

## Data Editing in MapInfo Pro v2019

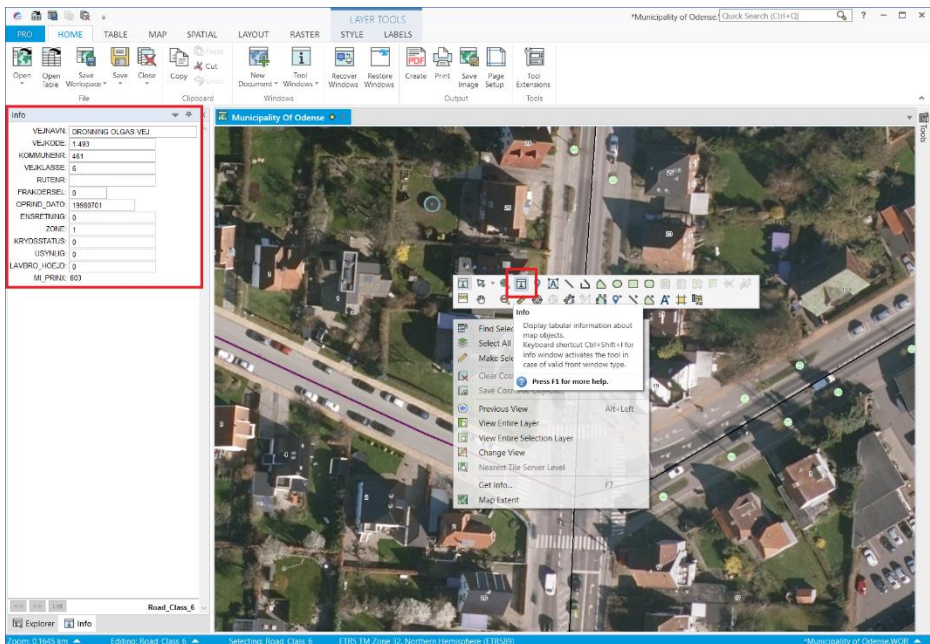
A short walk thru of some of the things that makes editing in MapInfo Pro so easy.

### Attribute Editing

MapInfo Pro allows you to change, edit or update attribute information in multiple ways.

Native and NativeX tables can always be edited in MapInfo Pro, unless you don't have write access to them at a file level.

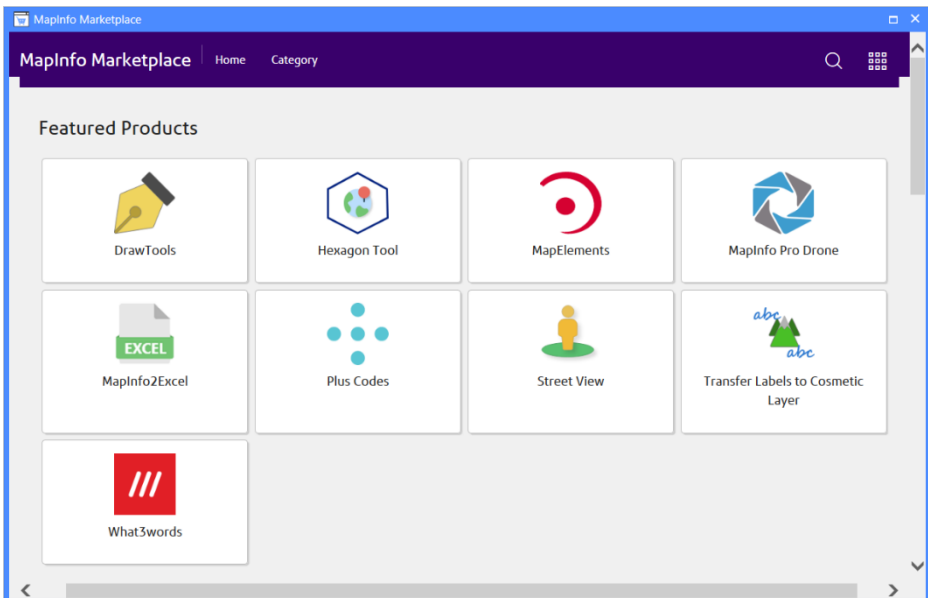
MapInfo Pro can access multiple other formats. Not all of these can be directly edited in MapInfo Pro. In order to edit these, you might have to save a copy of them into a native MapInfo format.



