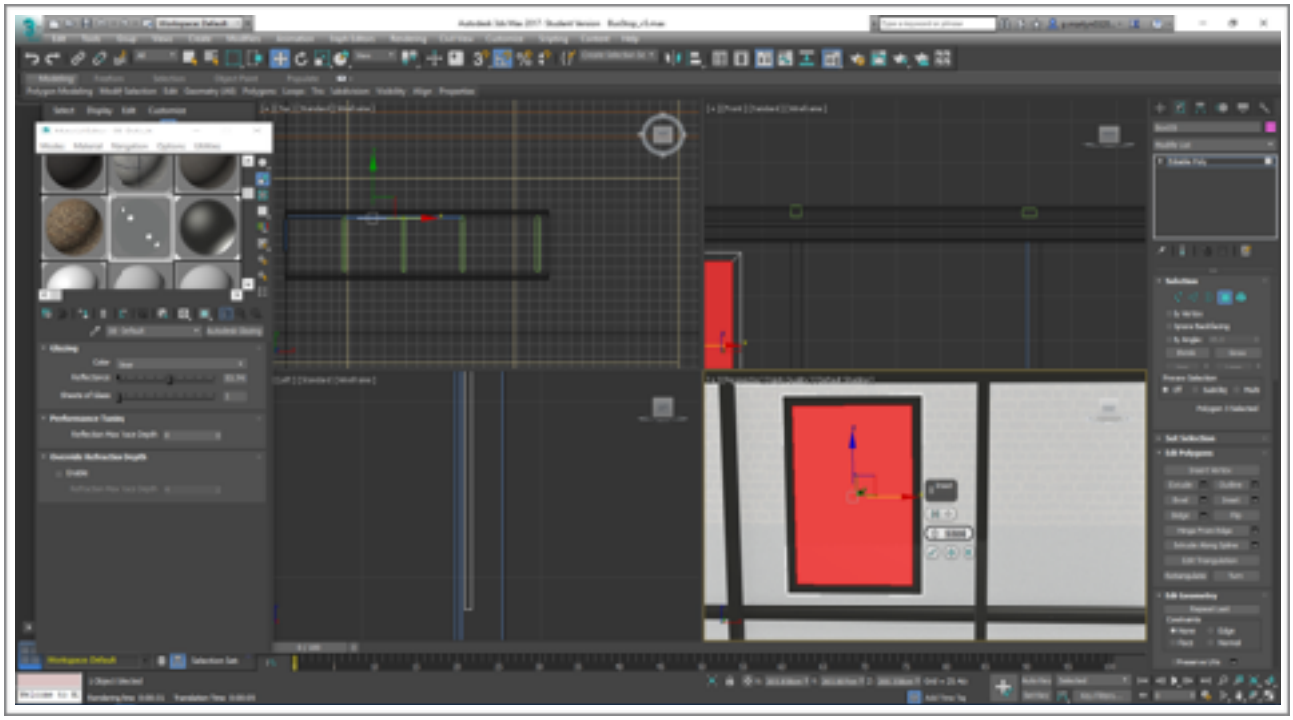




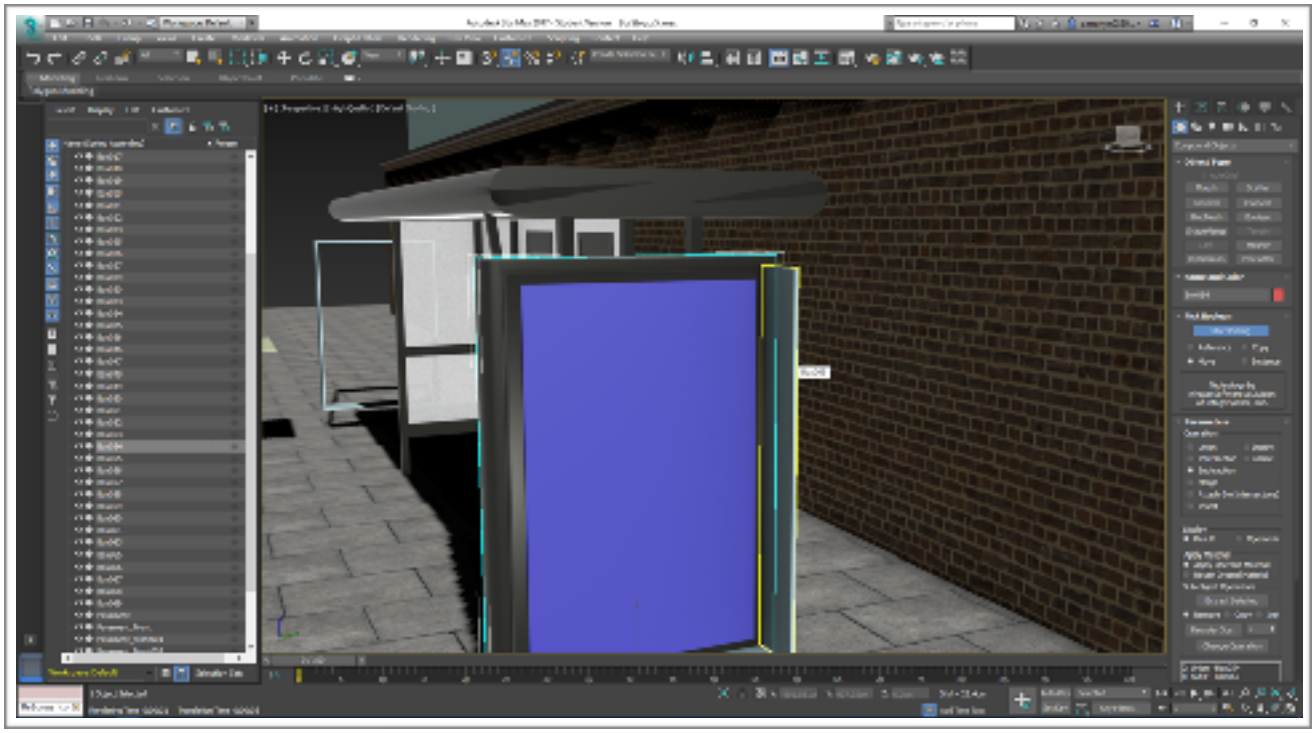
I then started detailing the shelter.
Ceiling:

