Roads & Traffic Setup

Release version 1.0 (2007-11-09)

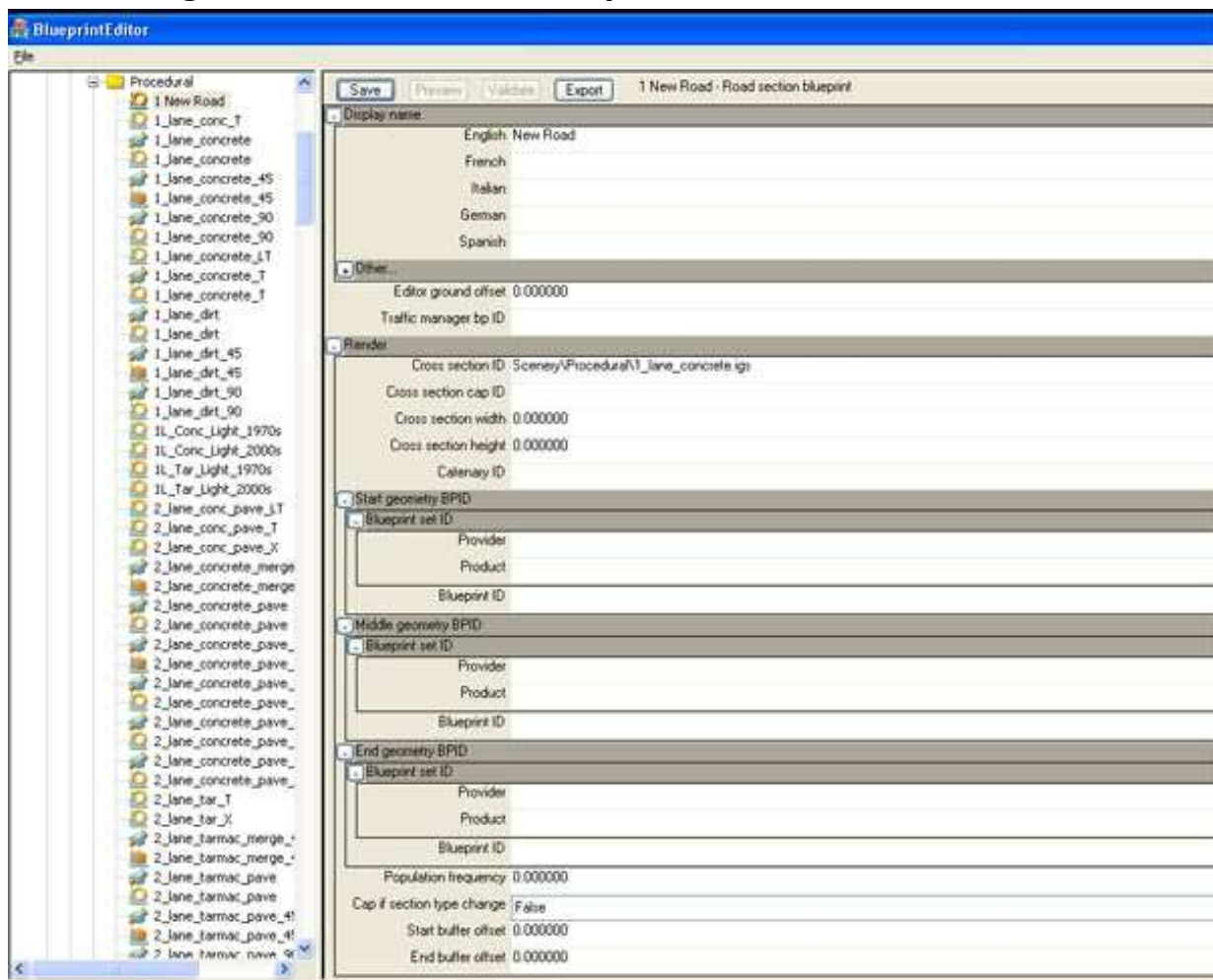# 1 Road Section Blueprints

1.1 Road Section Naming

The xml and display names should reflect both the type of road and what type of traffic (if any) it has on it; but ultimately any naming convention is the choice of the user.

