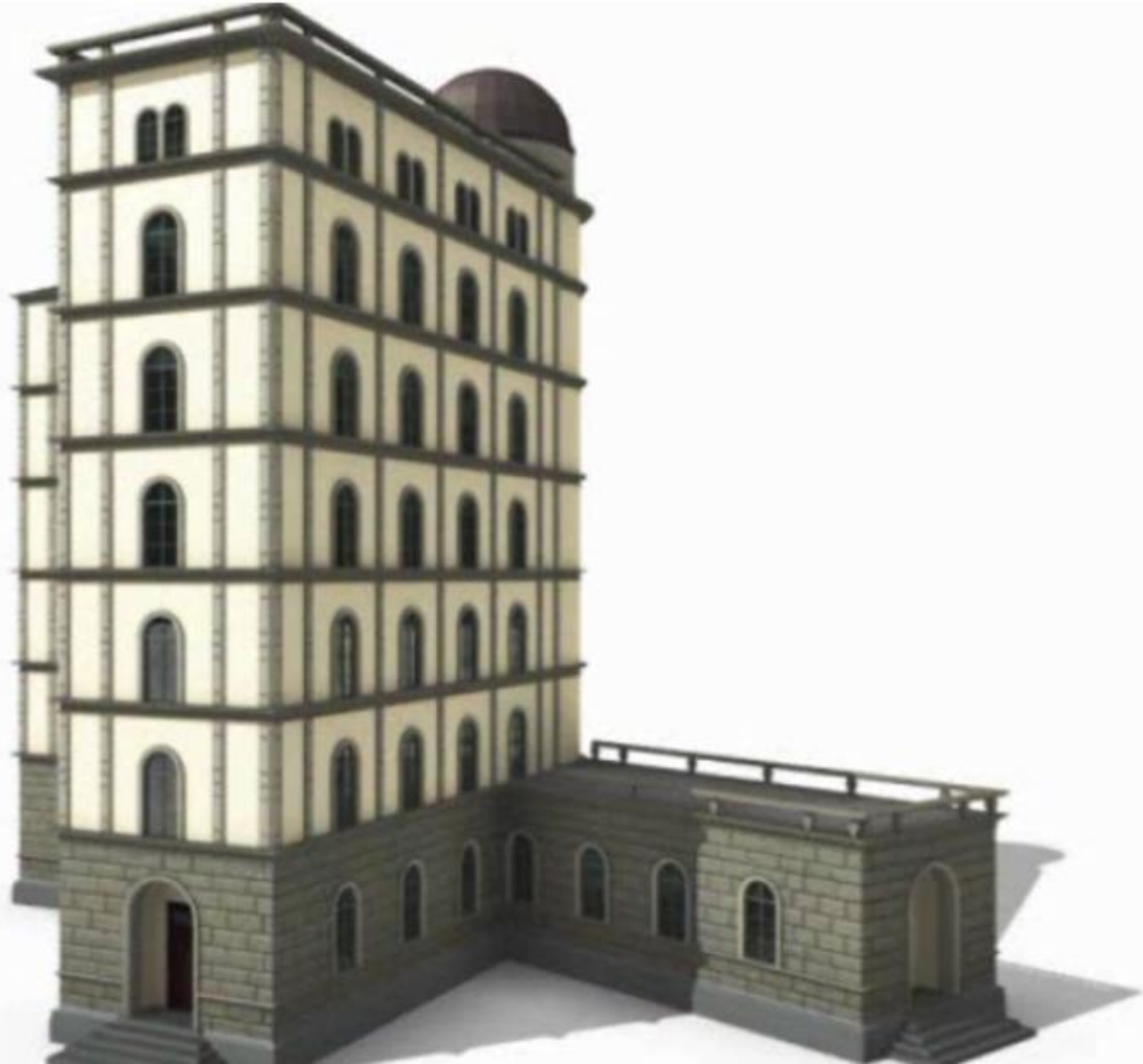




# Building 3D Streets, Parks and Open Spaces with CityEngine

Eric Wittner – Product Manager

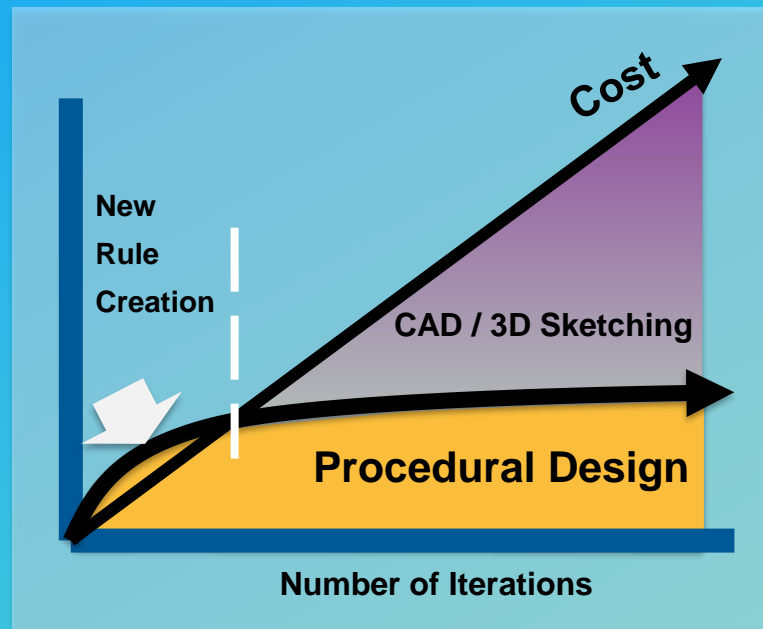
**What is  
procedural  
modeling?**



# Procedural Modeling Provides a Flexible 3D Design Environment Supporting a Rapid and Repeatable Process

## Steps

- Author Rules (or use Library)
- Generate Multiple Design Scenarios
- Evaluate Alternatives



