

## Rendering Statistics

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Unless noted otherwise all MicroStation renderings use the settings from seed-atfplan\_and\_model\_2way-baseline\_RenderingSetup.rsf and seed-atfplan\_and\_model\_2way-baseline\_RenderingSetup.xls. Also, unless noted otherwise all 3ds max renderings use Advanced Lighting with Light Tracer and a single Sky Light and Omni Light.

For the purpose of comparison all times are based on recalculating the solution. In normal practice you will most likely want to reuse the current solution. Selecting to reuse current solution eliminates the preprocessing time. With Ray Tracing there is minimal benefit since the preprocessing time is not significant. With PT and RAD there is an advantage since there is more time involved in preprocessing.

### Figures 1,11 - 3ds max

Image Size: 1280x960  
Vertices: 305,576  
Faces: 583,937  
Rendering time: **0:40:57**

### Figure 2 - MicroStation

Image Size: 1280x913  
Triangles: 321,556  
Volumes: 119,829  
Particles: 50,000,000 Hits: 49,935,356  
Bounces: 1  
Antialias: none  
Rendering time: **1:01:31**

### Figures 3,13 - 3ds max

Image Size: 1280x960  
Vertices: 28,423  
Faces: 49,826  
Rendering time: **0:13:38**

### Figure 4 - MicroStation - Particle Trace

Image Size: 1055x1139  
Triangles: 305,576  
Volumes: 583,937  
Particles: 10,000,000 Hits: 47,197,151  
Antialias: none  
Rendering time: **0:59:53**

### Figure 5 - MicroStation - Ray Trace

Image Size: 1074x768  
Triangles: 2,796  
Volumes: 1,409  
Antialias: medium  
Rendering time: **0:07:24**

### Figure 6 - MicroStation - Ray Trace

Image Size: 1134x768  
Triangles: 6,053  
Volumes: 3,203  
Antialias: medium  
Rendering time: **0:07:30**

### Figure 7 - MicroStation - Ray Trace

Image Size: 1074x768  
Triangles: 2,796  
Volumes: 1,409  
Antialias: medium  
Rendering time: **1:38:09**

### Figure 8 - MicroStation - Ray Trace

Image Size: 1134x768  
Triangles: 6,053  
Volumes: 3,203  
Antialias: medium  
Rendering time: **0:24:30**

### Figure 9 - MicroStation - Ray Trace

Image Size: 1203x768  
Triangles: 6,055  
Volumes: 3,206  
Antialias: medium  
Rendering time: **0:00:37**

### Figure 10 - MicroStation - Ray Trace

Image Size: 1203x768  
Triangles: 6,055  
Volumes: 3,206  
Antialias: medium  
Rendering time: **0:04:16**

### Figure 12 - MicroStation - Ray Trace

Image Size: 1048x768  
Triangles: 321,373  
Volumes: 119,553  
Antialias: none  
Rendering time: **0:06:35**

Not shown

Antialias: medium  
Rendering time: **0:43:38**

### Figure 14 - MicroStation - Ray Trace

Image Size: 1346x960  
Triangles: 42,232  
Volumes: 16,951  
Antialias: none  
Rendering time: **0:27:17**

Not shown

Antialias: medium  
Rendering time: **0:00:00**

### Figure 15 - 3ds max

Image Size: 1280x960  
Vertices: 28,257  
Faces: 49,522  
Rendering time: **0:11:27**

**Figure 16 - MicroStation - Ray Trace**

Image Size: 1390x960  
Triangles: 37,459  
Volumes: 15,700  
Antialias: none  
Rendering time: **0:25:08**

Not shown

Antialias: medium  
Rendering time: **0:00:00**

**Figure 17 - 3ds max**

Image Size: 1280x960  
Vertices: 5,052  
Faces: 9,198  
Rendering time: **0:04:28**

**Figure 18 - MicroStation - Ray Trace**

Image Size: 2096x1536  
Triangles: 7,733  
Volumes: 3,728  
Antialias: none  
Rendering time: **0:19:56**

**Figure 19 - 3ds max**

Image Size: 1280x960  
Vertices: 1,027,185  
Faces: 2,530,095  
Rendering time: **0:18:30**

**Figure 20 - MicroStation - Ray Trace**

Image Size: 1280x960  
Triangles: 989,957  
Volumes: 383,118  
Antialias: medium  
Rendering time: **1:36:46**

**Figures 21-26 - MicroStation**

Image Size: 1280x960  
Triangles: 993,523  
Volumes: 423,847  
Antialias: medium

**21) Rendering time: 1:02:06**

**22) Rendering time: 0:49:06**

**23) Rendering time: 1:00:48**

**24) Rendering time: 0:47:46**

**25) Rendering time: 0:47:21**

**26) Rendering time: 0:02:38**

**Figures 27-32 - PhotoShop**

Additional Time: **< 0:01:00**

## Settings Comparison

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Effect of Solar & Sky Shadows and antialias settings on rendering times based on model in Figure 24:

Adapt to Brightness (ATB): 1000

Solar Shadows:	<b>enabled</b>	<b>disabled</b>	<b>enabled</b>
Sky Shadows:	<b>enabled</b>	<b>enabled</b>	<b>disabled</b>
	<b>Antialias: none</b>		
Preprocessing time:	1:06	1:06	1:24
Ray tracing time:	8:25	6:48	0:12
Total Rendering time:	9:31	7:54	1:36
	<b>Antialias: medium</b>		
Preprocessing time:	1:05	1:06	1:15
Ray tracing time:	46:41	46:15	1:23
Total Rendering time:	47:46	47:21	2:38