

How to make a traffic road thematic map

In the application of road navigation, it is often necessary to express the flow and congestion of the road through the thematic map, e.g, green means smooth, yellow means amble, red indicates congestion. When viewing map in large scale, generally the roads include main roads, auxiliary roads, ramps, which can be displayed by a thematica map according to the road traffic congestion data field information. In the case of small scale, generally the roads are expressed with two-way, and they does not show the auxiliary road and ramp traffic congestion, only show the main road in two directions, in this case, in order to avoid road overlap, it's needed to make offset for the roads.

The example is based on the NavInfo data, to introduce how to make real-time traffic road map. It mainly includes two parts:

Make traffic road map

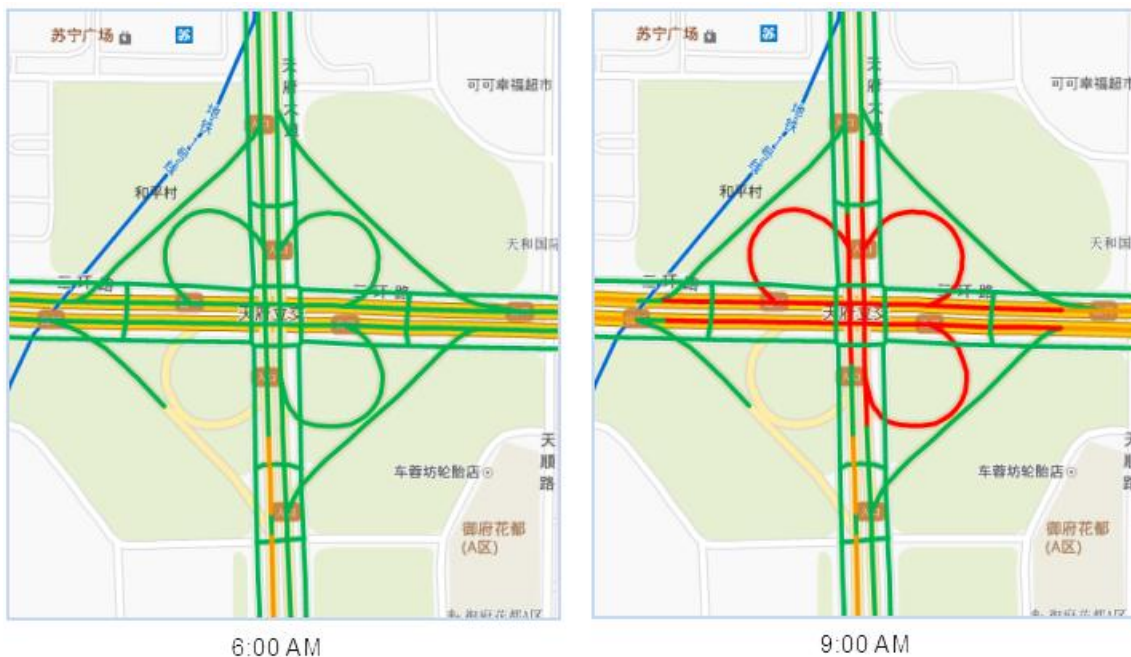
Correct road lines

Make traffic road map

After making the background map, make the unique value thematic map according to the traffic condition field, where green means smooth, yellow means slow, red means congested. Also set the visible scales, that is, to display the traffic condition of the double line road at small scale, and to display the condition of all roads at big scale. In addition, it can make the traffic map at different time.

Traffic condition map at large scale

Add the NavInfo line data to the background map, and make three unique value thematic maps at 6, 9 and 18 based on the Condition6, Condition9 and Condition18 respectively. The field value 1 means smooth, 2 means slow, and 3 means congested, which are represented with green, yellow and red respectively.



Set the minimum scale of the thematic map layer to 1:9028. If users want to view the traffic condition at specified time, set the other thematic layers invisible at this scale.

Traffic condition map at small scale

The traffic condition map should also be made hierarchical mapping and display, for example, at large scale, the ramp traffic condition can be displayed, but at a smaller scale, the ramp may not display traffic; at large scale, it displays auxiliary road traffic, but at small scale it does not show.

2 To show the road condition in a small scale, firstly ensure the data fields contain two kinds of information: 1, a field to represent whether the road is a single-way or two-way or non condition displaying road; 2, a field to represent the road condition, secondly make the unique value thematic map with the condition field and set the different styles, then specify the field expression to indicate which kind of road the line is, set the offset distance for the two-way roads, unit: 0.1mm.