A



B



Particularly When Projects Require Many Iterations

# Procedural Modeling is Intelligent Rule Based Database

- Interactive
- Multiple Views
  - Realistic Display
  - 3D Thematic Rendering
- Performance Reporting
  - Driven by Attributes
  - Visualized Dynamically



Design

Infiltration Rate



Design

3-D Zoning



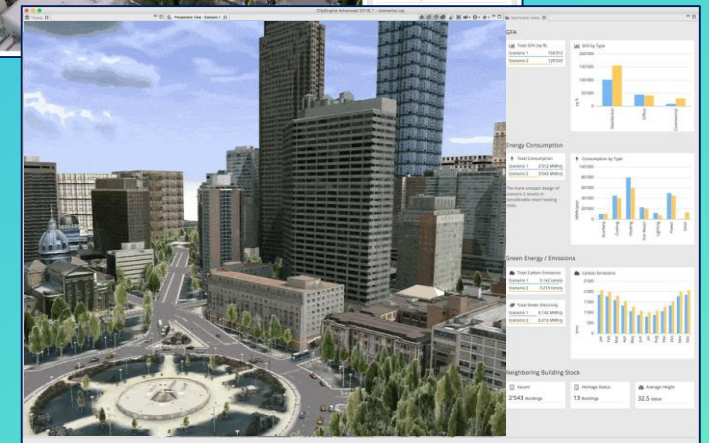
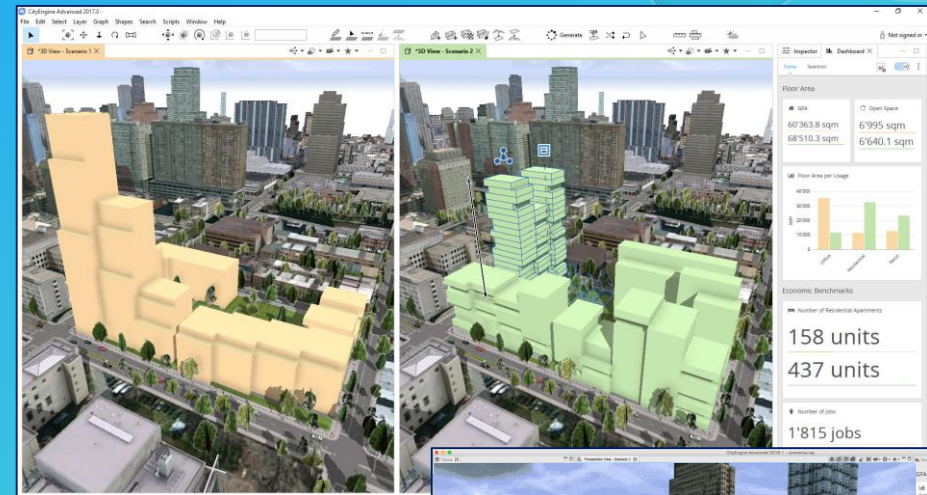
# Esri CityEngine



