Autodesk® AutoCAD® Map 3D 2014
Autodesk® Infrastructure Map Server 2014
What’s New
Key Feature Areas

- Topographical data access and editing
- GIS analysis and planning
- Publishing and interoperability/data exchange
- Industry modeling and data management
Topographical data access and editing
## Topographical data access and editing
Key capabilities available in both AutoCAD Map 3D 2013 and 2014

<table>
<thead>
<tr>
<th>Area</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access</td>
<td>Directly access from variety of spatial data sources</td>
</tr>
<tr>
<td>Access</td>
<td>Work with model creation and data acquisition software—Access earthmine® plug-in and Pictometry® plug-in to bring in existing conditions data</td>
</tr>
<tr>
<td>Edit</td>
<td>Join attribute and GIS data and edit Microsoft® Office Excel® data stored in Autodesk® AutoCAD® Map 3D software</td>
</tr>
<tr>
<td>Edit</td>
<td>Use a rich set of survey tools to import, compute, manage, and utilize field measurement acquired from GPS and terrestrial sources</td>
</tr>
<tr>
<td>Edit</td>
<td>Use surface and point cloud tools to create large-scale surface models from points, and contour data and create contours from surfaces</td>
</tr>
</tbody>
</table>
Topographical data access and editing
Model creation and data acquisition software

earthmine™

• Street-level 3D imagery
• Plug-in for select Autodesk® Infrastructure Design Suite software including AutoCAD®, AutoCAD Map 3D, and for Autodesk® Infrastructure Map Server software

Pictometry®

• Overlay drawings onto high-resolution, data-rich aerial imagery
• Plug-in for select Autodesk® Infrastructure Design Suite software, including AutoCAD, AutoCAD Map 3D, AutoCAD® Civil 3D®, and for Autodesk® Infrastructure Map Server

Improve existing conditions data and better inform planning and design projects
Available with both AutoCAD Map 3D 2013 and 2014
GIS analysis and planning
## GIS analysis and planning

Key capabilities available in both AutoCAD Map 3D 2013 and 2014

<table>
<thead>
<tr>
<th>Area</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coordinate systems</td>
<td>Bring in aerial data, roads, and hybrid aerial maps with commercial basemap and geolocation tools (enhancement in 2014)</td>
</tr>
<tr>
<td>Coordinate systems</td>
<td>Search for and create coordinate systems using custom grid files</td>
</tr>
<tr>
<td>Coordinate systems</td>
<td>Use modern algorithms to transform coordinate systems</td>
</tr>
<tr>
<td>Symbols</td>
<td>Import common public-domain symbols into a mapping environment and edit symbols to meet specific business requirements</td>
</tr>
<tr>
<td>Tooltips</td>
<td>Roll over a feature to display properties such as tooltips and links</td>
</tr>
</tbody>
</table>
GIS analysis and planning
Coordinate systems and geolocation

- AutoCAD is now “geolocation-aware”
- Directly access aerial and street map data through Autodesk® 360
- Geocode and reverse geocode a project location based on address

Easy to incorporate aerial and street data
Access files from Autodesk 360
Enhanced in AutoCAD Map 3D 2014
GIS analysis and planning
Dynamic tooltips

- Provide users with appropriate data
- Easy to configure
  - Define properties for tooltips
  - FDO and industry model features
  - Hyperlinks and calculations

Optimize maps for users’ benefit
Available in both AutoCAD Map 3D 2013 and 2014
GIS analysis and planning
Symbol management and editing

- Create symbol and edit symbol functions
- Import common public-domain symbols
- Edit symbols to meet business requirements
  - More streamlined process
  - AutoCAD® Block Editor
  - Save and modify

Save time and improve appearance of maps with familiar symbols
Available in both AutoCAD Map 3D 2013 and 2014
Publishing and interoperability/data exchange
# Publishing and interoperability/data exchange

## Key capabilities available in both AutoCAD Map 3D 2013 and 2014

<table>
<thead>
<tr>
<th>Area</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Publishing</td>
<td>Extract data for use in the design process or in the field—edit offline, then sync data</td>
</tr>
<tr>
<td>Publishing</td>
<td>Review maps and exhibits with the public with dynamic legends, north arrows, scale bars, and editable viewports</td>
</tr>
<tr>
<td>Publishing</td>
<td>Create and publish on U.S. National Grid (USNG) standards, and latitude and longitude grid</td>
</tr>
<tr>
<td>Publishing</td>
<td>Distribute geospatial data, maps, and designs on the web for viewing and updates (<a href="http://www.autodesk.com">Autodesk Infrastructure Map Server</a> and AutoCAD® WS)</td>
</tr>
</tbody>
</table>
# Publishing and interoperability/data exchange

Key publishing capabilities in both Autodesk Infrastructure Map Server 2013 and 2014