Eg, XML: 1L_Tar_Light_2000s
Display Name: Road 1L Tar Lgt 2000's

1.2 Creating a New Road Section Blueprint

1. Run the Asset Editor and navigate to scenery\procedural (this is where roads will live)
2. Right click the Procedural folder icon and select "New Blueprint"
3. Select "Road section blueprint" and press OK
4. Rename the file to something sensible

5. Enter a display name that is short and sensible (Here, it is called New Road)
6. Right click a road IGS file (the blue cube icon) in the left browser pane that you want to create a variant of and select "copy filename", paste this into "Cross section ID". This is the cross section texture that will be used, defining the look of the road.

That is your basic new template, which has a display name and has been told what road cross section it is drawing. This can now be exported. After a successful export this road (New Road in our example) is now available in the Linear Object Tool tab of the World Editor.
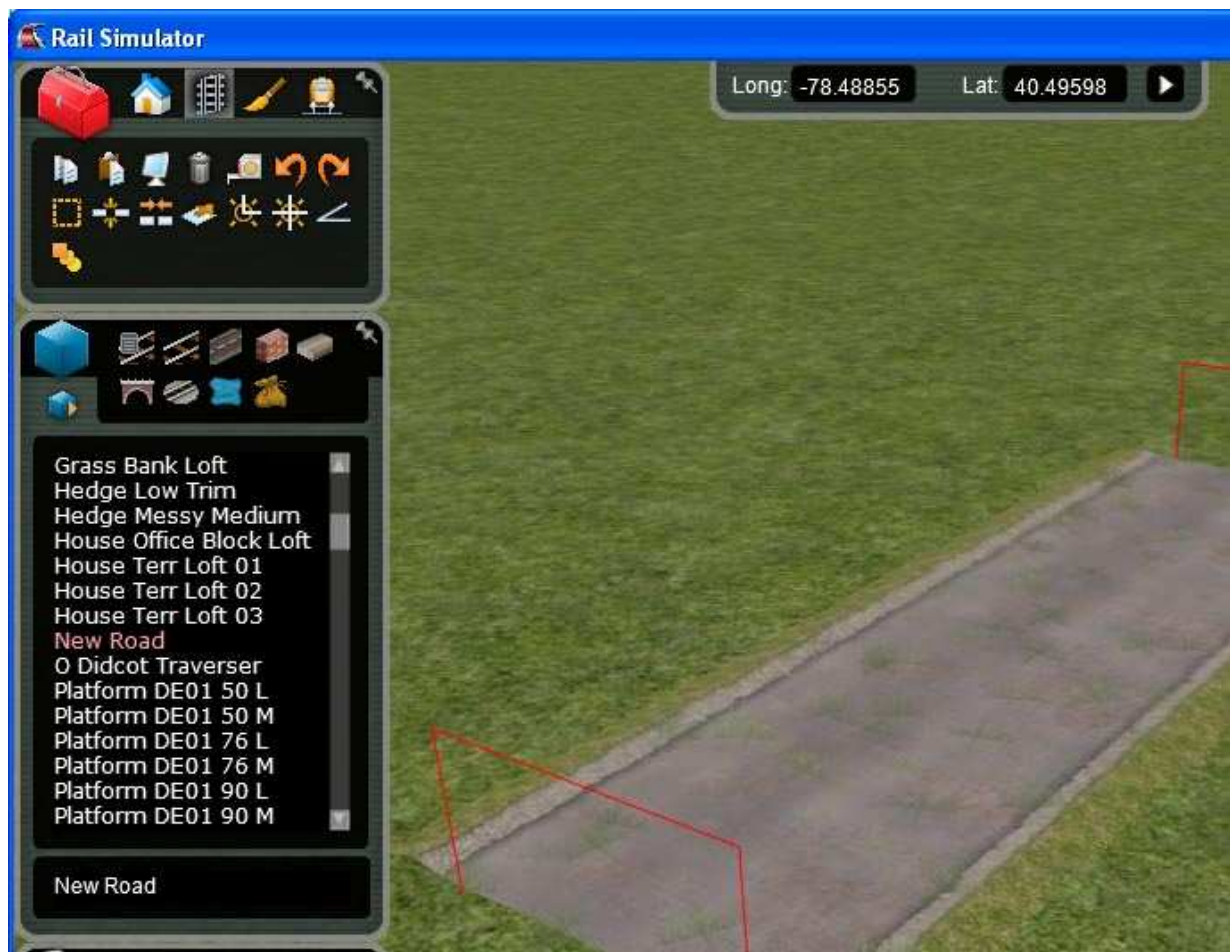
1.3 Adding Lamp Posts

To add an object, such as lamp posts, at regular intervals along its length you need to edit the Start geometry ID, Middle geometry ID and End geometry ID and frequency fields. In the three geometry ID fields you paste in the reference to the lamp post shape igs file which can be got by right clicking on the lamp post in the left pane and copying the file name. This will tell the game to place a lamp post at the start of the road, at the end of the road and along the length of the road at X

metre intervals. The interval between lamp posts is specified in metres in the Population Frequency field.