Create 3D Cities

Design new developments

Share 3D to the web

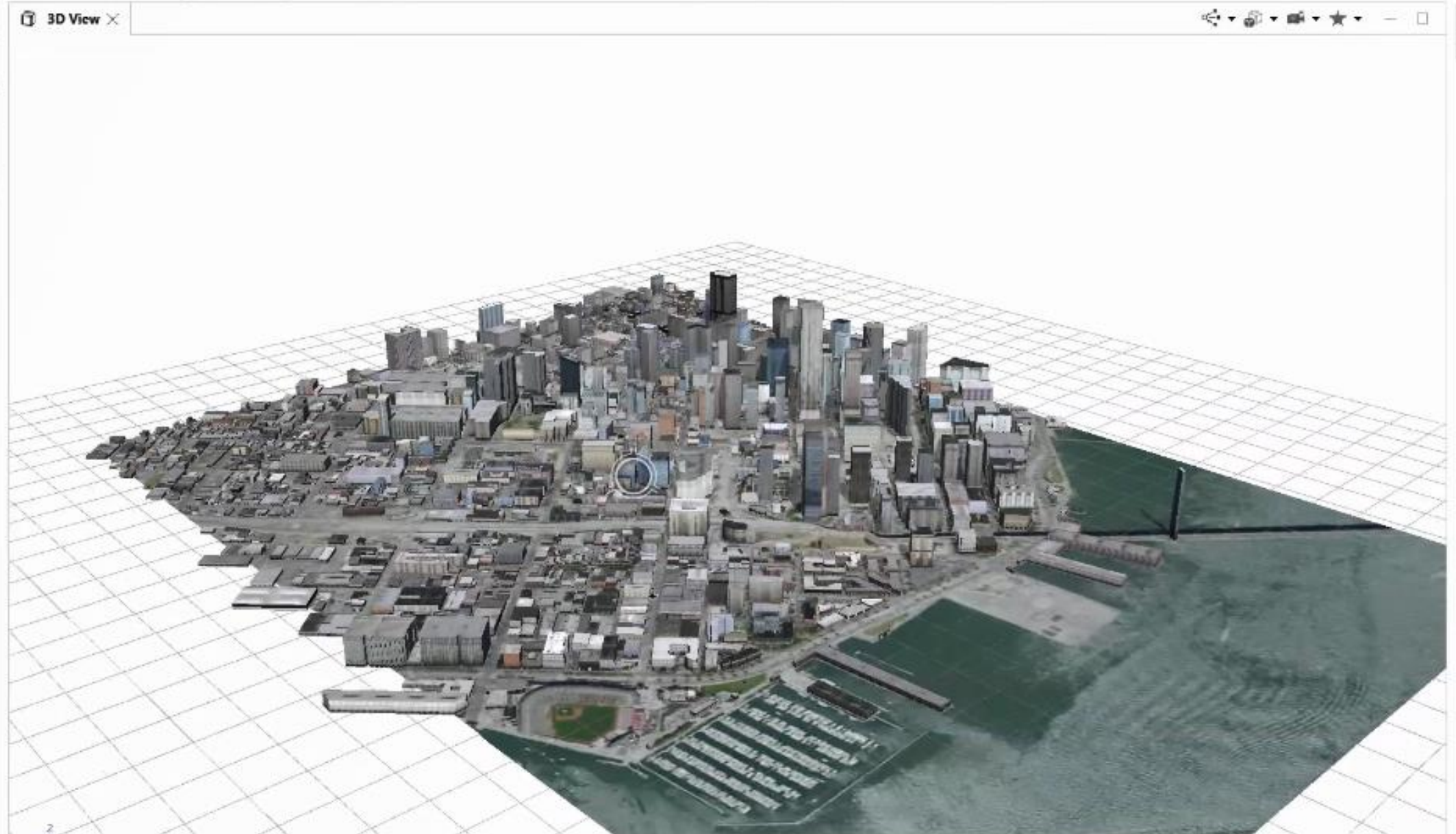


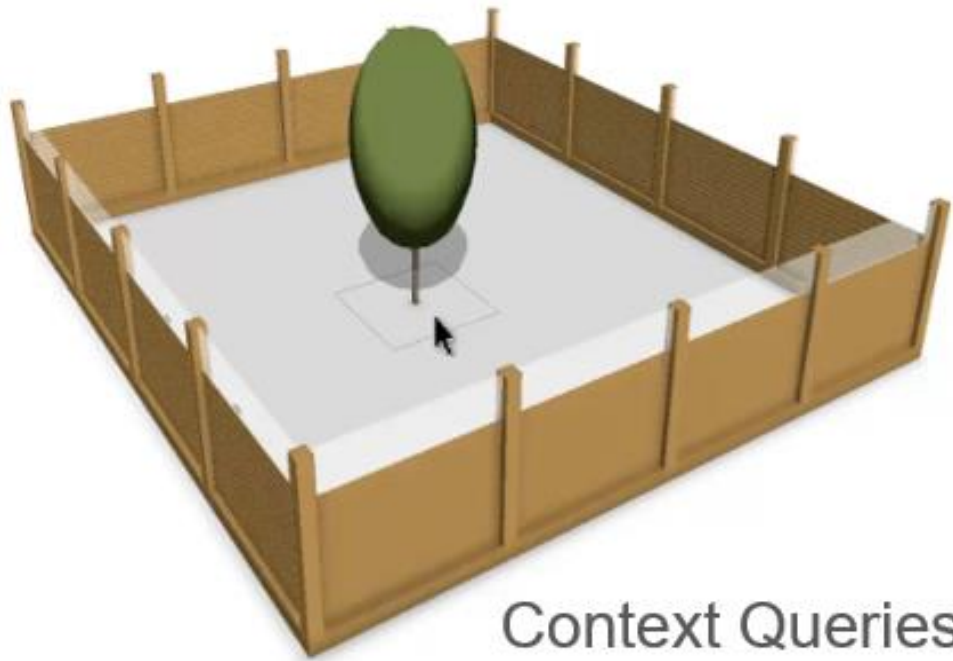
Navigator X

\*Scene X

Search for layers, objects or attributes

- Terrain\_Imagery1
- map [10064 objects]
- map [2094 objects]