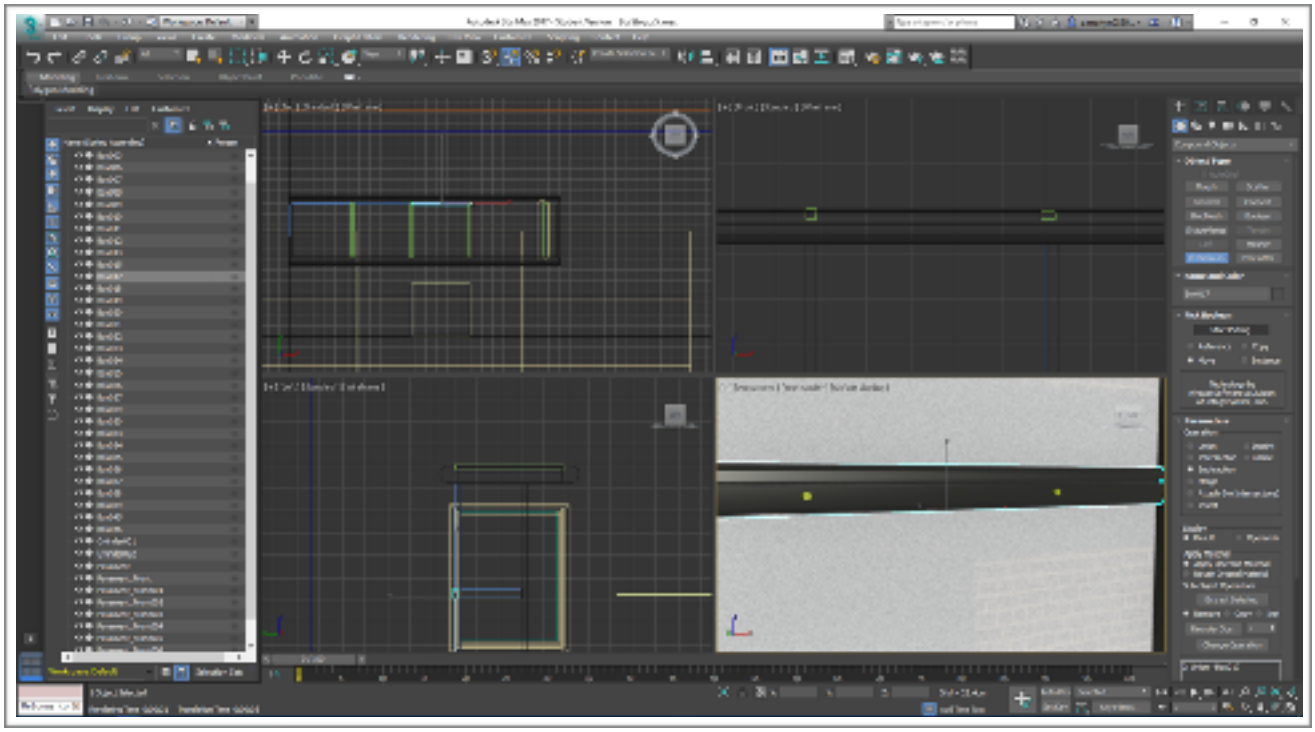


Poster frames and inset, created using real-life measurements:

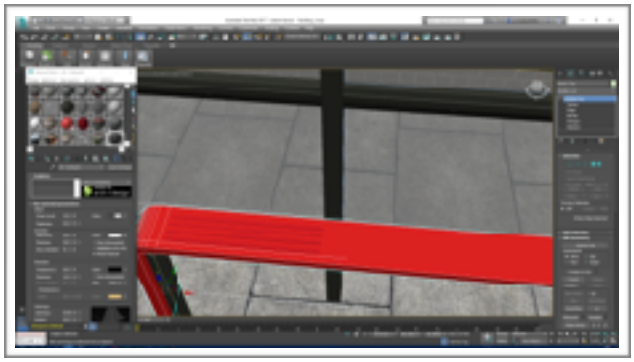


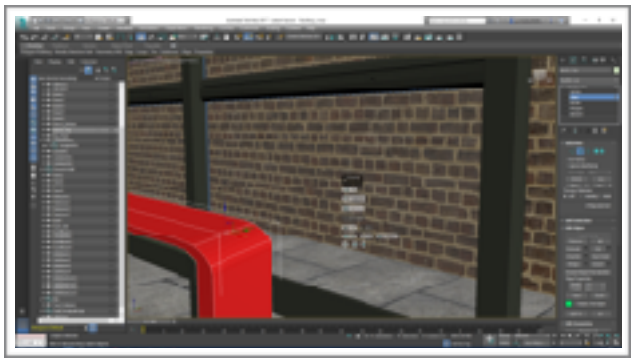
Chamfer and ProBoolean on the middle beams and advertising element:





Seat detailing:



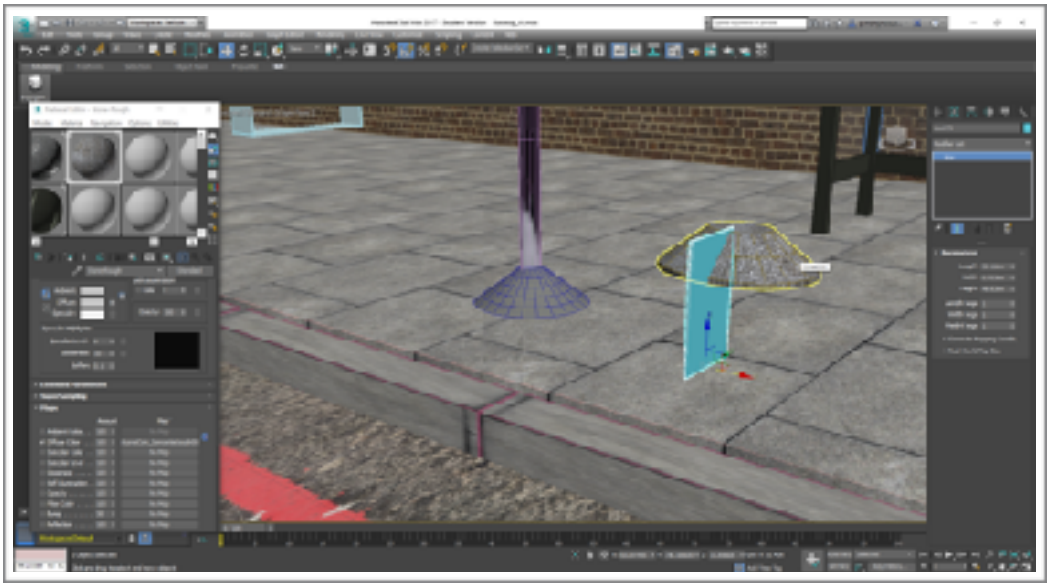


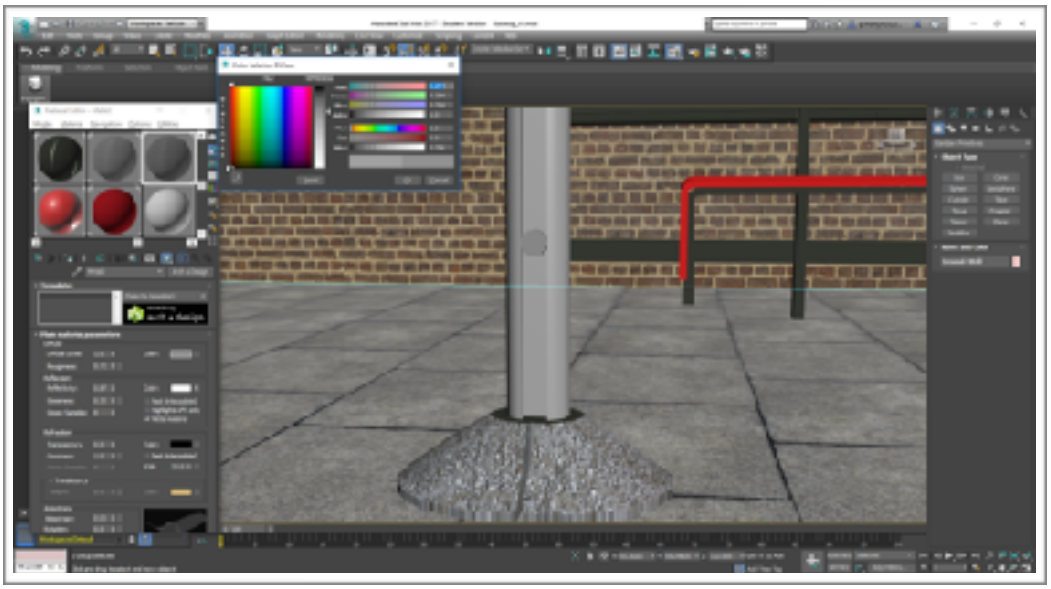
I also added the bus shelter adverts and tube maps in the poster frames, sourced from photos I took on-site:

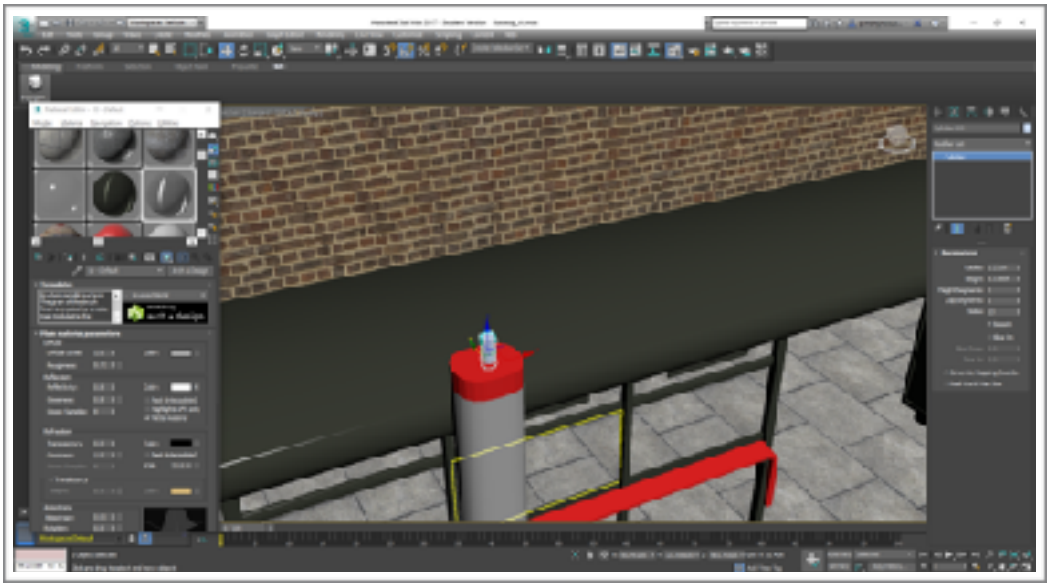
The colour of the bus shelter itself was challenging - it was not the dark grey I initially picked, but a dark green that was difficult to get right. I used colour picker on my reference pictures to get the closest possible match:

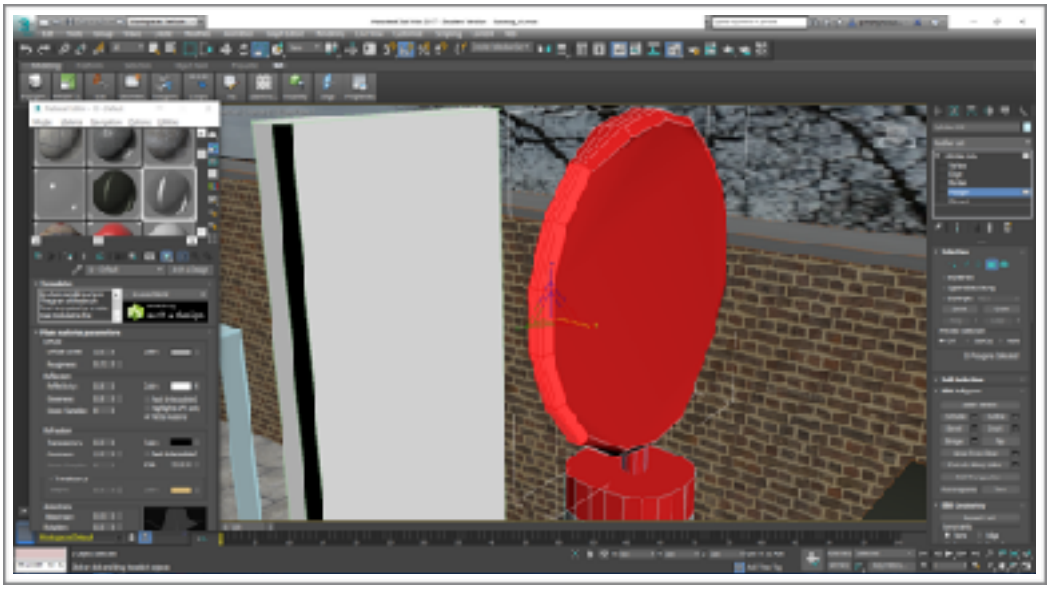
Step 3: Bus Stop

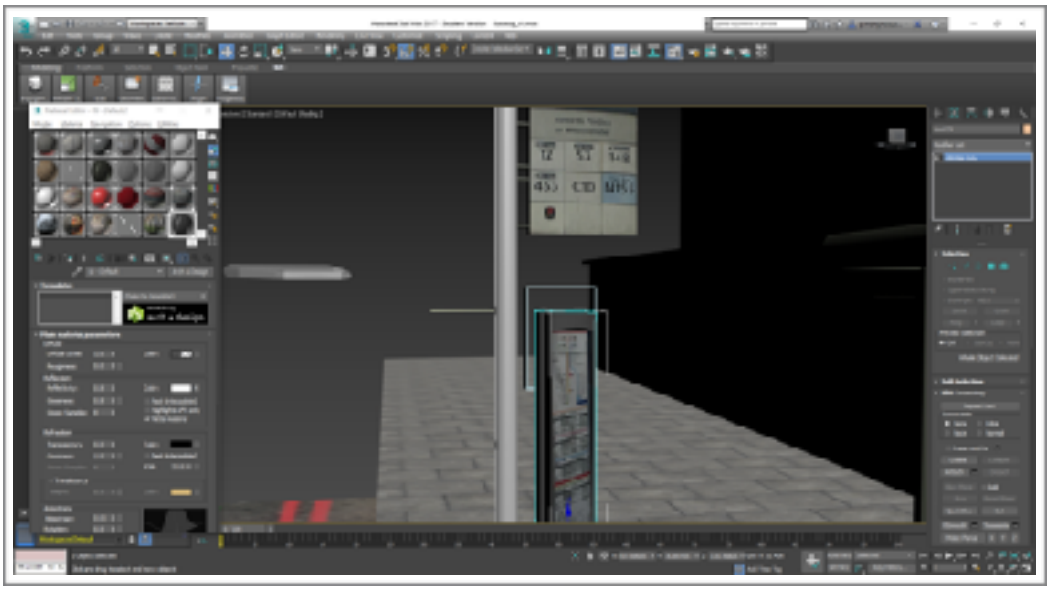
Next, I set out to build the bus stop itself. For the panels, I also used the reference pictures I took myself, and added them to the shapes as a texture.