Using the Info window, you can easily edit attributes of a single or few records at a time. Use the Info tool to click on the record you want to edit to show it in the Info window.

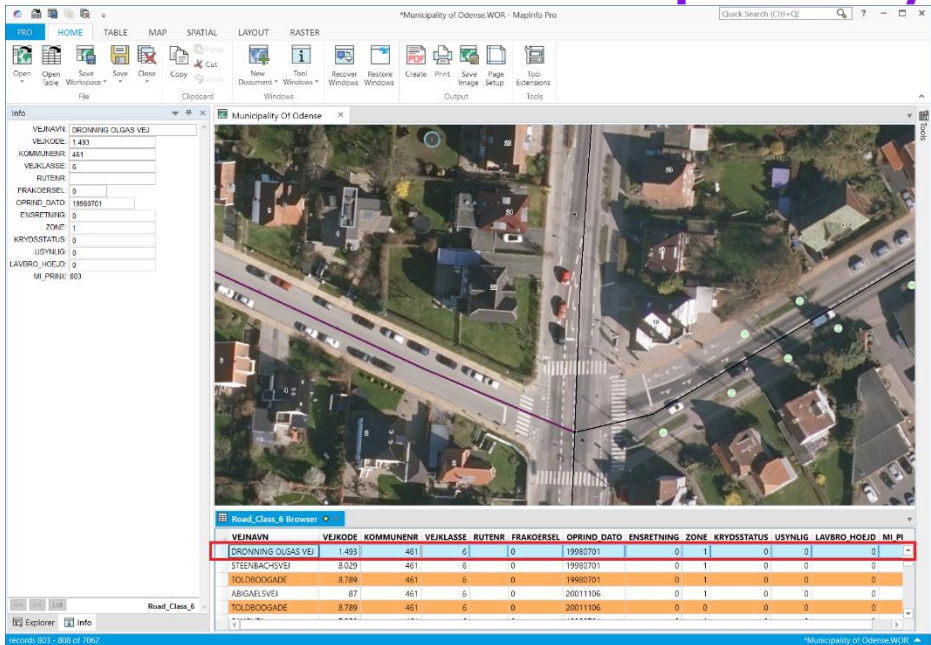
Notice that the *Map Mini Toolbar* shown in the image on the previous page has been customized for data editing. You can modify your own *Map Mini Toolbar* as well to hold exactly the tools you prefer for a given job. You can even have multiple versions which makes it easy to switch between the different *Map Mini Toolbars*.

You can find custom tools on the *MapInfo Marketplace* that allows you to show the attributes of the selected record in the Info window. In many cases this is a help as you don't have to switch between the different tools. Check out the tools *InfoSelHandler 3.0 x64* or *WindowHelper 3.0 x64*.



From the *MapInfo Marketplace* you can download, install and load the tools with a single click. The Marketplace also lets you know when there is an update to a tool you have downloaded from here.

You can view your Map window and a Browser window of your table at the same time. In the image below, the two windows have been arranged in two vertical tab groups. Using the shortcut Ctrl+Shift+F you can easily view the selected record in both windows.