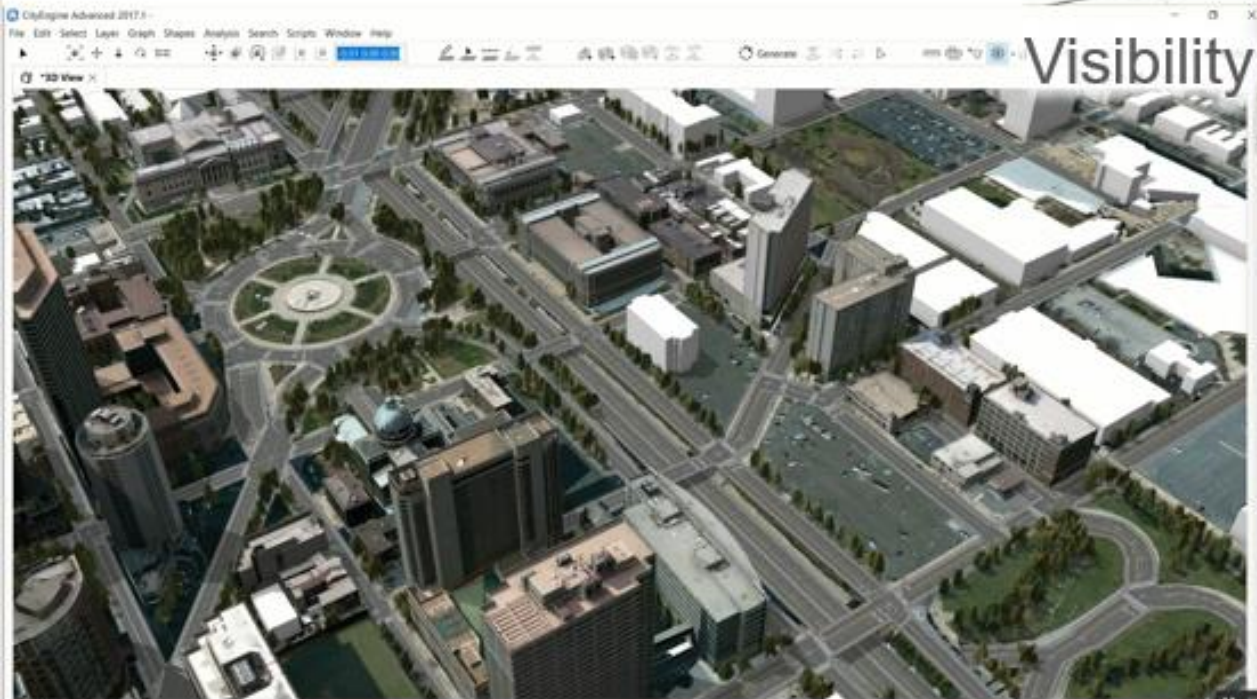




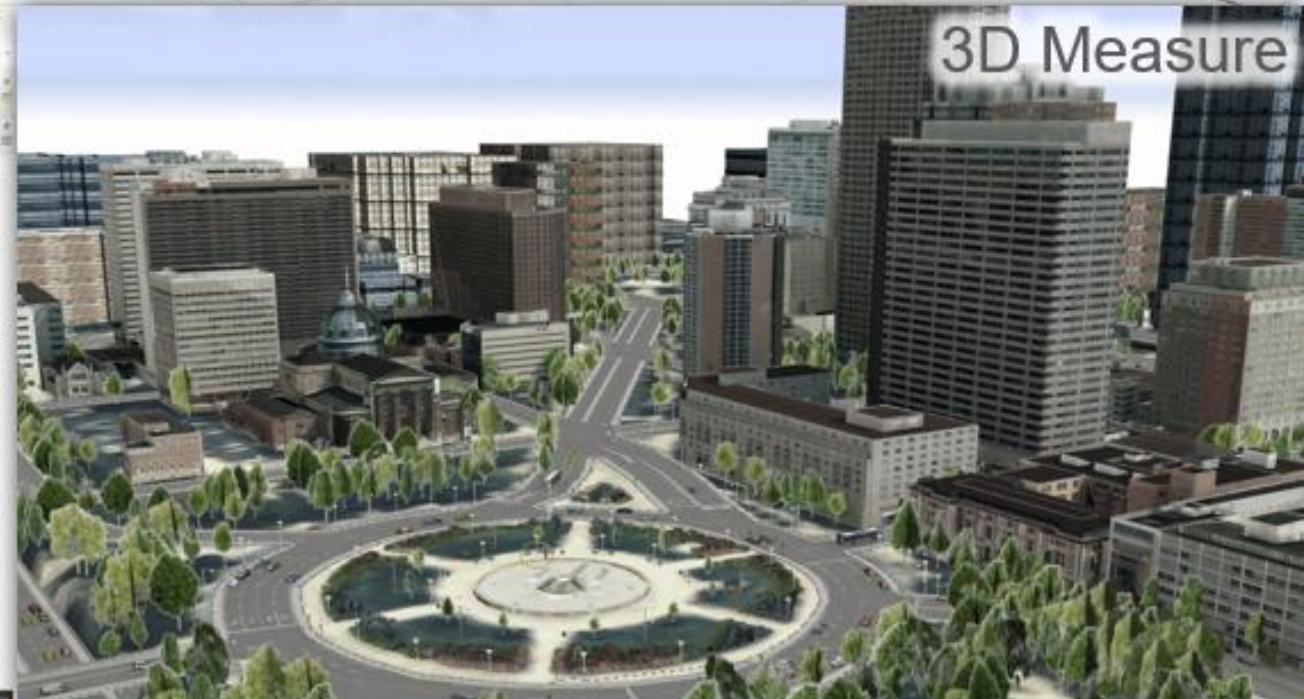
Context Queries



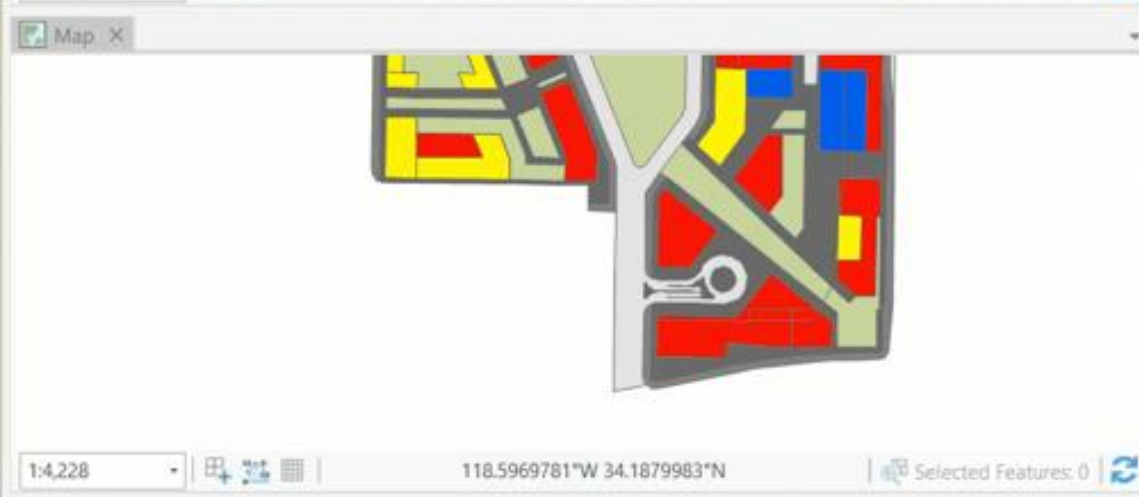
Local Edits



Visibility



3D Measure



### Create Features

Search

Footprint : Footprint

- Commercial 8 story
- Office 6 story
- Other
- Parking 4 story
- Residential 12 story