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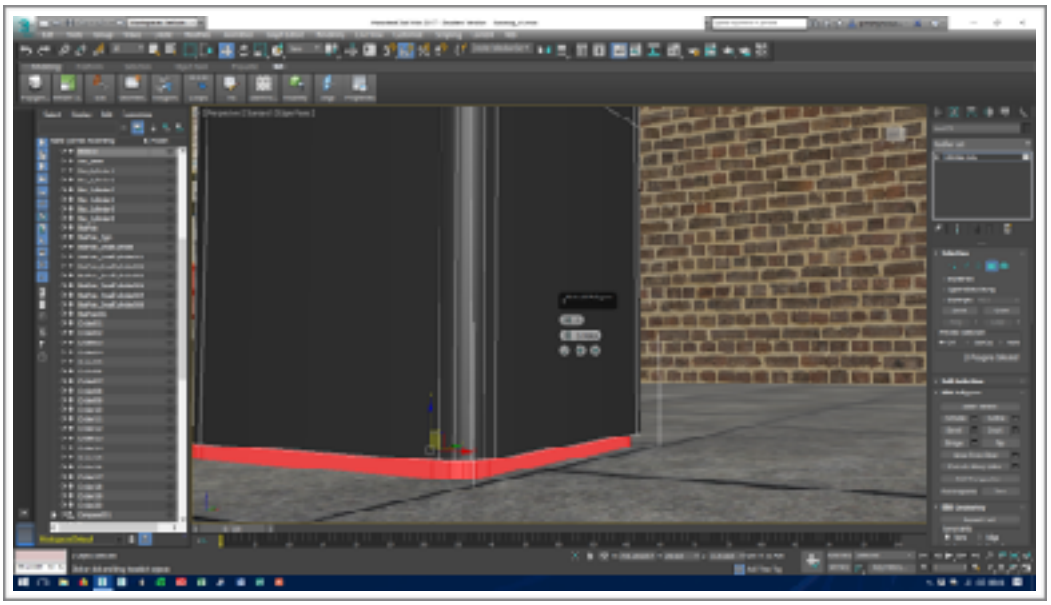
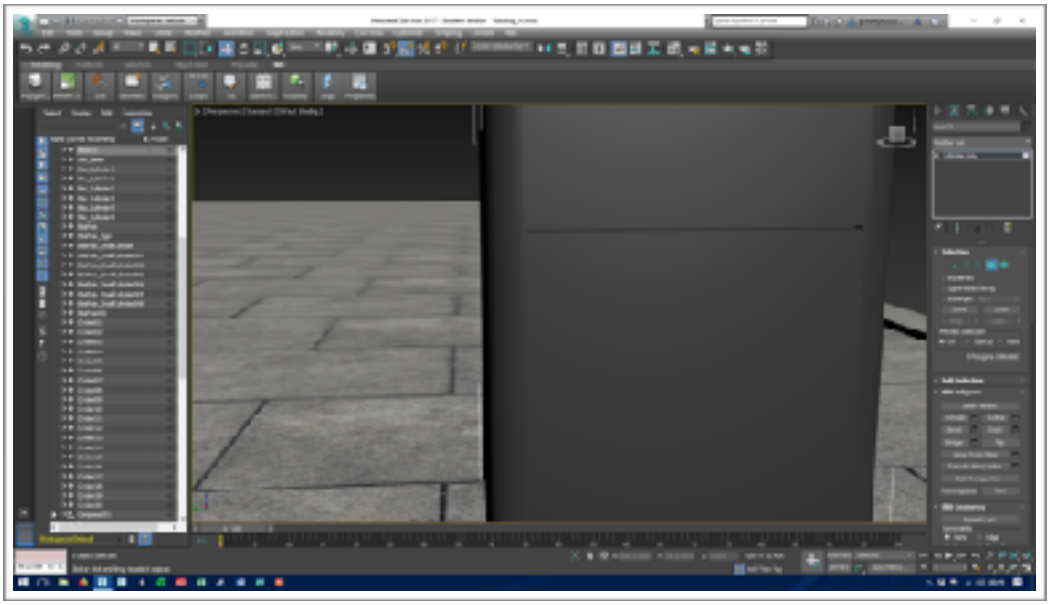
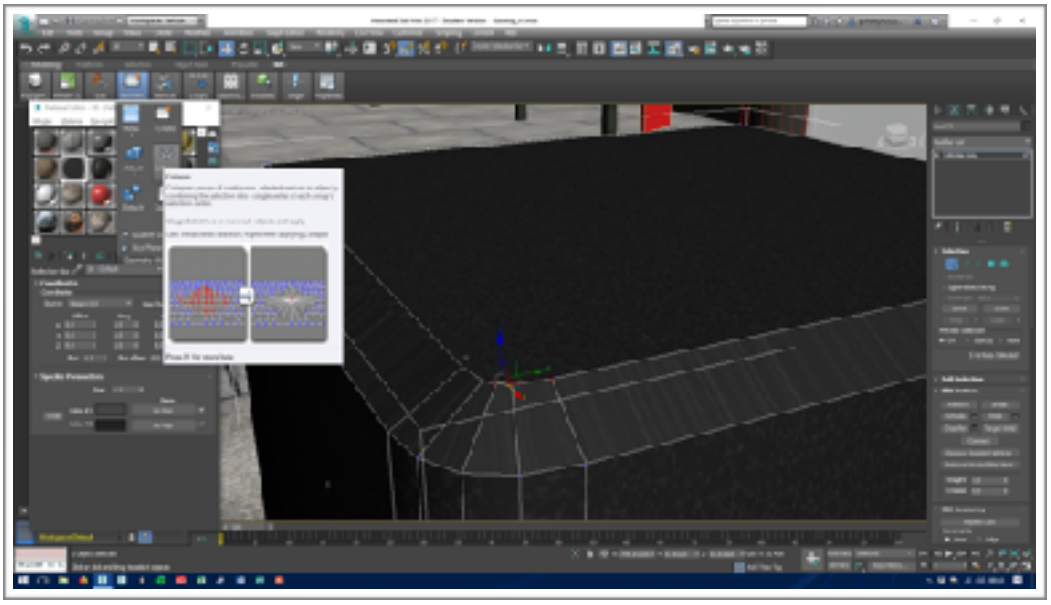
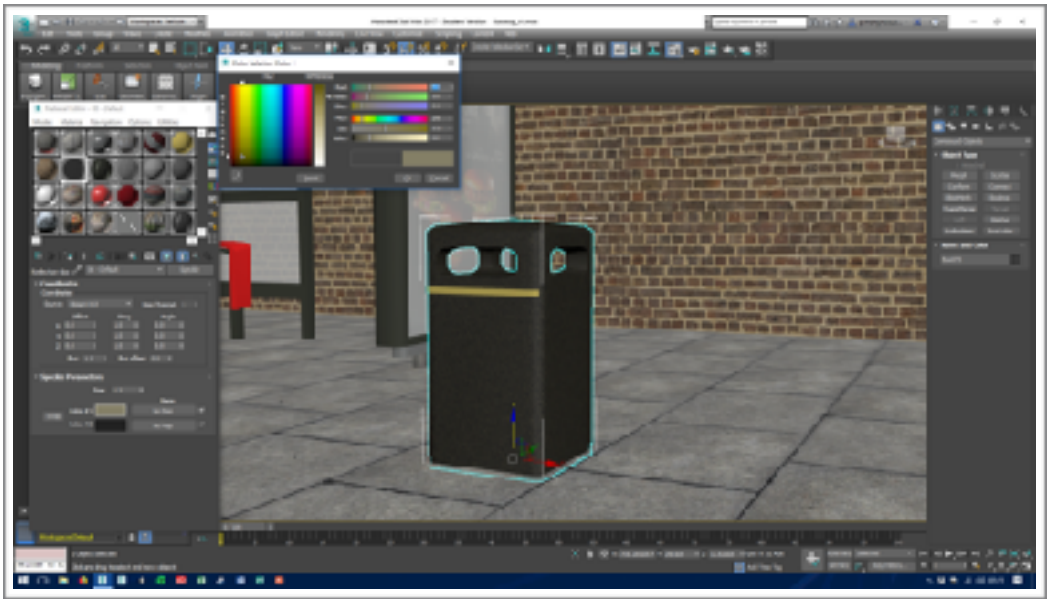
Step 4: Bin & Lamppost

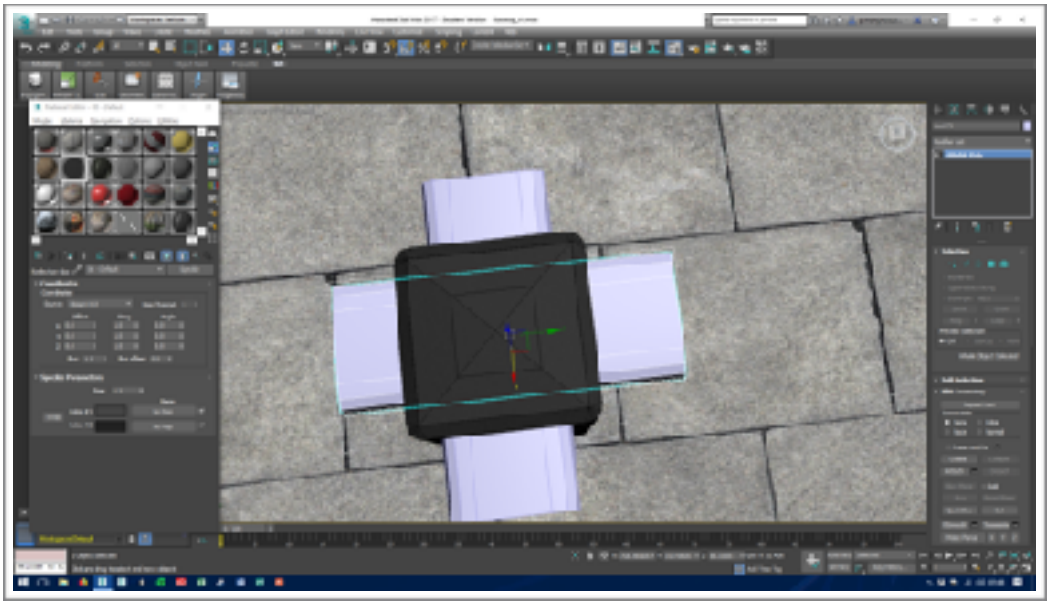
I then modelled the bin, using a box, chamfer/extrude and extra loops, and proBoolean:











The lamppost was modelled using lines and lathe. I did not model the top as it was significantly higher than the rest of the scene, and difficult to get reference pictures of; I chose to focus on other elements in the scene instead.