Any shape can be added along its length in this way. If you want a shape to just be displayed at each end, just fill in the start and end fields. This is how buffers were set up to automatically be placed at the end of track.

1.4 Adding Traffic

Traffic behaviour is handled by a traffic manager blueprint, which is referenced in your road blueprint. Once the traffic manager blueprint has been made you can reference it by pasting the xml link into the "Traffic manager bp ID" field of the road blueprint.

2 Traffic Manager Blueprints

2.1 Creating a New Traffic Manager Blueprint

A traffic manager blueprint needs to be created for each type of traffic density and for each set of cars you want. The existing traffic manager blueprints are split between scenery\procedural and scenery\vehicles, but you can create them anywhere. In this example we will be creating the new blueprint in scenery\procedural.

1. Right click the Scenery\Procedural folder icon and select "New Blueprint"
2. Select "Traffic controller blueprint" and press OK
3. Rename the file to something sensible

Below is an example of a light traffic controller
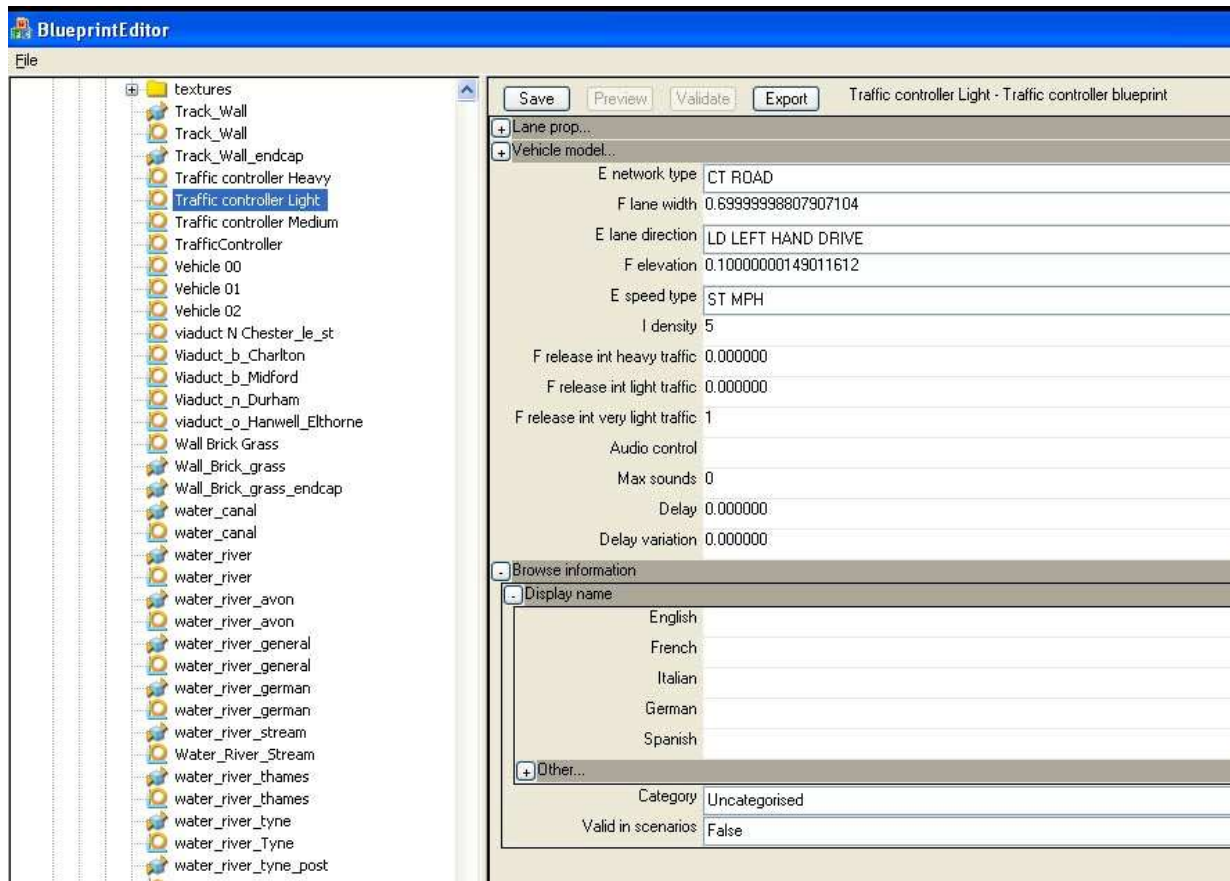
The fields are:

- E Network Type: Road / Air / Ship: Select "Road" for roads
- F Lane width: A value of 0.7 works for narrow roads. If the cars are not sitting in their lanes, tweak this value.

- E Lane Direction: Direction the cars drive. For UK routes select Left hand drive, for European and US routes pick Right.
- F Elevation: How high the road sits off the ground when it is laid. This should be set to 0 or 0.1 to avoid z fighting.
- E Speed type: The units in which the speed value is used. Either KPH or MPH.
- I Density: An arbitrary value for how often traffic will be spat out. High = more traffic.
- F Release XXXX: These three fields can be thought of as separate spawners. The number put in is how many cars are spat out (at a frequency decided on in "density").

Expanding the Lane Prop and Vehicle Model tabs you get more options:
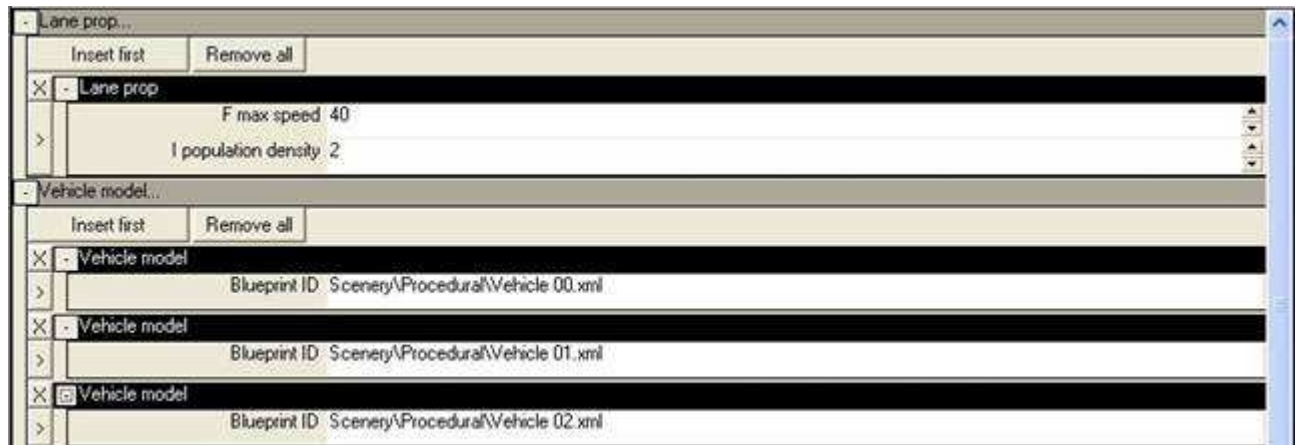
- F Max Speed: The maximum speed a car can travel on that lane
- I Population density: Another density value that is dependent on the lane. Higher numbers create denser traffic.
- Vehicle Model: Paste in the xml link to each vehicle blueprint which you need to make for each car.

3 Vehicle Property Blueprints

3.1 Creating a New Vehicle Property Blueprint

The existing vehicle property blueprints split between scenery\procedural and scenery\vehicles, but you can create them anywhere. In this example we will be creating the new blueprint in scenery\vehicles.

1. Right click the Vehicles folder icon and select "New Blueprint"
2. Select "Vehicle prop blueprint" and press OK
3. Rename the file to something sensible