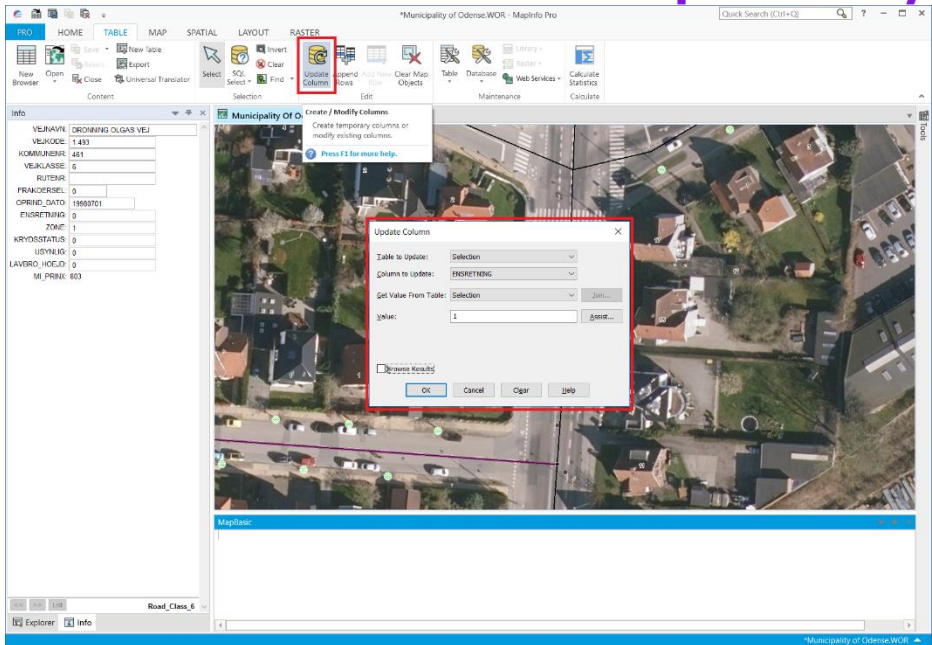


You can edit the attributes via the browser window.

If you need to update multiple records, you can use the *Update Column* dialog to update an entire table or just the selected records (using the Selection) in a few clicks.

The *Update Column* command is accessible from the *Table* tab but you can also add it to the *Map Mini Toolbar* for quick access. And you can assign a keyboard shortcut to this and any other command in MapInfo Pro using the *Command Editor* tool from the *Tool & Extensions* window.

With MapInfo Pro v2019, the *Update Column* command can also be found in the new SQL dropdown that you can find on the *Table*, *Map* and *Spatial* tab.



If you have the *MapBasic* window open when running an *Update Column* command, the statement will be recorded. You can now execute this statement again simply by positioning the cursor in the line and hitting *Enter* on the keyboard. Depending on your *Preferences* for the *MapBasic* window, you might have to hit *Ctrl+Enter*.

If you use the *MapBasic* window, you can also modify the *Update* statement to update multiple columns with one statement simply by separating the individual column = value pair with a comma (,).



Any SQL statement that you execute in MapInfo Pro v2019 will be recorded, and you can find these in the Scripts dropdown in the SQL Window throughout the session. From here you can modify the script and run it again.

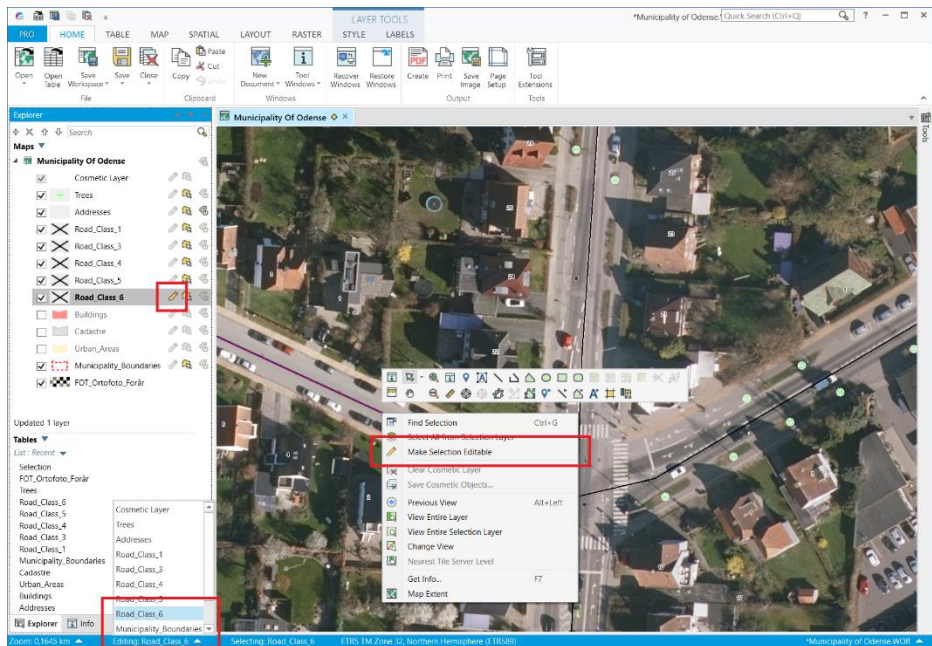
The layer does not have to be editable in your map window for you to update the attributes via the Browser window, via the Info window or via Update Column.