Step 5: Textures

For the textures I used a mix of:

- 3DS Max textures, especially Arch & Design Mental Ray textures and glass/brushed metal textures.

- My own images, for example for the sky and asphalt:

- Free textures available at textures.com:
  - Brick wall: https://www.textures.com/download/bricksmallbrown0469/116342?q=bricksmallbrown0469
  - Pavement: https://www.textures.com/download/floorsregular0204/21948?q=floorsregular0204
  - Rough concrete for the bus stop base: https://www.textures.com/download/concreterough0087/70476?q=concreterough0087

- Finally, for the metal gate placeholder image, I used a screenshot from Google Maps: https://www.google.co.uk/maps/@51.4966165,-0.1060731,3a,75y,213.34h,78.09t/data=!3m6!1e1!3m4!1swgGLI_-DbPyHUwv0HORlsQ!2e0!7i13312!8i6656

Step 6: Lighting and Render

For lighting, I used the 3DS Max Mental Ray Daylight system, using the coordinates for London. I set the date to March 15th (time: 2pm) to match lighting from the reference pictures and as a nod to the due date of the assignment.

Bus Stop #2: Snowmageddon

Brief: Take this model and modify it to represent the passing of some natural or man-made disaster.
Response: influenced by late February 2018's horrendous snowy weather, I chose a setting involving snow overwhelming London; the snow and cold would cover, rust, and damage bus stop elements.

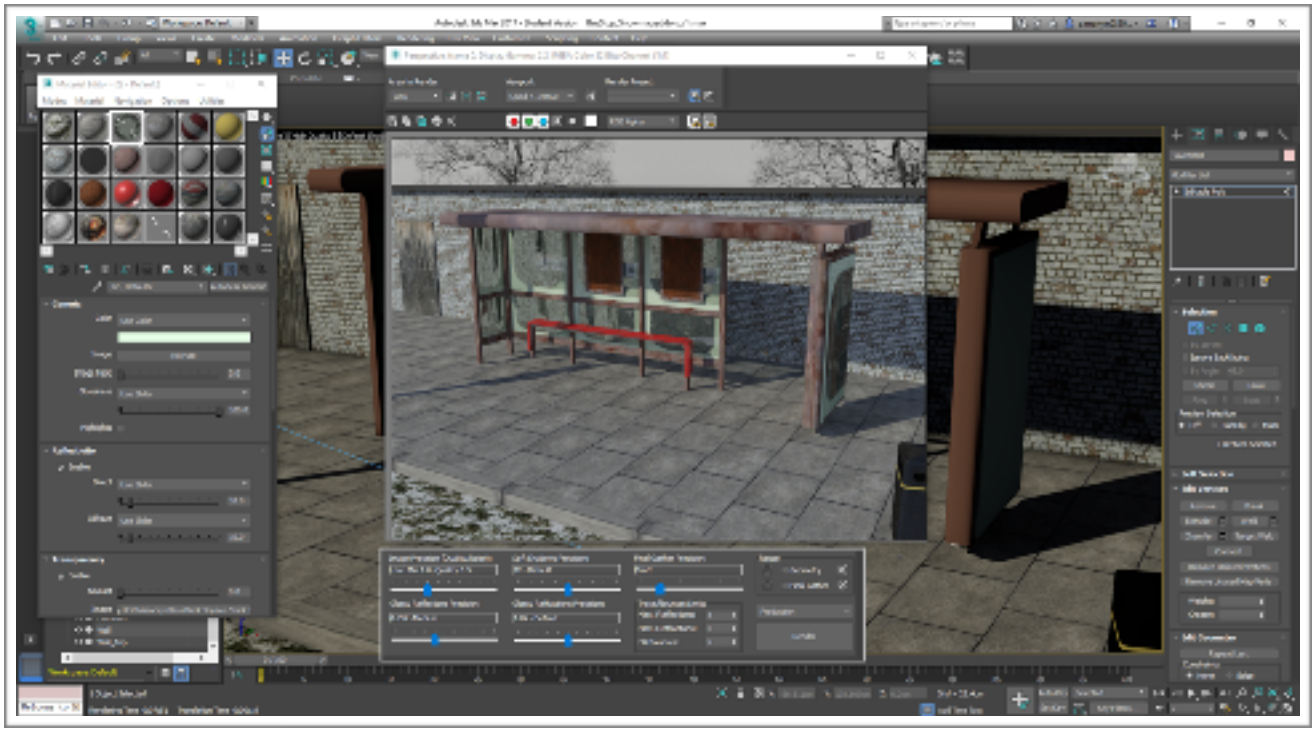
Step 1: New Textures & Light

To start on the snowmageddon version of the bus stop, I copied my realistic bus stop file, and started sourcing and applying new textures and images:

- Snowy background: photography by Martin Bailey (https://www.martinbaileyphotography.com/hokkaido-winter-landscape-photography-adventure/)
- White wall texture: https://www.textures.com/download/bricksmallpainted0037/6423?q=white+bricks
- Rusty metal (advert panes): https://www.textures.com/download/substance0053/128207?q=rusty+metal
- Washed-out wood (boarded-up door): https://www.textures.com/download/woodplanksdirty0173/114180?q=WoodPlanksDirty0173

(all others from 3DS Max)

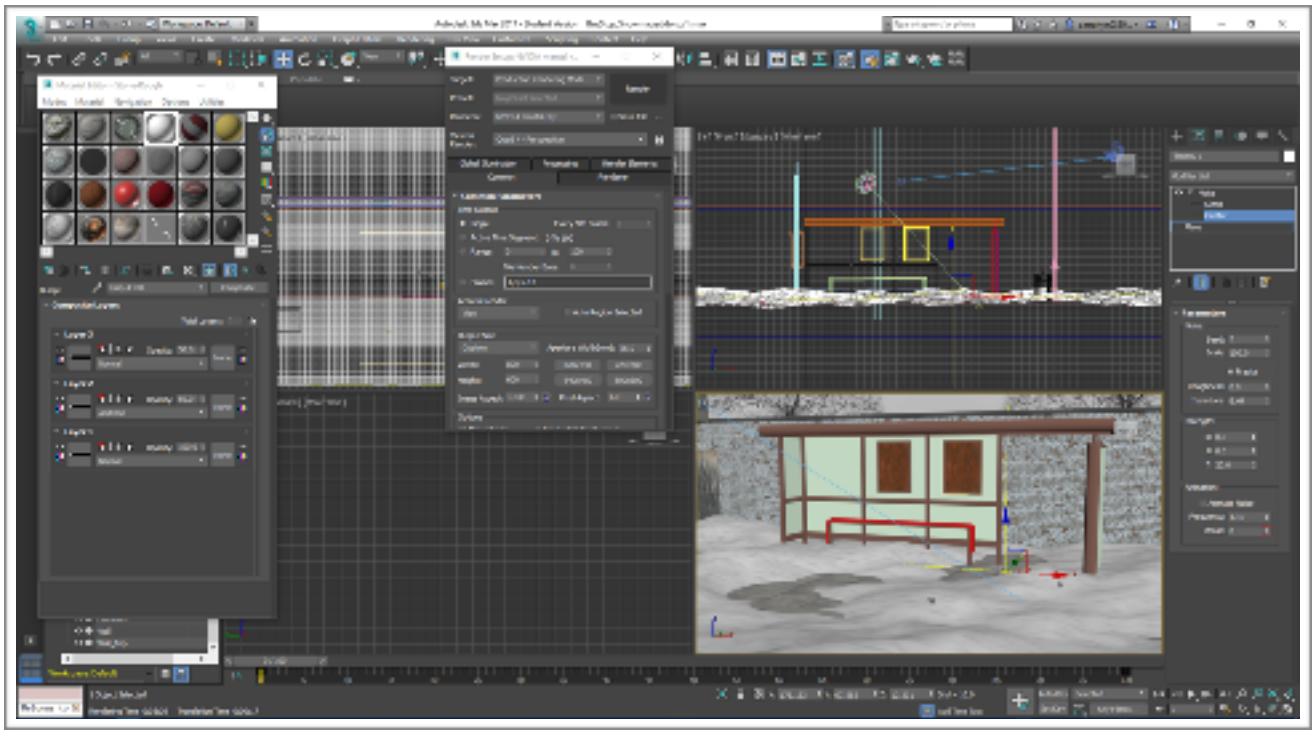
I also changed the texture of the glass (glass blocks) and of the lamp and bus pole (anodised aluminium) to replicate wear and tear and paint stripping due to adverse weather.