Below is an example of a Vehicle property blueprint.
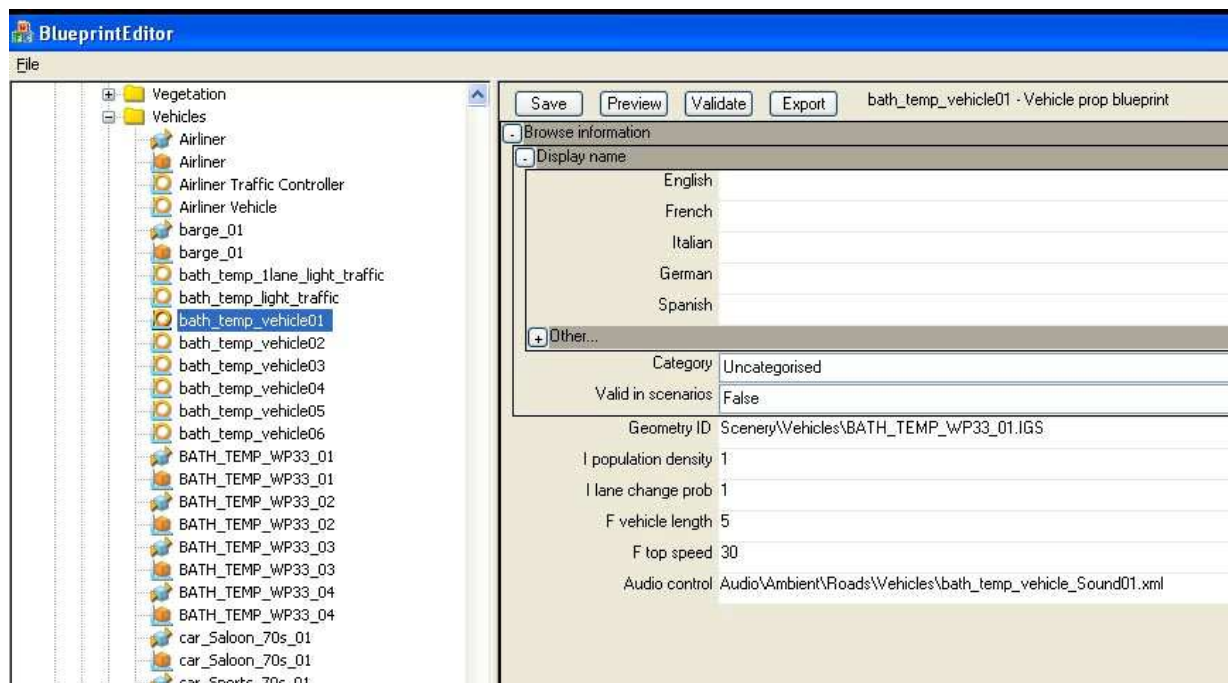
- Geometry ID: A reference to the vehicle shape file (IGS)
- I Population density: This is the chance to spawn this particular type of vehicle. The number is semi arbitrary. If you had two vehicles specified and set this value to 50 for each, they would spawn evenly. If you set one to 1 and the other to 2 then the second type will spawn twice as often. To make all your vehicles spawn with the same frequency, set this value to 1.
- I Lane change prob: This is the likelihood of the vehicle changing lanes if multiple lanes have been set up.
- F Vehicle length: The length of the vehicle for avoidance purposes.

- **F top speed:** Another top speed reference, this time it is the vehicles top speed as opposed to the lane. So in theory you could set up a 5mph top speed tractor to hold up the other cars on a country road.

There may be a certain amount of sharing of files; vehicles only need to be done once for each for example, and then can be referenced by other traffic manager blueprints.

Once you have set up your road, traffic controller and vehicle blueprints you need to export them all (you may be required to make some files writable) and the road can be placed in the world editor and have traffic spawning on it.

Traffic will not flow over breaks in a road or the end of a road ribbon (the red triangle visualisation which appears after a split or weld for example); so road ends should be hidden to avoid seeing cars pop into the world.

4 Fixed Network Piece Blueprints

4.1 Creating a New Fixed Network Piece

Fixed network pieces include T junctions, Crossroads and fixed angle pieces.

1. Right click the Procedural folder icon and select "New Blueprint"
2. Select "Fixed network blueprint" and press OK
3. Rename the file to something sensible
4. Enter a display name that is short and sensible
5. Right click a fixed road piece IGS file (blue cube icon) in the left browser pane that you want to create a variant of and select "copy filename", paste this into "Geometry ID"

The following fields need to be changed:

- Display Name: What appears in the browser book
- Traffic Manager bp ID: The location of the traffic manager file
- Network Type: Either Track, Road or Scenery Loft. Select Road in this instance.
- Component Type: Either Corner, T Junction, X roads, Turntable or Traverser. What you select will depend on what type of Fixed Network shape you are creating. This should be self explanatory.
- Road Junction Size: For our current size fixed shapes this value needs to be set to 15.