MapInfo Pro also comes with a tool, *Search & Replace* that lets you search for specific sub strings to be replaced with other sub strings.

## Making a Layer Editable

MapInfo Pro allows you to quickly start editing any layer opened in a map window.

You can use the *Layer List* in the *Explorer* window to make a specific layer editable, you can use the *Editing* dropdown list in the *Statusbar* and you can use the context menu of the map window to make the selection layer editable.





This also means that you can quickly switch between different editable layers in case you are editing multiple feature types at the same time.

You do not have to save changes to one layer before you can start editing another layer. You just switch between what layer you want to edit at any time.

It is important to notice that you can only have a single layer editable at any time in each map window. You can however have multiple map windows with different editable layers and switch between these map windows.

## Vector Editing

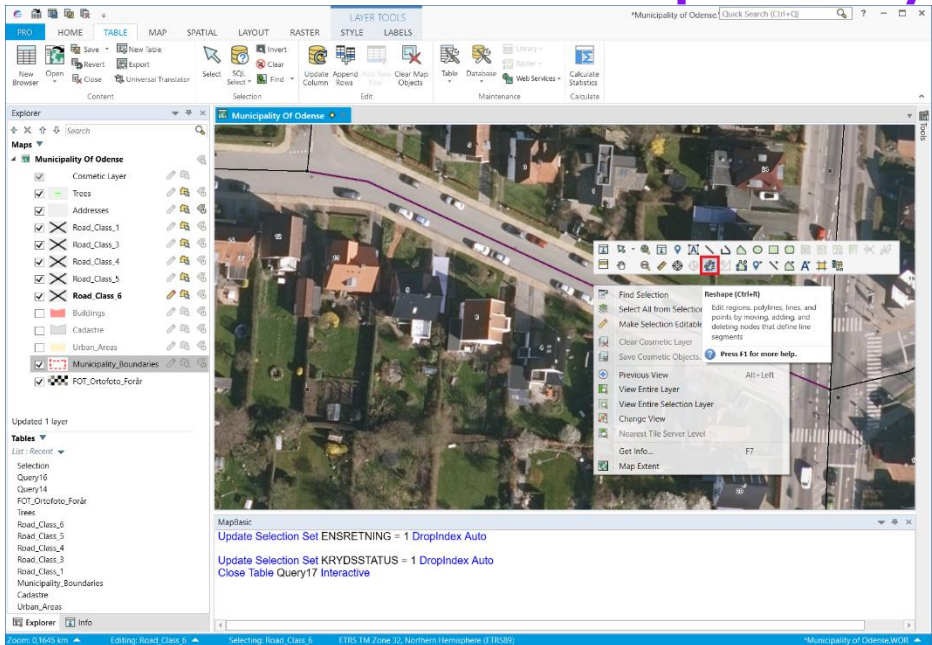
To edit the spatial elements of your data, you typically need to make the layer editable first. At least if you use the built-in tools in MapInfo Pro for doing the editing.

Most vector editing commands are located on the *Spatial* tab. You can also find some on the default Map Mini Toolbar and as mentioned before you can add additional commands to the Map Mini Toolbar for easy access.

You can make simple changes to your spatial data by selecting the element and then for instance dragging it to a new position. MapInfo Pro also has commands for offsetting objects more precisely if needed.

For lines, polylines and polygons, you can also change the individual nodes of the spatial data or add new nodes, for polylines and polygons.

