



OpenCities® Map Ultimate

Document and model 2D and 3D assets for cities, utilities, airports, and infrastructure

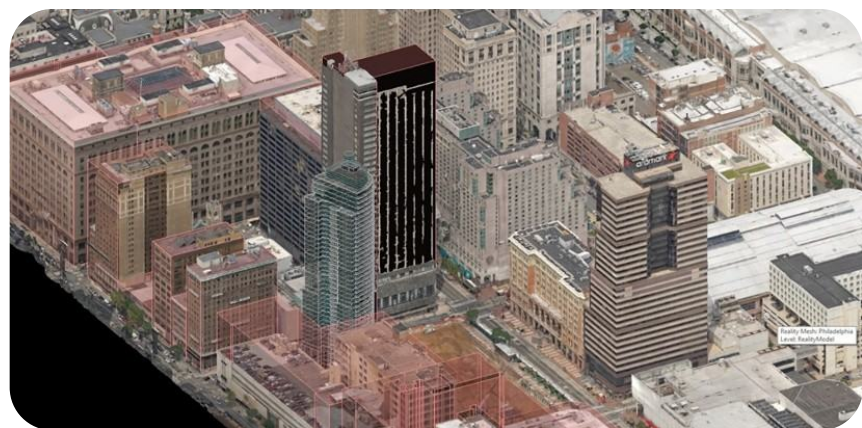


Image courtesy of Nearmap

OpenCities Map is a geospatial application for engineers, architects, and city planners. It transforms cities, utilities, airports, and infrastructure by documenting and modeling 2D and 3D assets. It integrates engineering, geospatial, and reality data into structured spatial information and maps, creating a single source of truth for collaboration and decision-making. CAD-based workflows maintain engineering accuracy and use MicroStation's editing power.

OpenCities Map Ultimate provides efficient 3D modeling capabilities for documenting and modeling assets in a geospatial environment. It integrates, processes, and streams reality modeling data—including large-scale reality meshes, point clouds, scalable terrain models, and raster data—for use in an engineering CAD environment, along with native spatial database connections. The application enables fast manipulation of meshes of any scale and supports generating cross sections, extracting ground and breaklines, and producing orthophotos, 3D PDFs, and iModels.

Create intelligent geospatial objects

OpenCities Map Ultimate includes advanced 2D and 3D design capabilities for creating and maintaining engineering-quality spatial data of city assets. You can create geospatial objects using interactive snapping and use tools for dynamic labeling, annotation, raster display and editing, printing, and publishing.

Create spatial analyses and presentations

OpenCities Map Ultimate provides a full collection of 2D and 3D spatial analysis and presentation tools, including creating buffers, performing topology overlays, generating thematic maps, detecting 3D collisions, and conducting shadow and solar analysis.

Expanded interoperability

OpenCities Map Ultimate improves interoperability with a wide range of GIS formats. Files can be directly imported or exported, including 3D Tiles, Esri SHP, ArcGIS Server/Online, MapInfo TAB, Oracle Spatial, PostgreSQL/PostGIS, ODBC, WMS, Google KML/KMZ, Esri File Geodatabase, 3D PDF, iModels, and SQL Server Spatial. Integration with FME from Safe Software further extends interoperability.

Synchronize symbology with attribution

Administrative tools allow defining features, attributes, symbology, behavior, and placement. Simple geometry can be promoted to intelligent features with full attribution, and symbology stays synchronized with feature data.

Integrate reality context

Work in a real-world digital context using 3SM-based 3D reality meshes of any scale. Semantic information can be added using the classification feature. Teams can share and stream 3D models across projects and applications, enabling stakeholders to make better decisions by viewing engineering and geospatial data in a reality context.

Create scalable terrain models

OpenCities Map Ultimate can display very large terrain models. Display scalable terrain models in a variety of modes, such as smooth shading with shadows. Resymbolize models by aspect angle, elevation, slope, contours, and more. Terrain models synchronize with source data, including DGN files and point clouds. Create lifelike visualizations with libraries of accurate materials, lighting, and photorealistic content.

Manage geospatial information

A map-based interface combined with project, document, and workflow management tools helps teams manage and share geospatial and related data in federated environments.

Process raster images

Raster processing enables immediate editing and improved visualization to add context to infrastructure projects. Using legacy raster drawings enhances deliverable quality and lowers data maintenance costs.

System requirements

OpenCities Map Ultimate At-a-glance

Find out more at [Bentley.com](https://www.bentley.com)
1.800.BENTLEY (1.800.236.8539)
Outside the U.S.: +1.610.458.5000
Global office listings: [bentley.com/contact](https://www.bentley.com/contact)

Minimum: Windows 11 (64-bit), Windows 10 (64-bit), Windows Server 2022, or Windows Server 2019, Intel or AMD processor 1.0 GHz or greater, 4 GB memory, 25 GB disk space
Recommended: 16 GB memory, up to 40 GB disk space

Mapping and GIS

- Create and edit GIS features
- Build and publish maps and infrastructure models

Map manager

- Drag and drop layers to control display order
- Control all aspects of map display
- Create thematic maps automatically from a template

XML feature modeling

- Property-based symbology and annotation
- Convert simple elements to smart GIS features

Geospatial administrator

- Manage the XFM framework through one interface

Spatial database support

Oracle

- Oracle Spatial compliant
- Two-tier connection
- 3D object support
- Adherence to native Oracle Spatial models
- Valid time and historical tables
- Long transactions, optimistic and pessimistic locking

SQL Server, PostGIS, and ArcGIS Server/ ArcGIS Online

- Two-tier direct connection
- 3D object support

Reality mesh processing

- Edit and display large, photo-textured reality meshes
- Ground and breakline extraction
- Efficient 3D modeling using sections and templates
- Mesh classification to enrich mesh with data from many sources
- Orthoimage extraction on any axis
- Generate and manipulate cross sections
- Clip reality meshes
- Extract information from reality meshes
- Support for draped images and breaklines in extracted terrain-scalable meshes

GIS development platform

- Utilize Python API and Python Editor, Open API, C/C++, C#, NET, VBA, and other modern programming languages

MicroStation Capabilities

- Drafting tools to efficiently create geometry
- Raster management
- Display priority and transparency
- ProjectWise Projects
- Define custom datum and ellipsoid
- Solar/shadow analysis
- Coordinate system support and on-the-fly reprojection

Point cloud processing

Drape and snap elements

- Classification editing
- Smart snap
- Export to POD, LAS, and XYZ file formats
- Extract lines, pipes, and elbows
- Point cloud clash detection

Image editing capabilities

- Clean up and vectorize scanned documents
- Display DEMs in various shading modes
- Convert, edge match, and rectify many formats of aerial imagery

Scalable terrain modeling (STM)

- Create and display very large digital terrain models
- High-resolution image draping on STM
- Display modes: smooth shading with shadows, aspect angle, elevation, slope, and contours
- Calculate view shed from point or path
- STM synchronization with DGN, civil DTMs, point clouds, and XYZ files

Presentation and analysis

- Spatial analysis
- Thematic display
- Buffer creation
- Dynamic labeling

Interoperability

- Directly reference geospatial formats
- Google Maps support
- Google Photorealistic 3D Tiles
- Import from most common spatial file formats, most common spatial databases, and a web feature service (WFS) connection
- Inherits Safe Software’s FME import and export capabilities, if the software is installed and licensed
- Spatial data streaming
- DGN2DB to upload your DGN to a spatial database
- Dynamic feature inference rules
- Export feature inference definition to OpenCities Map’s persistent schema