1. Double click the road thematic map in layer manager to open the Thematic Map Manager panel. Check the Traffic Situation check box in Advanced tab, set the Road Grading field. The field value 0 means not do display traffic condition; 1 means the road is single way road; 2 means the road is highway.

Note: the offset effect is only valid for the non system symbols, not supporting the line symbols with ID being from System0 to System5. About how to modify the line style, please refer to Thematic Map Manager.

2. In Road Offset, it sets the offset distance. The positive value means that it will make offset to the left of the line direction; the negative means to the right. Unit: 0.1mm. This setting can display the double-way road clearly at small scale.



When zooming out the scale, the roads may be overlapped, and the congestion condition can't be seen clearly. If users want to display the condition of the double-way roads clearly at small scale, SuperMap provides the Traffic Line Correction function to improve the display effect, which will determine whether to display the traffic condition and process the offset values, please refer to [Traffic Line Correction](#).



Traffic Line Correction

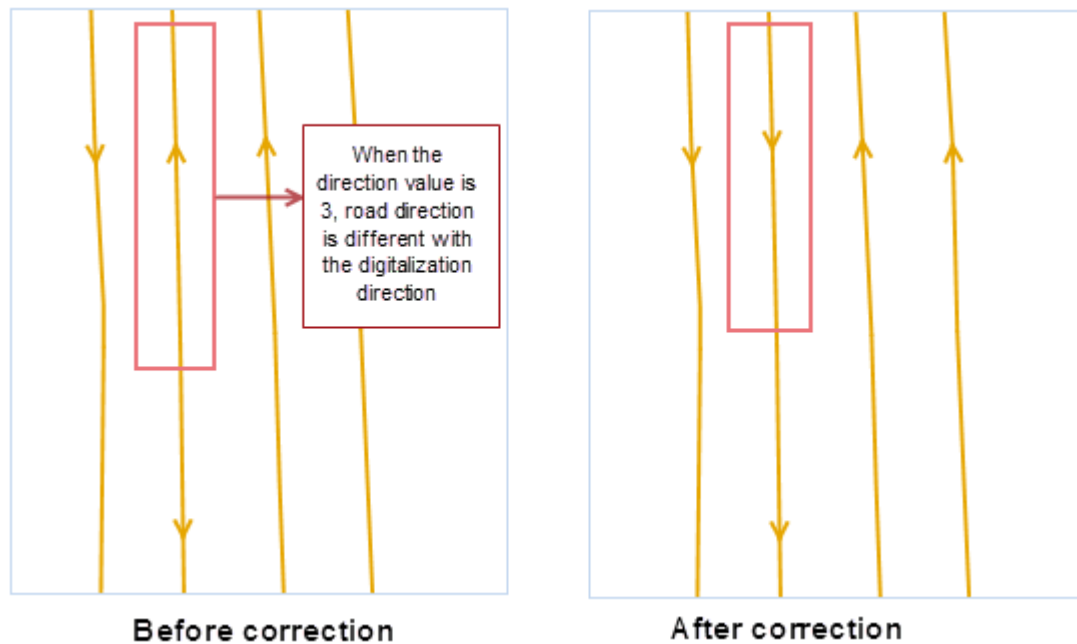
The principle to display the traffic condition with double line is to make specified offset distance for each line to both sides. The offset direction is on the right (positive value) of the line object digitalization direction or on the left (negative value). But sometimes, the two lines has the same digitalization

direction, the offset will be wrong. The Traffic Line Correction function can change the same direction to the different direction.

This function will change the source data, so please make a copy for the data. Note: the following sample data is from NavInfo. If your data is not NavInfo, please use the corresponding fields.

1. Click Data>Data Processing>Traffic Line Correction to open the dialog.

2. Set the road line dataset to be corrected and corresponding fields.
 - Start Field: the start node field of the line object.
 - End Field: the end node field of the line object.
 - Direction Field: the relation between the road direction and digitalization direction. Set the fields to correspond to BothWay, Forward and Reverse.
 - BothWay: it means there is no relation with the digitalization direction, and it is a double-way road, represented by 1;
 - Forward: it means the road direction is consistent with the digitalization direction, represented by 2;
 - Reverse: it means the road direction is different with the digitalization direction, represented by 3;



3. Set the reference point dataset and ID fields to match with the start and end fields of the line data in Reference Point part.
4. The Assist Settings part is used to set for the same type of roads with unified value, which is convenient for the small-scaled map road display. SuperMap uses 0, 1 and 2 to represent them, where 0 means not to display the traffic condition such as auxiliary roads at small scale, 1 means the road is single line road such as the ramp, and 2 means the road is double-way road such as the highway.