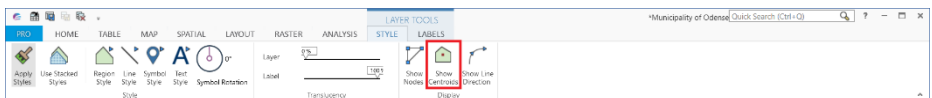
First, you need to enable the *Reshape* state for the layer. You can do this via the *Map Mini Toolbar* or via the keyboard shortcut Ctrl+R. *Reshape* is also accessible via the *Nodes* dropdown on the *Spatial* tab.



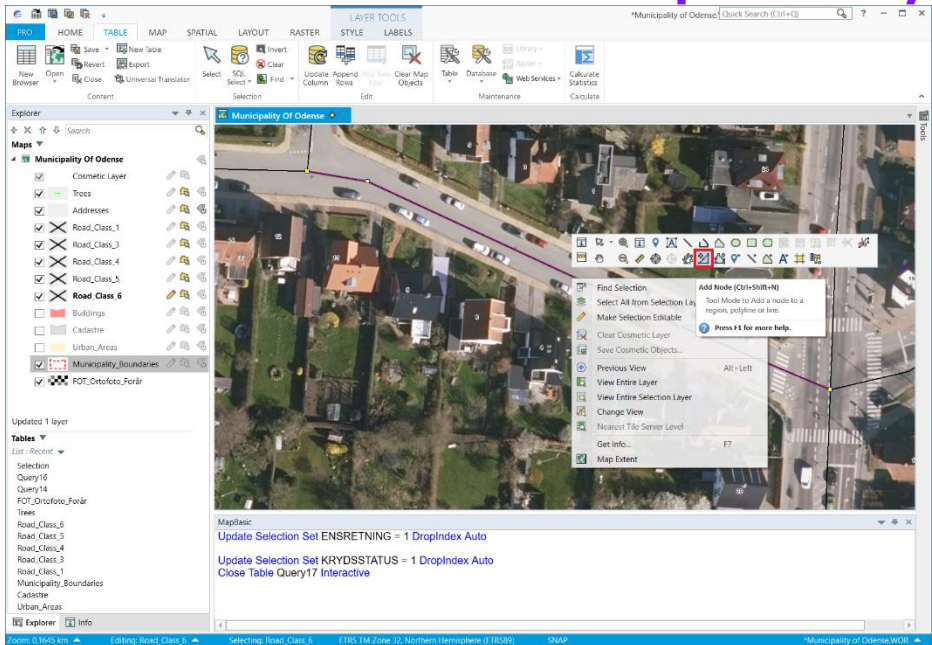
Now you can see the individual nodes of the selected object and using the *Select* tool you can select these nodes and move them using the mouse or delete them using the *Delete* key on your keyboard.

You can move the centroid of the object if you have set the layer to show these. You can easily set this via the *Style* tab when the layer is selected. This only works for polygons.

The centroid is used to determining the position of the label unless you have asked MapInfo Pro to use the *Auto Position* option.



You can also activate the *Add Nodes* tool and insert new nodes between existing tools. You can access the *Add Nodes* via the *Map Mini Toolbar*, via the *Nodes* dropdown on the *Spatial* tab and via the keyboard shortcut **Ctrl+Shift+N**.