### Building Construc

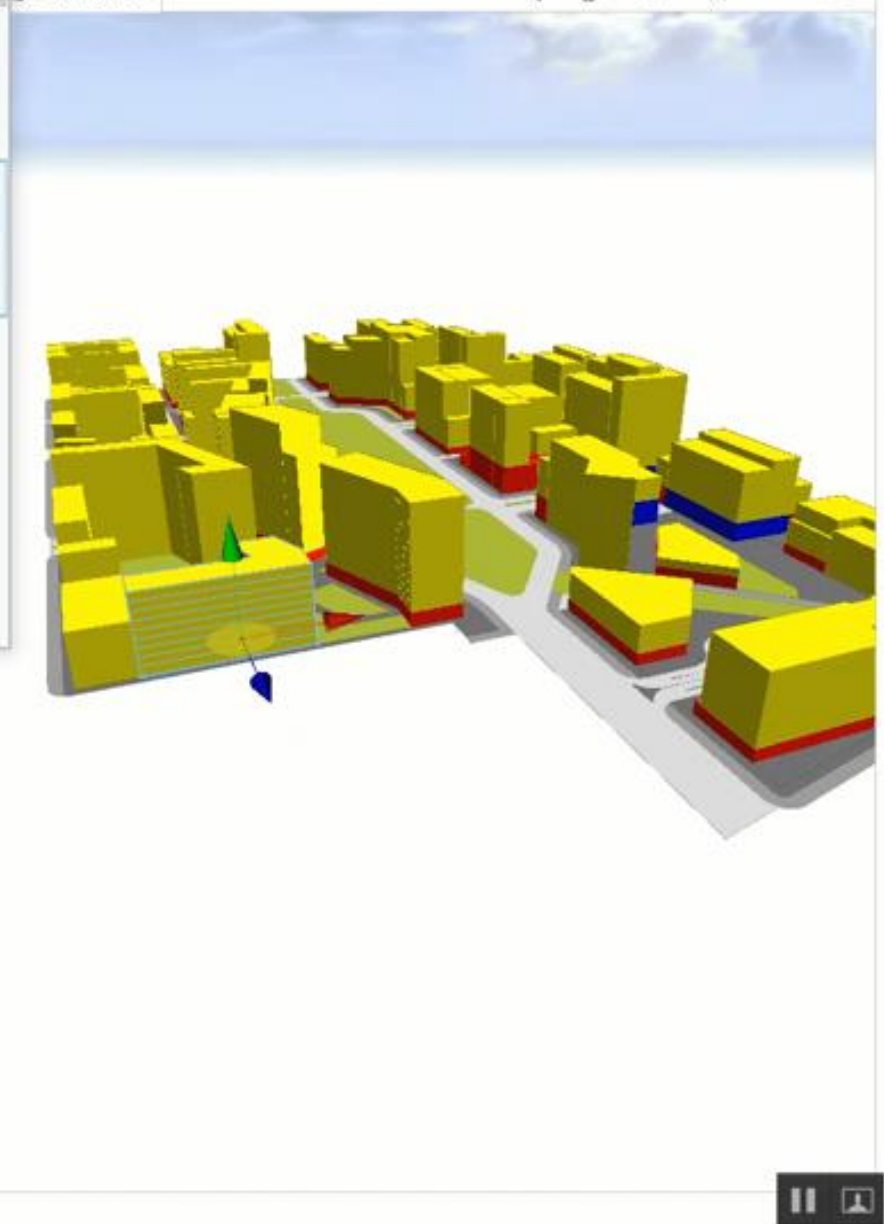
Default Style

DISPLAY OPTIONS

- Display\_Textures:  Enabled
- Display\_Thematics: Usage
- Solid\_Color: #FFFFFF
- Transparency: 1
- Story\_Edge\_Display:  Disabled
- Story\_Edge\_Size: 0.15
- Story\_Edge\_Color: #ffffff

BUILDING HEIGHT

- Floor\_Count\_Min: 9 (Object)
- Floor\_Count\_Max: 9 (Object)
- Variation\_Mode: None (Object)
- Upper\_Floor\_Height: 3.5 (Object)





< Scenario 1 >





**UNREAL**  
ENGINE

# Improved ease of use

less buttons

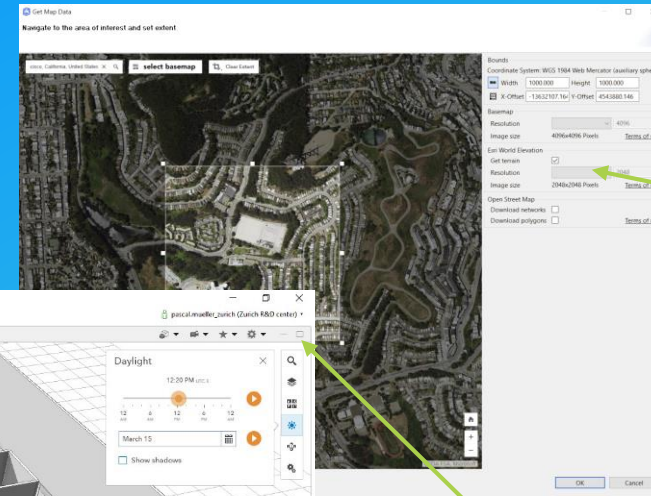
e.g. move type visibility to 2<sup>nd</sup> level access