<table>
<thead>
<tr>
<th>Area</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Publishing</td>
<td>GeoREST- Repurpose existing server and Feature Data Objects (FDO) data using a RESTful web services protocol</td>
</tr>
<tr>
<td>Publishing</td>
<td><strong>Google Street View™ mapping service</strong>  (new in 2014)</td>
</tr>
<tr>
<td>Publishing</td>
<td>Create quick plots in pdf from mapping features in Autodesk Infrastructure Map Server  (new in 2014)</td>
</tr>
<tr>
<td>Publishing</td>
<td>Publish a single DWG or multiple drawings - gain greater visual data fidelity of DWG™ files without conversation</td>
</tr>
<tr>
<td>Field/mobile viewing</td>
<td>Mobile viewer - Use this browser application with most mobile platforms including Google Android™ based smart phones and Apple® iPhone® and iPad® mobile digital devices.</td>
</tr>
<tr>
<td>Site development</td>
<td>Simplify GIS maps with an OGC WMS and WFS publishing interface</td>
</tr>
<tr>
<td>Site development</td>
<td>Preconfigured templates - Publish sites quickly using JavaScript®, .NET, PHP or Java®</td>
</tr>
</tbody>
</table>
Publishing and interoperability/data exchange
Open source developer community

- Access to formats such as widgets and technology mash-ups.
- New mash-up in 2014 includes Google Street View™ mapping service.
- Simplify GIS maps with an OGC WMS and WFS publishing interface.

Enhance online mapping experience
New with Autodesk Infrastructure Map Server 2014
Publishing and interoperability/data exchange

Publish PDF

- Create a quick plot of a map and publish to PDF
  - Within the quick plot tool, define page size, orientation and scaling
  - Configure output elements such as margins or image DPI in Infrastructure Studio

More options for sharing GIS information with more users in more ways

New with Autodesk Infrastructure Map Server 2014
Publishing and interoperability/data exchange

Publish data to web

- Native DWG™ publishing to web
- No data conversion
- Data and styles preserved
- One-step publishing

Make better use of DWG data
Available in both AutoCAD Map 3D 2013 and 2014, and in both Autodesk Infrastructure Map Server 2013 and 2014
Publishing and interoperability/data exchange
Mobile viewer extension

- Access your data and maps from the field via interfaces designed for Apple® iPhone® and iPad® devices
- Use powerful multi-touch navigation to easily zoom, pan, and retrieve information from your maps

Get on-the-go access to information
Available in Autodesk Infrastructure Map Server 2013 and 2014
## Publishing and interoperability/data exchange

Key capabilities available in both AutoCAD Map 3D 2013 and 2014

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<tr>
<td>Interoperability/data exchange</td>
<td>Share mapping and geospatial data to support civil and utility projects (AutoCAD Civil 3D and AutoCAD Utility Design)</td>
</tr>
<tr>
<td>Interoperability/data exchange</td>
<td>Share mapping and geospatial data to support visualization of existing conditions/conceptual modeling in a 3D environment (Autodesk® InfraWorks)</td>
</tr>
<tr>
<td><strong>Enhanced exchange when saving maps to AutoCAD (new in 2014)</strong></td>
<td></td>
</tr>
<tr>
<td>Interoperability/data exchange</td>
<td>Store drawings, project files, and map drawing files in an easy-to-access online workspace using Autodesk 360 (new in 2014)</td>
</tr>
</tbody>
</table>
Publishing and interoperability/data exchange
Interoperability with Autodesk® 360

- New “Online” menu
- Data access to Autodesk 360
- Upload and share maps and drawings with others

Autodesk 360 integration is transforming mapping collaboration

New in AutoCAD Map 3D 2014
Publishing and interoperability/data exchange
Share data in 3D environments

- Share data to support 3D modeling and existing conditions data
- Data sharing with Autodesk Infraworks
- Use CAD, GIS, and spatial analysis data to build 3D model

Help prevent expensive repairs or relocation projects and better support safety
Share data from both AutoCAD Map 3D 2013 and 2014

Model data courtesy of Okaloosa Gas District
Publishing and interoperability/data exchange - Slide 21

Share AutoCAD dwg data with contractors
- Enhanced line and hatch pattern generation when saving to AutoCAD
- Including attribute Z value in DWG object for 2D industry models
Industry modeling and data management
## Industry modeling and data management

Key capabilities available in both AutoCAD Map 3D 2013 and 2014

<table>
<thead>
<tr>
<th>Area</th>
<th>Change</th>
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</thead>
<tbody>
<tr>
<td><strong>Industry modeling</strong></td>
<td>Create or update industry model data with new extract/update/merge capabilities within AutoCAD Utility Design (enhanced in 2014)</td>
</tr>
<tr>
<td></td>
<td>Develop linear referencing system (LRS) model for rail or transportation</td>
</tr>
<tr>
<td>Data management</td>
<td>Manage spatial data in almost any format and use industry models for both stand-alone and enterprise environments</td>
</tr>
<tr>
<td>Data management</td>
<td>Access and manage industry models in both Microsoft® SQL® and Oracle® database environments</td>
</tr>
<tr>
<td>Data management</td>
<td>Windows® Workflow Foundation (WF) helps to automate repetitive tasks</td>
</tr>
</tbody>
</table>
Industry modeling and data management