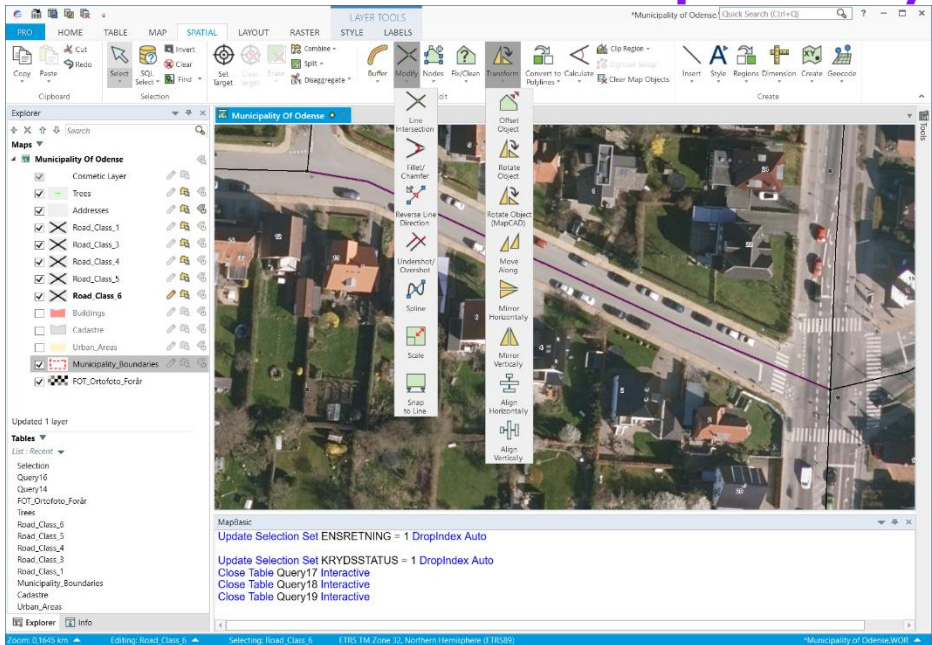
You can enable *Snap* using the S-key on your keyboard to snap an existing or new node to another node in the same layer or in a different selectable layer.

MapInfo Pro has numerous tools for modifying spatial objects. Some of these are built-in to MapInfo Pro and some of these come with the *MapCAD* tool that comes with MapInfo Pro. You might have to load this tool manually from the *Tools & Extensions* window

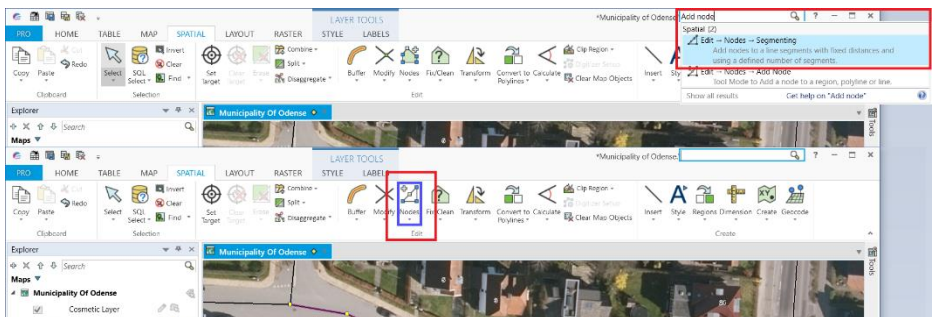
Once *MapCAD* has been loaded either manually or automatically, the user may not notice the difference between the built-in tools and those from *MapCAD* as *MapCAD* is integrating its tool smoothly into the interface of MapInfo Pro.

In the image below, you can see some of the CAD or object editing tools available in MapInfo Pro.





You can use the *Quick Search* tool to find the tools you are looking for. Type a search string into the tool in the top right corner and see a list of matching tools. Once you click on the tool, it will get activated and it will also become highlighted in the interface.



## Adding Spatial Data

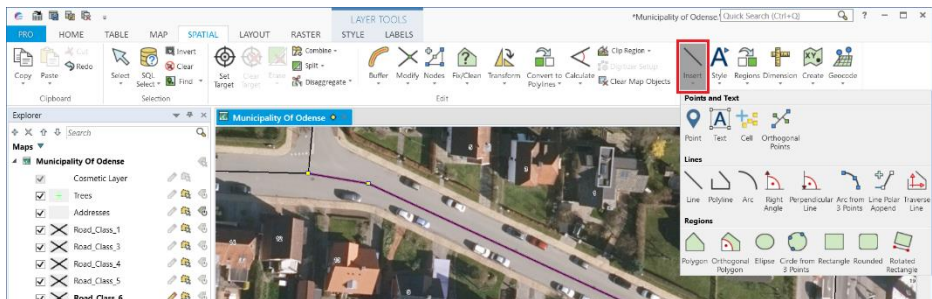
So far we have looked at editing existing data, spatial and attribute. MapInfo Pro also allows you to enter new data into an existing table.

You will often start with entering the spatial data by adding this to the editable layer via the map using one of the many tools. And then update the attribute information afterwards, using the Info window or a browser window.