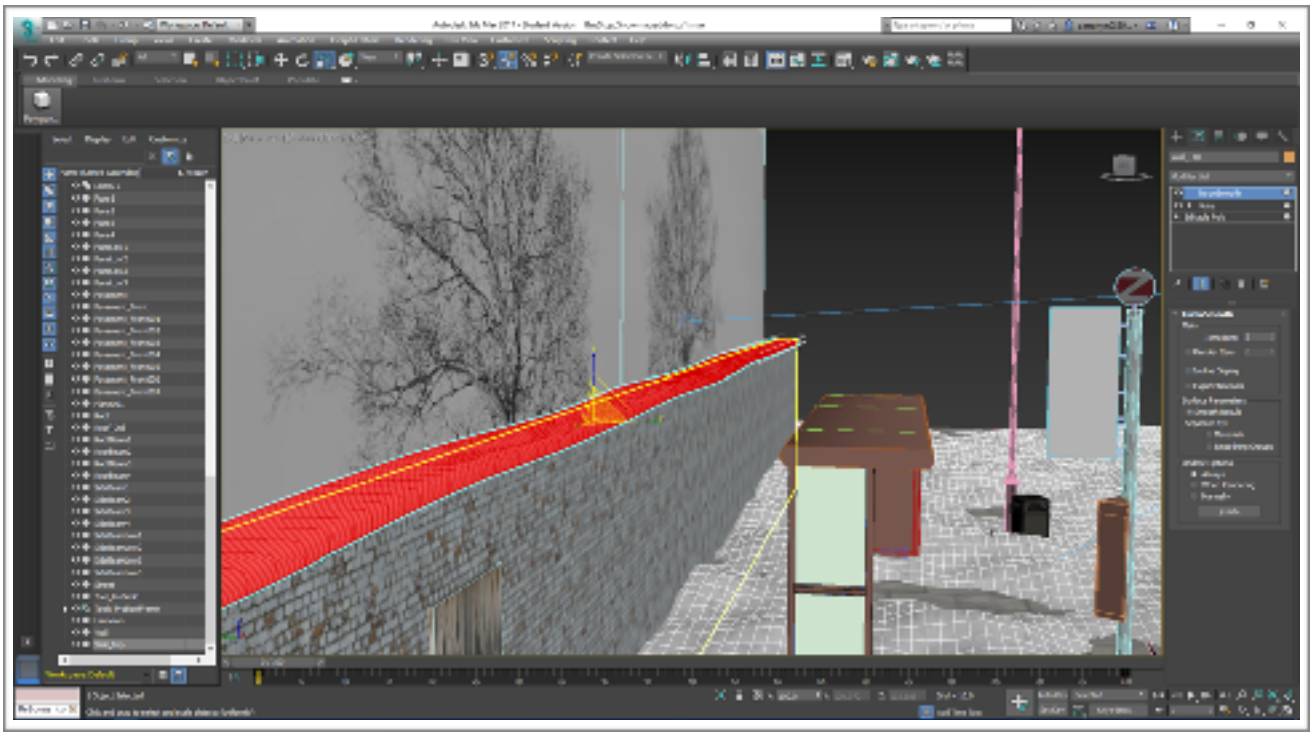
Finally, I changed the Mental Ray Daylight setting to partly cloudy and to an arbitrary northern location (Yellownife, Canada) to get a different feel in the scene.

Step 2: Snow

I wanted to make snow to cover the ground; I was not sure how to create this so followed this tutorial: https://www.youtube.com/watch?v=m0Y3rNOdqGo

