

Beginner's Guide

From an empty scene to a full city in about five minutes — and what every part of the panel is for.

Before you start

You need **3ds Max 2024, 2025, 2026 or 2027** (64-bit) and a licence key. Run the installer, start Max, and the plugin appears under **Create** → **Geometry** → **VanguardFX**. Nothing else to set up.

1 Make your first city

- 1 Create the object.** Go to **Create** → **Geometry**, choose **VanguardFX** from the dropdown, and click **VanguardCity**. Then **click and drag in the viewport** to set how big the city is. Drag a good distance — a bigger drag gives a bigger city.
- 2 Open the panel.** The VanguardFX City window opens by itself. If you close it, select the city and press **OPEN VanguardFX PANEL** in the Modify tab.
- 3 Pick a preset.** The dropdown at the very top has **23 cities**. Choose one — say **Manhattan (regular grid)** — and the whole city rebuilds instantly.
- 4 Press Generate** (or leave **Auto** ticked, which rebuilds as you change anything).

That is a complete city: streets, blocks, plots and buildings. Everything below is about shaping it.

The status line

Under the Generate button the panel always tells you what it just built — e.g. “23 roads · 12 blocks · 277 parcels · 276 buildings · 42 junctions · 53 ms”. If something looks wrong, read this line first: it usually explains it (for example **0 buildings** means the plots are too small for the current Setback).

2 The presets

Presets are complete cities, not just colour schemes. Each one sets the districts, street widths, building heights and ground. They are the fastest way to learn what the sliders do — pick one that looks close to what you want, then adjust.

Dense & tall

Manhattan · Neo-Tokyo · Metropolis · Miami · Edge City

Old & organic

Old Town · Medina · Kyoto · Castrum · Amarna · Pueblo

Hills & water

San Francisco · Tehran · Mountain Town · Favela
· Riverside · Harbour · Docklands

Modern & other

Suburban · Sprawl · Etoile · Mikrorayon · Mars
Colony

3 The panel, section by section

The panel has **15 sections**. You do not need most of them at first — the five marked **start here** are enough to build almost anything.

SECTION	WHAT IT CONTROLS
Districts start here	The heart of the city. Each district is a centre with its own Radius , Block Size , Max Floors and Rotation . Add several to get a downtown, a suburb and an old quarter in one city. Radius is what makes the city bigger.
Layout start here	Seed (a different number = a completely different city of the same character), Irregularity % (0 = perfect grid, high = winding), Detail % , and the OSM buttons.
Streets	How many wide (arterial) and medium (collector) roads there are, and how wide each class is.
Blocks	Pavement width, and how small a block is allowed to be before it is thrown away.
Parcels	How blocks are cut into plots, plus the road and pavement surfaces.
Buildings start here	Floor Height , Height Variance , Downtown Falloff (how fast towers get shorter away from the centre) and Shape Variety (how many buildings get a roof shape, setbacks or a courtyard instead of a plain box).
Obstacles	A lake, park or hill the streets bend around and stop at.
Terrain	Ground under the city. Tick Terrain , set Terrain Height and a Ground Shape (0–5: flat, hills, slope, ridge, basin, coast) — or assign your own height map.
Windows start here	Real recessed windows, seven styles, and Night mode with Lit Windows % . Cut Openings (boolean) makes each window a real hole; Glass in the Cut puts a pane back into exactly that hole; Window Depth sets how far into the wall it goes. Interior Floors and Interior Furniture give you something to see through the glass. Window Texture Sheet lets one image of N×M windows supply a different pane to every opening. Also the Build City Material button — see step 4.