You can access the tools via the *Map* tab where you can find the built-in tools in the *Insert* dropdown.



Or you can use the *Insert* dropdown on the *Spatial* tab where it also contains the Insert/Create tools from *MapCAD*.



The built-in tools and some of the *MapCAD* tools support snapping to existing nodes in the same layer or different selectable layers.

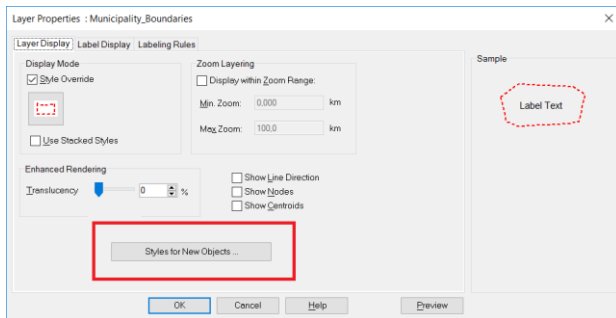
The tools that allow multiple nodes have a number of other features that come in handy when drawing.

You can:

- Activate *Snap* using the 's' key on your keyboard
- Activate *Trace* by holding down the Ctrl or Shift key on your keyboard after having started drawing your polyline or polygon. Trace lets you follow existing objects in the editable layer or other selectable layers in the map. Do note that trace only follows one object at a time. This requires *Snap* to be active.
- You can also turn on *Autotrace* using the 't' key on your keyboard. This enables MapInfo Pro to trace along the feature you have snapped to. This requires *Snap* to be active.
- You can by holding down the Shift key draw line segments locked at 45 degree angles, say, 45 °, 90 °, 135 ° etc. This requires *Snap* not to be active.
- You can by holding down the Ctrl key draw line segments locked at 45 degree angles related to the previous line segment, say, 45 °, 90 °, 135 ° etc. This requires *Snap* not to be active.
- Activate *Autonode* by hitting the 'n' key on your keyboard. MapInfo Pro will now automatically add nodes to your polyline or polygon as you move the cursor around the map.
- Delete nodes when drawing polylines and polygons using the Backspace key on your keyboard
- Show a crosshair across the entire map by hitting the 'c' key on your keyboard.
- Change the size of your cursor using the 'x' key on the keyboard.
- Zoom and pan in the map while drawing using the arrow keys and the plus (+) and minus (-) keys on your keyboard.
- Scroll the map while drawing by moving the cursor outside the area of the map.
- Pan the map by holding down the Scroll Wheel and moving your mouse.

If you have the *Info* window open while adding new records, the new record will be shown in the Info window when you have finished drawing it. This makes it easy to add attribute information to it.

Also note that MapInfo Pro is using the current style for the new spatial records that you are adding. You can change these afterwards or before you draw the spatial objects.



You can also set a style per layer and in this way control the style used for new records added. This is set via the Layer *Properties* dialog that you access via the context menu of the layer. Notice that the *Styles for New Objects* only is accessible when the layer is editable.

This is saved to the metadata section of the table and so saved across sessions.

If you have applied a theme on your layer, the style of the newly added features will adopt the styling from the theme as they get created or have their attribute data changed.