modern icons

lets not look like windows xp anymore

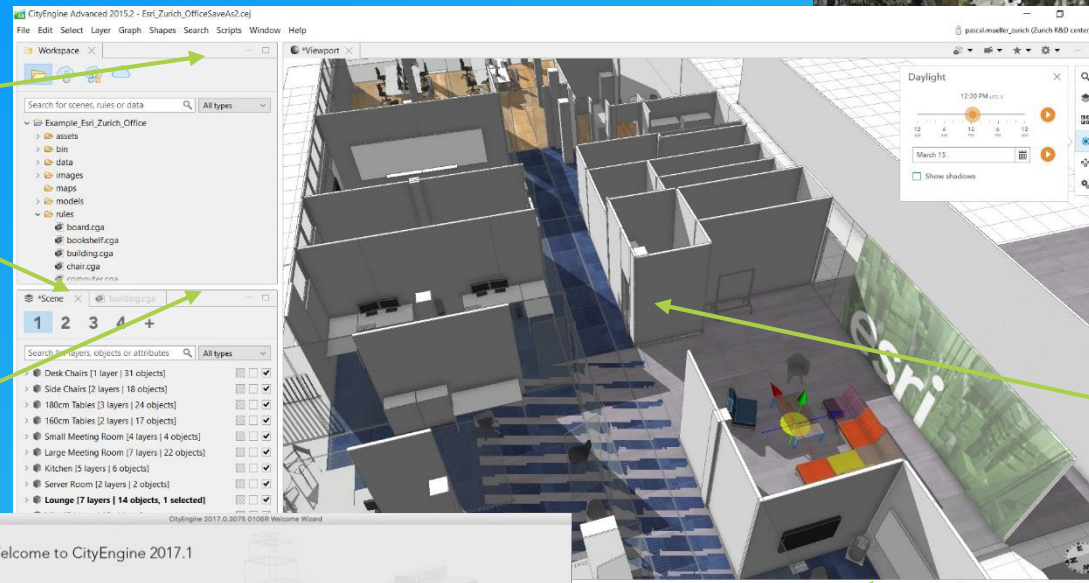
DPI sensitive

+ more spacing



simpler tools

e.g. better UI for get map data



better toolbar

toolbar in viewport as in scene viewer

simpler 3D

navigation

no more 'press-first-frame' to tumble

feedback

Use status bar

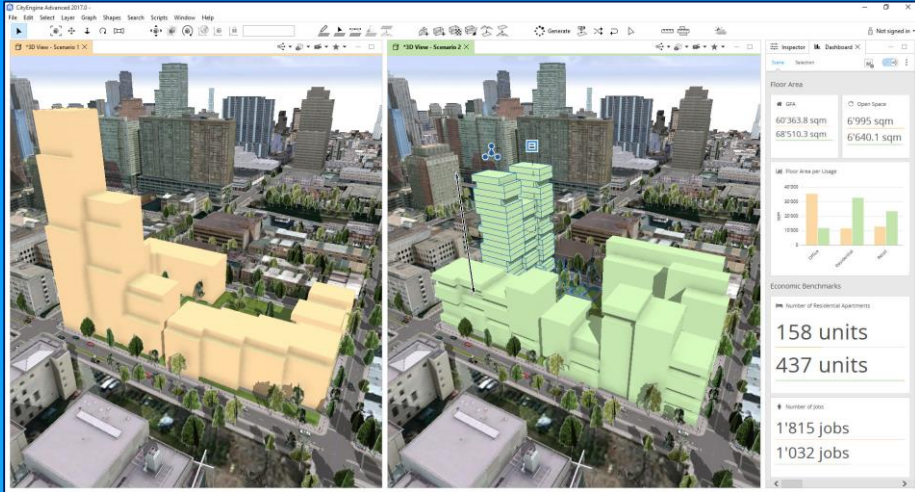


revised startup UX

First impression



# What's coming



## Improvements

- Feature Layer Synchronization
- Visibility Analysis
  - Viewshed
  - View Dome
  - View Corridor
- Unreal Engine Export

## Near-term

- Support for TPKs and mobile 3D
- Zoning focused CGA functions
- Editing and Drawing Tools
- Expanded Rule Library

## Mid-term

- Feature layer sync auto-rules
- New interactive 3D Tools
- 360 VR support for 360 photos
- Web 360 VR
- Named User Ver.

*Subject to change*

Questions



esri

THE  
SCIENCE  
OF  
WHERE