SECTION	WHAT IT CONTROLS
Buildings	Height, variance, setback and Building Variety (how many lots get a shape other than a plain box). Also Export Blocks to Meshes , which turns the city into one editable mesh per block instead of one huge object — paid plans only .
Road Markings	Painted centre lines, lane lines, kerb lines, crossings and stop bars.
Rooftops	Stair huts, parapets, and the things that make a skyline read: Telecom Antennas , Satellite Dishes and the red Aviation Red Light on tall roofs.
Street Furniture start here	Street lights, power poles with hanging cables (they cross the street, not just run along it), and trees — with spacing, height and Size for each. See step 5 for putting your own models in. Also Create Street Lights , which puts a real Max light under every lantern — see step 6.
Street Furniture → Traffic	Cars and trucks in the running lanes, with Traffic Density , Gap Variation so they are not evenly spaced, and Emergency % for police cars, ambulances and fire engines. Traffic Signals puts lights on the junction approaches, and Traffic Moves animates the whole lot — the cars stop at red and go on green. Head and tail lamps are on their own material slots so you can control them separately.
Bridges	Bridges the plugin places itself where a street is cut by water or a valley. Three types (beam, arch, cable-stayed). Road markings and street lamps continue across them automatically.
Signs	Shop fascias, projecting blade signs, street name plates and billboards.
City Limits	An outer boundary the streets are clipped to. Limit Follows Radius keeps it growing with your districts — leave it on unless you want a fixed coastline.

4 Give the city materials

The city is built with proper material IDs on every surface — road, pavement, wall, roof, glass, kerb, bridge, sign, and more. One button turns that into a real material:

- 1 Select the city.
- 2 In the **Windows** section press **Build City Material**.
- 3 A Multi/Sub-Object material is built and assigned, with a correct surface in every slot.

Night

Tick **Night** in the Windows section and set **Lit Windows %** (18% looks like a real city). Windows light individually with varied brightness and colour, shops get a boost, the street lamps light, and the red aviation beacons come on. Rebuild the material after switching night on so the glowing surfaces are set up.

5 Use your own trees, lamps and poles

The plugin ships simple built-in models so you can see where things go. To use your own:

- 1 Put your model anywhere in the scene.
- 2 In **Street Furniture**, press **Pick Tree Object...** (or Street Light / Power Pole).
- 3 Tick **Trees** / **Street Lights** / **Power Poles** so they get placed.
- 4 Use **Tree Size**, **Lamp Size**, **Pole Size** to scale them, and the **Spacing** sliders for how often they appear.
- 5 Press **Scatter Instances** to turn the placements into real Max instances. (**Delete Instances** removes them again.)
This needs a paid plan. Scatter creates real scene objects, so the 7-day trial refuses it — the built-in stand-in models still show you exactly where everything goes.

6. Light the streets at night

Street Lamps Lit and **Lamp Brightness %** make the lantern *glow*. They do not light the road — an emissive material shines without illuminating anything, so the tarmac underneath stays dark however far you push the slider.

- 1 In **Street Furniture**, press **Create Street Lights**. It puts a real Max light under every lantern.
- 2 It tells you how many it is about to make and asks first. If that number is large, set **Prop Radius** and press **Generate** before accepting — every light is one the renderer has to evaluate.
- 3 They are all named **VGC_StreetLight**, so you can select them together to set intensity and colour. **Delete Street Lights** removes them again.

6 If something looks wrong

WHAT YOU SEE	WHAT IT USUALLY IS
No buildings at all	Setback is eating the plots, or the city is very small. Lower Setback, or drag a bigger city.
Only some buildings have windows	The Window Budget is bound — the status line says so. Raise it, or accept it on very large cities.

WHAT YOU SEE	WHAT IT USUALLY IS
The city will not get bigger	Raise the district Radius . If it is still pinned, check City Limits — turn Limit Follows Radius on, or raise Limit Radius .
Trees / lamps do not appear	Their tickbox is off, or Max Props is low. They also need Scatter Instances to become real objects.
Terrain looks flat	With no height map assigned the sheet is flat by design. Set a Ground Shape (1–5) or assign a Noise map.
Something else	Press Save Debug Report... in Layout. It writes a text file with your settings and a full health check — send it to support and it usually names the cause outright.

7 What each plan can do

PLAN	BUILD & VIEW	RENDER / EXPORT / COLLAPSE	OSM & ROAD MARKINGS
7-Day Trial	Yes	No	No
1-Month	Yes	Yes	No
1-Year	Yes	Yes	Yes
2-Year	Yes	Yes	Yes

The trial is deliberately view-only so you can explore the whole plugin before buying. 1-Year and 2-Year keep working after the term on the last build released during it.