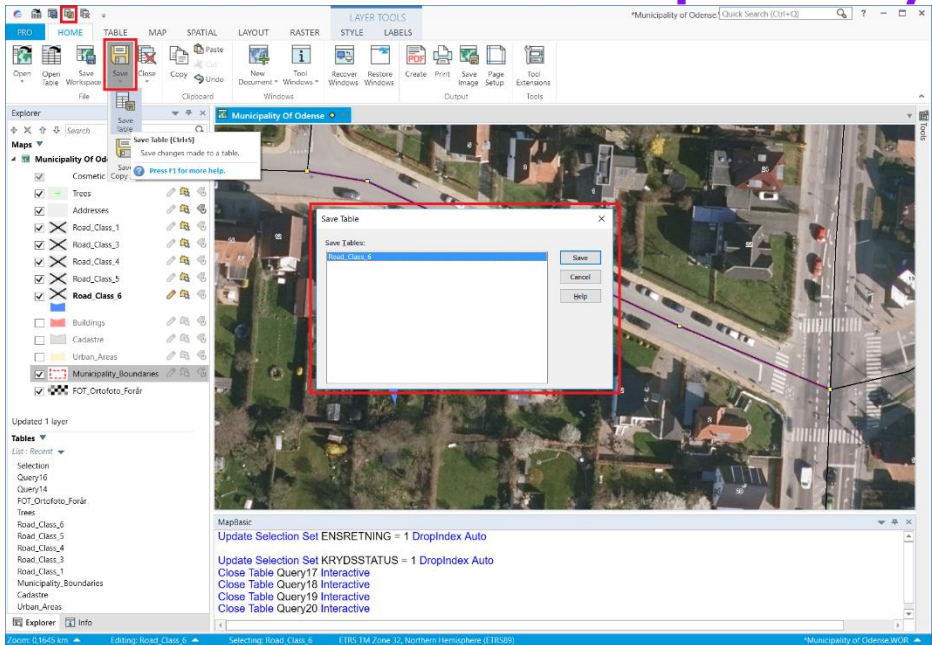
## Saving changes

To save your changes, use the *Save Table* command. You can access this from the *HOME* and *TABLE* tab. By default this command is also available via the *Quick Access Toolbar* at the top of the MapInfo Pro application window.

Finally, you can access it via Ctrl+S.

If you have made a mistake when creating a new record or changing an existing record, you can use Ctrl+Z to undo this change. MapInfo Pro only allows you to undo the latest change. This change can have effected multiple records and in that case, all these changes will get undone.

Your System Settings control how many records you can undo changes on. You can also specify this as an amount of memory.



If you have made some changes that you don't want to save, you can always revert your changes to the last time you saved your table. *Revert Table* is accessible via the *Table* tab.

## Multi User Editing

While you are editing a table in MapInfo Pro, the changes are stored in a set of transaction files. The transaction files prevents other users from editing the same set of tables that you current are editing.

You can however if your data is stored in a spatial database, use personal tables and in this way have multiple users edit the same database table thru individual tables.

If multiple users are editing a table at the same time, there is a chance that two users edit the same record. MapInfo Pro has a Conflict Detection and Resolution mechanism that lets the user know if another user has made changes to the records he is trying the save. It's now up to the user to decide which version of the record to keep.



When you are saving changes to a spatial table, it's recommended also to refresh the table to get changes from the database loaded into your local table. This is especially important if there are multiple users editing the same tables or if you have triggers updating the data as it get inserted or updated in the database.

## Coordinate Precision

MapInfo Pro stores coordinates in the tab files using Integer values. This has an effect on the precision of the coordinate system that you need to be aware of. A typical unbounded coordinate system, for example Lat/long WGS84, has a resolution of just around 10 cm. For many use cases this is sufficient.

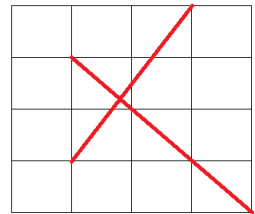
For more local coordinate system, often projected coordinate systems, the bounds are more local around the targeted area. This has a positive effect on the resolution of the coordinate system where it can get lowered to a sub-centimeter resolution.

You need to be careful when working with data in different projection or with different bounds. This can make it impossible to snap object together as their resolution isn't aligned.

When trying to visualize the resolution of a coordinate system in MapInfo Pro, think of a squared piece of paper where the points can only be inserted where two lines cross each other.

This means that you might not always be able to insert a new node directly on an existing line as the line might cross where there is no intersection point.

This is what the image to the left illustrates. The two red lines begin and end in intersections of the black lines which illustrates the resolution of the coordinate system.



But the intersection between the two red lines isn't located at an intersection of the black lines. If you were to create a node at the red intersection, it will be moved to the nearest black intersection.

MapInfo Pro lets you create points in the Cosmetic Layer in a map window. You need to know that the resolution of the cosmetic layer in any map only is around 10 cm no matter what coordinate system you are using in your map.