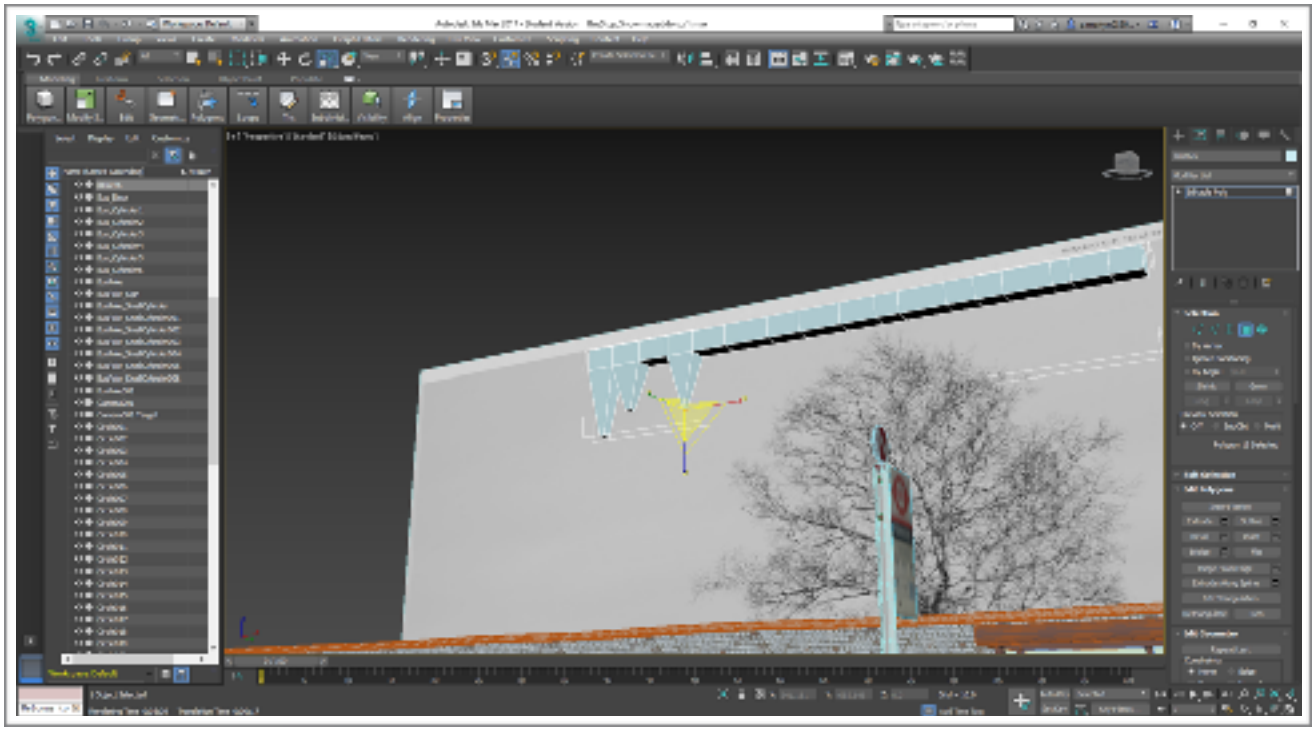


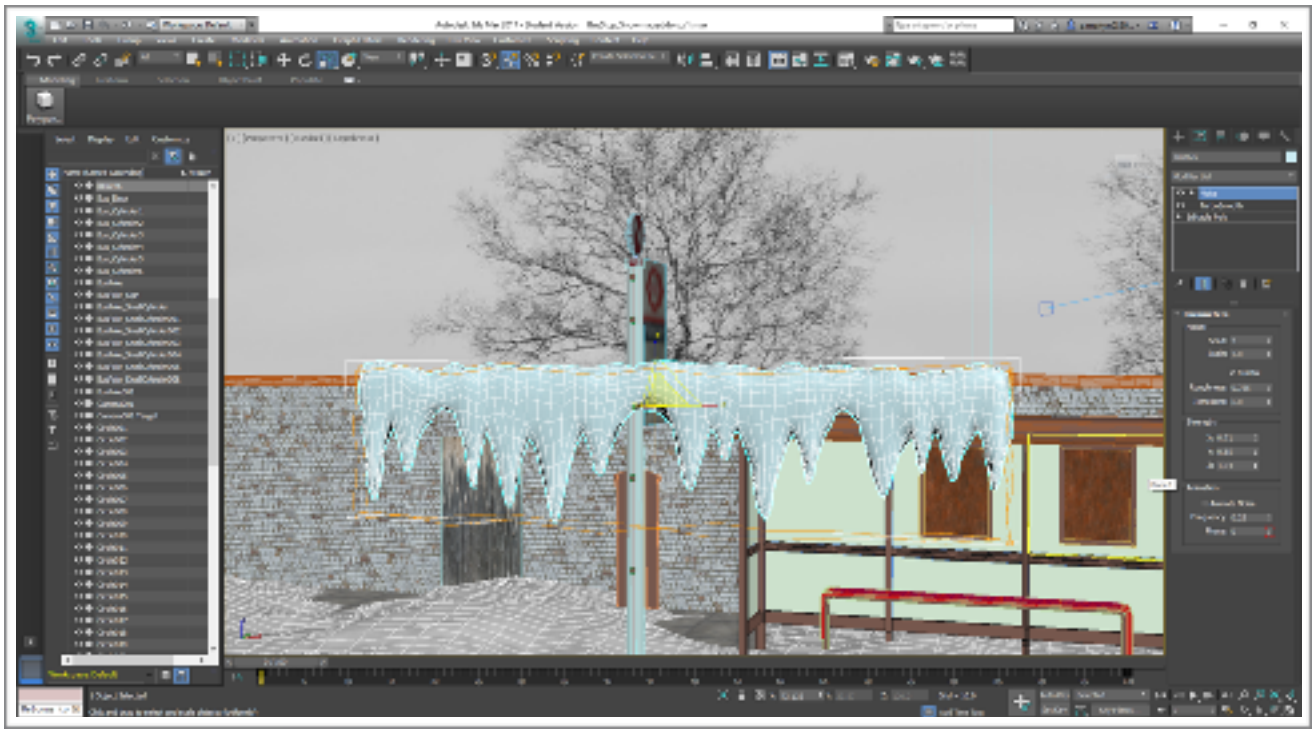
Using Noise, TurboSmooth, and the snow texture, I also changed the top of the wall:



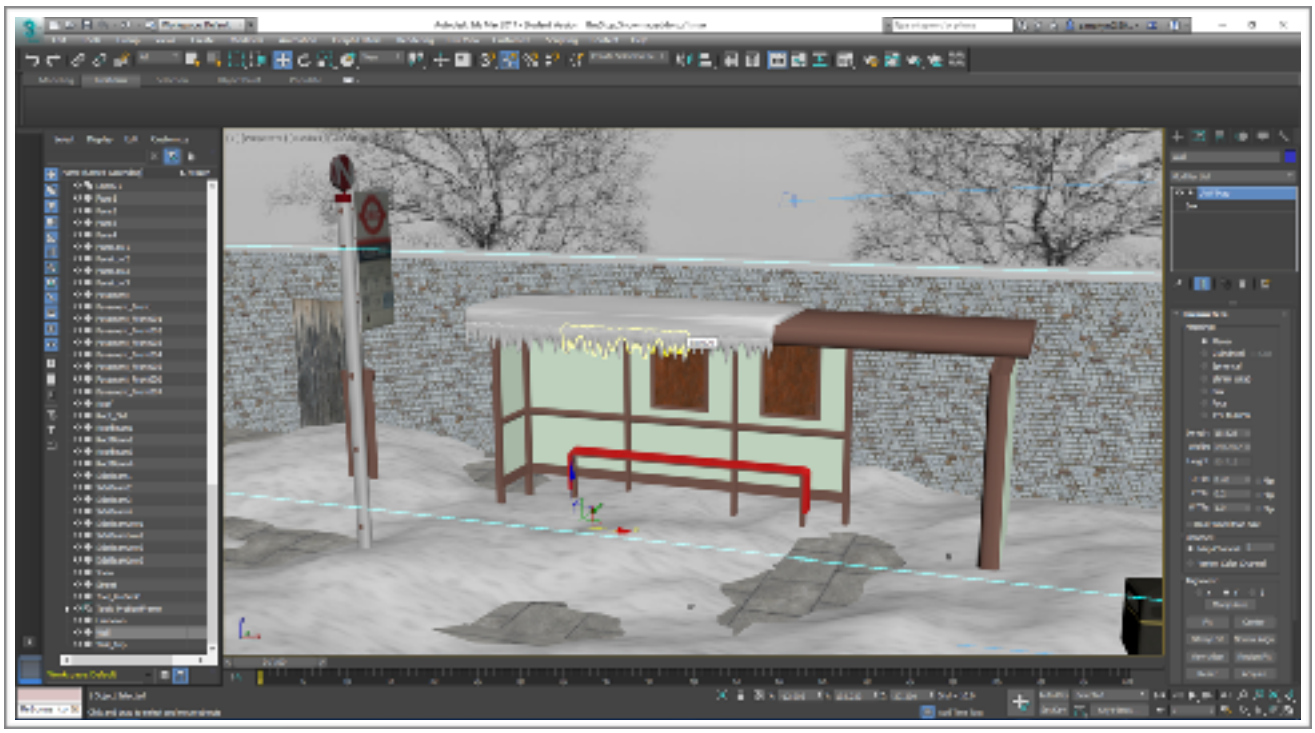
I also used this technique on the lamp post to make it look damaged and uneven.

To complete the cold effect, I created icicles, inspired by an online winter scene description (https://evermotion.org/tutorials/show/9061/making-of-winter-scene)