Because the encoding of the same type of roads in NavInfo data may be different, it's suggested to use SQL expression to set the road display type, and 0, 1, 2 are stored in the display type field. E.g, the encoding of the auxiliary roads contains 030a and 060a, and the corresponding "Status" field is 0.

5. Click OK to start.

Extension Upgrade

It introduces how to upgrade the plugins or application from a lower iDesktop version to SuperMap iDesktop 8C(2017).

1: It pops up the XtraForm reference is not found when compiling the source codes.

Reason: it inherits from UIForm of iDesktop.

Solution: Add the DevExpress.Utils.V15.2 reference in the project. Note, DevExpress.Utils.V15.2.dll is in Bin folder of iDesktop.

2: After launching iDesktop, the output window is not available.

Reason: “SuperMap.Desktop._Output” is renamed to “SuperMap.Desktop.UI._Output”, and the location is changed to “./SuperMap.Desktop.UI.Controls.dll” from “./Plugins/Frame/SuperMap.Desktop.Frame.dll”.

Solution: modify the relevant configurations in SuperMap.Desktop.Frame.config under WorkEnvironment\Default.



```

1,327" control="SuperMap.Desktop.UI.WorkspaceControlManager" assemblyName="./SuperMap.Desktop.UI.Controls.dll" autoHide="false" helpURL="" index="0"
5" control="SuperMap.Desktop.UI.LayersControlManager" assemblyName="./SuperMap.Desktop.UI.Controls.dll" autoHide="false" helpURL="" index="1" />
309" size="1440,148" autoHide="false">
.126" control="SuperMap.Desktop._Output" assemblyName="./Plugins/Frame/SuperMap.Desktop.Frame.dll" autoHide="false" helpURL="" index="0" />
control="SuperMap.Desktop.UI.PropertyControl" assemblyName="./SuperMap.Desktop.UI.Controls.dll" autoHide="false" helpURL="" />

5,726" autoHide="false">
ol="SuperMap.Desktop.UI.WorkspaceControlManager" assemblyName="./SuperMap.Desktop.UI.Controls.dll" autoHide="false" helpURL="" index="0" />
SuperMap.Desktop.UI.LayersControlManager" assemblyName="./SuperMap.Desktop.UI.Controls.dll" autoHide="false" helpURL="" index="1" />

"285,809" size="1914,148" customProperty="">
09" size="1914,144" control="SuperMap.Desktop.UI._Output" assemblyName="./SuperMap.Desktop.UI.Controls.dll" helpURL="" customProperty="" />
erMap.Desktop.UI.PropertyControl" assemblyName="./SuperMap.Desktop.UI.Controls.dll" autoHide="false" helpURL="" />
ize="300,551" autoHide="false">
1="SuperMap.Desktop.FunctionSearchDockBarControl" assemblyName="./Plugins/Frame/SuperMap.Desktop.Frame.dll" autoHide="false" helpURL="" />

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Updated to

Fig: Its Location Changes

3: if the plugin/application directly uses the function in old version of iDesktop such as SQL query, these functions can be used, but don't have icons.

Reason: the save path of some icons have be changed. E.g., for the SQL query, it is located in image="..\Resources\DataView\Icon\Dataset\Query\SQLQuery.png", now it locateds in image="..\Resources\DataView\Icon\Query\SQLQuery.png".

Solution: Modify the relevant save path of icons according to the configuration files in WorkEnvironment.

4: if the plugin/application directly uses the function in old version of iDesktop such as Spatial query, these functions can't be used.

Reason: it deletes SuperMap.Desktop.Assistance.dll and SuperMap.Desktop.DataProcess.dll in 8C(2017) version, and relevant functions are covered in other dll.

Solution: Modify the relevant dll path of the relevant functions according to the configuration files in WorkEnvironment.

5: some controls in Ribbon are not arranged neatly, especially in the area CheckBox and the controls are dense.

Reason: 8C(2017) uses the new interface library DevExpress. There may be comparability problem for the configuration file.

Solution: modify the relevant configuration files in WorkEnvironment.

6: The public CtrlAction(IBaseItem caller, IForm formClass) constructor in CtrlAction is obsolete.

Reason: The constructor function in CtrlAction of 8C(2017) doesn't support 2 or more parameters.

Solution: modify the relevant configuration files in WorkEnvironment.