Enterprise data management

- Standalone industry models in an embedded DWG
- Access and manage industry models in Microsoft SQL Server
- Access and manage industry models in Oracle database environments

Access data in more formats—integrate to enterprise systems (SAP)
Available in both AutoCAD Map 3D 2013 and 2014
## Comparison matrix industry models

<table>
<thead>
<tr>
<th>Area</th>
<th>Oracle</th>
<th>Microsoft SQL Server</th>
<th>Embedded DWG (SQLite)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Users</strong></td>
<td>Multiuser</td>
<td>Multiuser</td>
<td>Single user</td>
</tr>
<tr>
<td><strong>Enterprise project</strong></td>
<td>Possibility to have more than one</td>
<td>Possibility to have more than one</td>
<td>Single industry model</td>
</tr>
<tr>
<td><strong>industry model</strong></td>
<td>industry model</td>
<td>industry model</td>
<td></td>
</tr>
<tr>
<td><strong>Versioning</strong></td>
<td>Jobs based on VPD (with Oracle Enterprise Edition)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>User groups</strong></td>
<td>Security at the DB level</td>
<td>Security at the DB level</td>
<td></td>
</tr>
<tr>
<td></td>
<td>User groups in Map</td>
<td>User groups in Map</td>
<td></td>
</tr>
<tr>
<td><strong>Feature rules</strong></td>
<td>Server and client side</td>
<td>Server and client side</td>
<td>Client side</td>
</tr>
<tr>
<td><strong>Plot extension</strong></td>
<td>Available</td>
<td>Available</td>
<td>-</td>
</tr>
<tr>
<td><strong>Profile Extensions</strong></td>
<td>Available</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>3D industry models</strong></td>
<td>Supported (with Oracle Spatial)</td>
<td>Not supported</td>
<td>Not supported</td>
</tr>
</tbody>
</table>
Industry modeling and data management
Create industry models from GIS or design data

- Industry models (electric, gas, water, wastewater)
- Convert GIS and CAD data—works with FDO and DWG data
- Linear referencing systems for industry models (road, rail, and utility networks)

Flat data becomes smart data
Available in both AutoCAD Map 3D 2013 and 2014
Industry modeling and data management
Create or update industry model with intelligent design data

- Extract/update/merge capabilities within AutoCAD Utility Design
- Design data is shared with mapping/as-built more easily

GIS and asset management integration becomes more practical and easier to use for any utility of any size
Enhanced in AutoCAD Map 3D 2014
Industry modeling and data management
Create industry models from GIS or design data

1. Connect to GIS/DB source
2. Map source to Utility Design model
3. Query a subset of source data
4. Do design
5. Reconnect to GIS/DB source
6. Reestablish mapping
7. Merge changes into GIS/DB

GIS or Asset Management DB
Industry modeling and data management
Create industry models from GIS or design data

- Configurable interface
- Supports two-way integration with GIS systems and asset databases

GIS and asset management integration becomes practical and easy to use for any utility of any size.
Autodesk AutoCAD Map 3D 2014

What’s New: Summary

- Commercial basemap and geolocation tools
- Improved features within Autodesk Infrastructure Map Server 2014* that helps to improve publishing mapping data to online and mobile users
- Easy-to-access online workspace using Autodesk 360
- Enhanced extract/update/merge capabilities of AutoCAD Utility Design 2014

Learn more:
- Top Reasons to Purchase/Upgrade
- Web mapping with Autodesk Infrastructure Map Server
- AutoCAD Map 3D Training

AutoCAD Map 3D 2014 is part of Autodesk Infrastructure Design Suite 2014
Standard, Premium, and Ultimate Editions

*Autodesk Infrastructure Map Server sold separately
AutoCAD, which underlies Map 3D, is also coordinate-system aware.

Quickly and easily access data from Autodesk 360.
Easy-to-use “GEOMAP” command provides access to the new Autodesk Maps service, which is part of Autodesk 360
Easier to incorporate adding aerial or street-level information in AutoCAD Map 3D

Geocode and reverse geocode based on a project location address
Create mash-ups and widgets from OGC services such as Google Street View™ mapping service.

Create a quick plot of a map and publish to PDF.
New online tab for Autodesk 360

Directly access Autodesk 360, upload and share maps and drawings with multiple stakeholders
Establish a connection to GIS or database source and then map between source content and utility design model.

Completed designs can be added back to as-built information by reconnecting to GIS or database source and merging changes into the GIS or database.
Create and manage intelligent industry models by converting GIS and CAD data

Populate new industry model from FDO data sources or DWG files and map feature classes and attributes
Intelligent data is stored in the model and can be shared between design and GIS

Define details of the data mapping between the GIS or database source and AutoCAD Utility Design industry models.