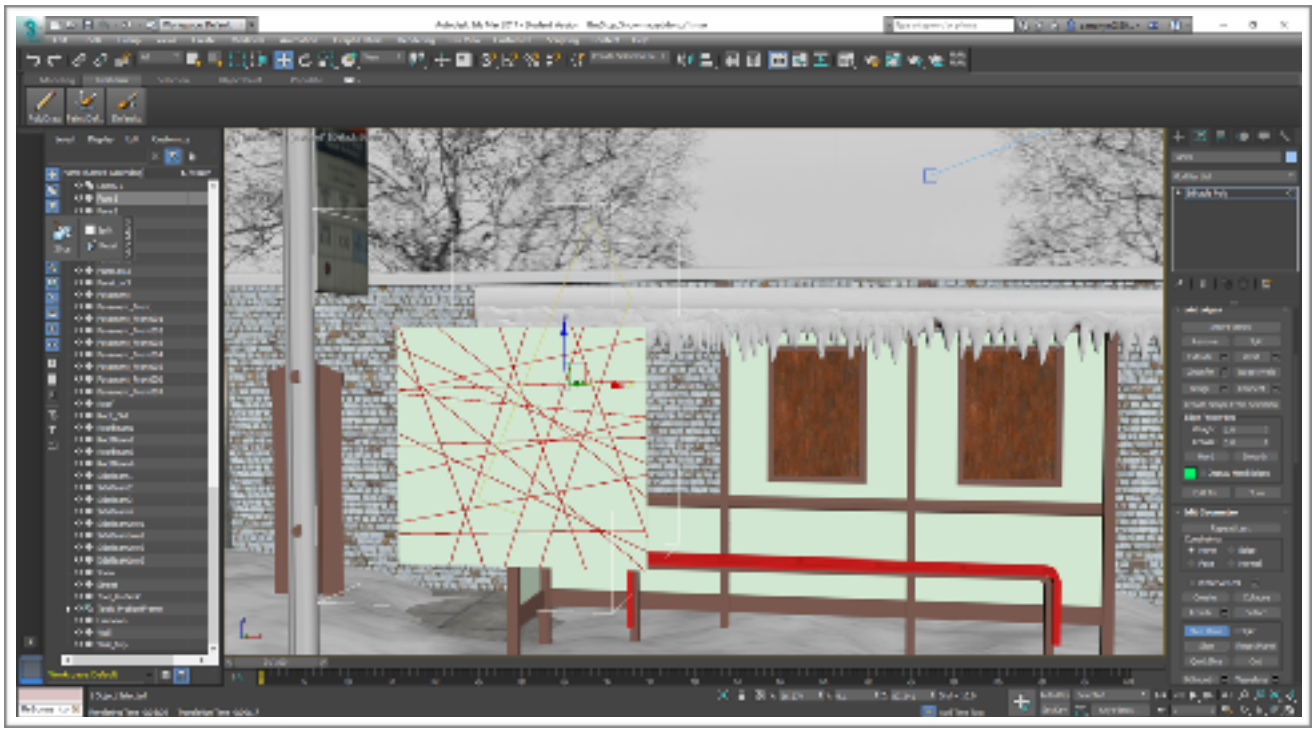


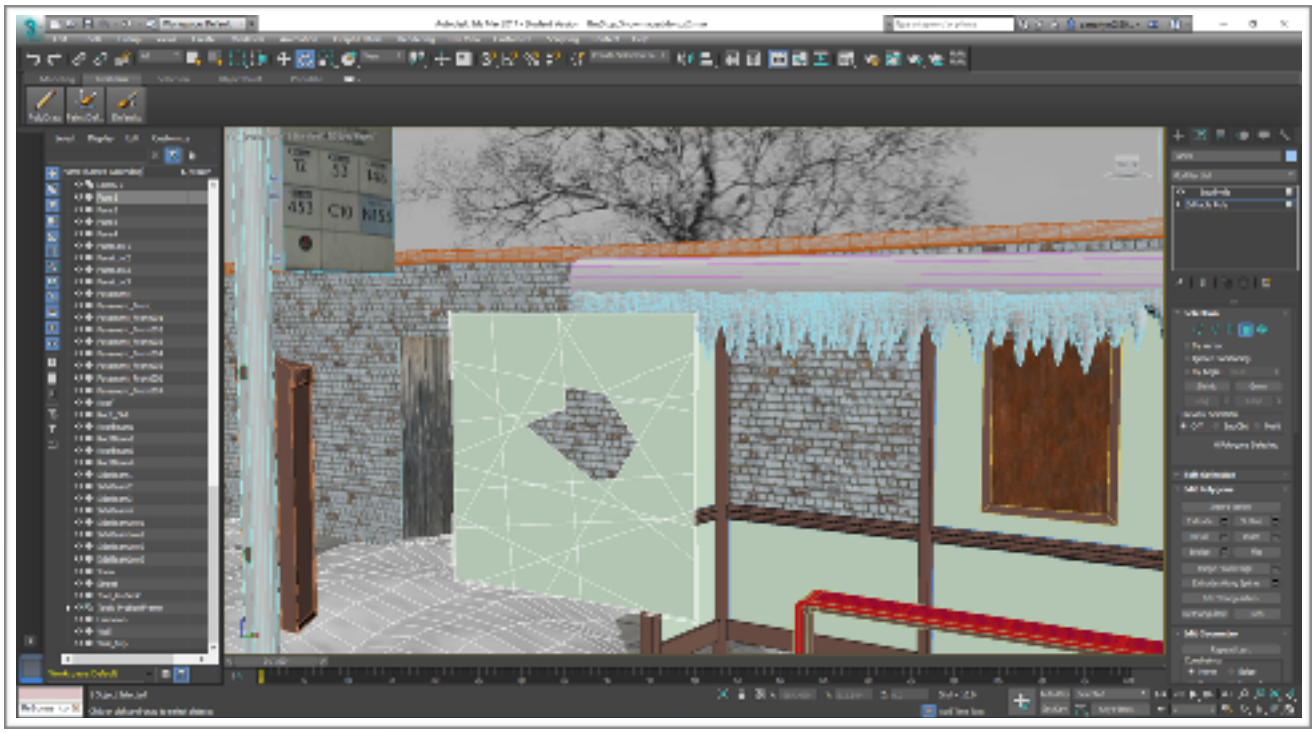
Once the icicles were in place, I instantiated several copies to make them look more dense and added an ice roof to the bus shelter, to which they are attached.



Step 3: Broken Glass

To add more damage, I broke one of the window panes by slicing it, and then removing some polygons:

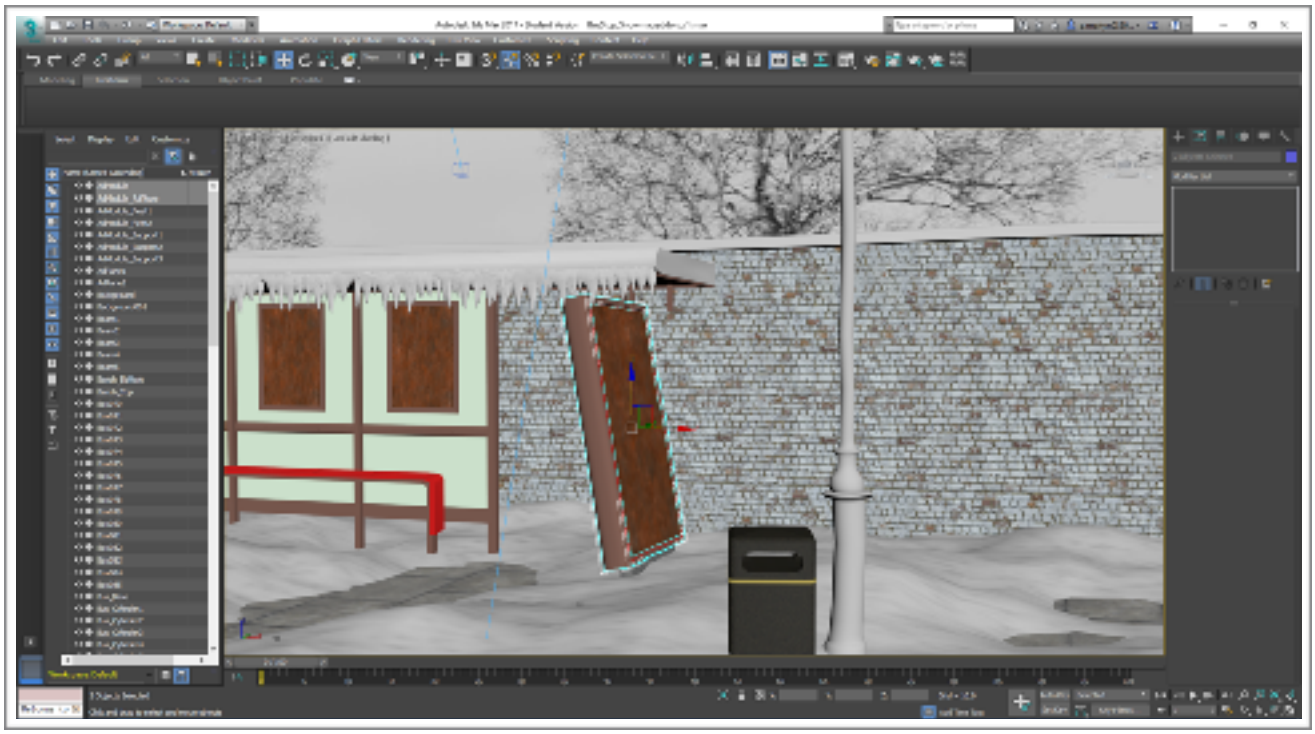




Step 4: Displacing Objects

As a finishing touch, I made a number of modifications to the objects in the scene:

- Breaking off the lamppost and toppling the bin
- On the bus shelter, making the advertising panel lean and the roof droop as a result
- Dulling the material of the bus shelter bench (more matte, colour less saturated) and making it sink into the ground
- On the bus stop, detaching the “N” sign and the bus numbers sign and placing them on the scene; making the bus shelter itself lean forward



Finally, I set-up the camera to ensure everything was captured, and rendered the scene.