Industry navigation data making

1 Overview

This document takes Beijing data as an examples to describe how to create business navigation data.

1.1 Introduction of route net data

<table>
<thead>
<tr>
<th>Dataset name</th>
<th>Dataset type</th>
<th>Number of object</th>
<th>Index type</th>
<th>Projection information</th>
<th>Field information</th>
</tr>
</thead>
<tbody>
<tr>
<td>NG_T</td>
<td>Line dataset</td>
<td>39832</td>
<td>Non index</td>
<td>GCS_WGS_1984</td>
<td></td>
</tr>
</tbody>
</table>

1.2 Tool

<table>
<thead>
<tr>
<th>Product name</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>iDesktop</td>
<td>9.0.0</td>
</tr>
</tbody>
</table>

2 Data process

2.1 Topology checking/Processing data in topology

2.2 Constructs network dataset

2.3 Adds turn table(Optional)

2.4 Adds traffic rules (Optional)

2.5 Sets road name

2.6 Creates network analysis index

2.7 Creates network model file

2.1 Topology checking/Processing data in topology **Contents**

For detail operation about processing line data in topology, please reference iDesktop help document.
2.2 Construct network dataset [Contents]

![Figure 2-2-1 Construct network dataset](image)

**Detail steps:**
1. Select a line dataset to create network dataset.
2. Click "Data" tab.
3. Click "Network by Topology" > "Structure 2D Network"
4. The dataset name can be modified, but checkbox "Split Line by Point" and "Spilt lines at Interaction" can't be checked.

For other parameters, you can modify them according to your needs.

There are some field information added after constructing network dataset successfully.

![Figure 2-2-2 New added fields](image)

2.3 Add turn table(Optional) [Contents]

Create turn table

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Add: 6/F, Building 107, No. A10, Jiuxianqiao North Road, Chaoyang District, Beijing, 100015, CHINA, 100015
E-mail: request@supermap.com Website: www.supermap.com
**Detail steps:**
1. Open a network dataset to create turn table
2. Click "Traffic Analysis" tab.
3. Click "Environment Settings"
4. Click "Create Turn Table".
5. Click "OK".

Figure 2-3-1 Create turn table a
All of the value of TurnCost are 0 when a turn table is created successfully. You need to define them.

**Edit value of field TurnCost.**
According to actual situation to assign value to TurnCost. -1 means turning direction is forbidden. For details, please read iDesktop help document.

2.4 Add traffic rules (Optional) [Contents]

Add traffic rule field for Network dataset

<table>
<thead>
<tr>
<th>Field name</th>
<th>Field value</th>
</tr>
</thead>
</table>
| Direction  | 0: Forbidden lines 1: Two-way 2: One way forward direction 3: One-way reverse direction  
Note: The field is defined by users with the field name and value can be defined. The value can either be text or number. |

Such as:
2.5 Set road name **Contents**

**Set road name field for Network**

<table>
<thead>
<tr>
<th>Field name</th>
<th>Field value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PathName</td>
<td>Text</td>
</tr>
<tr>
<td></td>
<td>Note: The field is required by network dataset with its name can be defined by user.</td>
</tr>
</tbody>
</table>

2.6 Create network analysis index **Contents**

Before performing analysis, creating spatial index and field index for network dataset and its child dataset is suggested to improve analysis performance, otherwise, the analysis operation will be very slow because of device.

**Create spatial index**
Select "Rebuild Spatial Index" by right clicking a selected network dataset.

Set the index type as R-tree index, and then click "OK".

Figure 2-6-1 Create spatial index
Create field index

Click on "Start" tab, then select "Field Index"

Select network dataset and field creating index. The field should identify arc ID (SmEdgeID). Finally click "OK".
And then select child dataset of network dataset and field creating index. Also, the field should identify arc ID (SmEdgeID). Finally click "OK".
2.7 Create network analysis index

Detail steps:
1. Open a network dataset to create index.
2. Click "Traffic Analysis" tab
3. Click "Environment Settings" button.
4. Set traffick rules(Optional), turn table(Optional) and arc info field (road name field), in turn.
5. Click "Network Model File" button, and specify file path, then click "OK".
Figure 2-7-1 Create network model file