

**BZ10M: Bolzano Roads Network - Network Data Model**

**Import**

```
imp user/pass file=/bz10m/roads_network-1.0.dmp full=y
```

Create network (needs to be done once):

```
INSERT INTO USER_SDO_NETWORK_METADATA(  
    network, network_category, geometry_type,  
    node_table_name, node_geom_column,  
    link_table_name, link_geom_column, link_direction)  
VALUES(  
    'BZ_ROADS_NET', 'SPATIAL', 'SDO_GEOMETRY',  
    'BZ_ROADS_NODE$', 'GEOMETRY',  
    'BZ_ROADS_LINK$', 'GEOMETRY', 'UNDIRECTED');
```

Current version: 1.0 (9/26/2007)

The imported network data model will contain two tables: BZ\_ROADS\_LINK\$ and BZ\_ROADS\_NODE\$

The links are taken directly from the [Spatial table](#) road segments (linestrings). The nodes are created by generating a node for each segment start and end points.

**Columns**

**BZ\_ROADS\_LINK\$:**

LINK_ID	ID of the link. Equals to the <a href="#">Municipality's spatial table</a> ID column with the following formula: LINK_ID=ID-23800000000000 - this is because <a href="#">NDM Network Editor</a> is not able to visualize objects with huge IDs
START_NODE_ID	ID of the starting node of the link in the BZ_ROADS_NODE\$
END_NODE_ID	ID of the ending node of the link in the BZ_ROADS_NODE\$
COST	NUMBER value created for your needs. Now it is entirely set to NULL
LINK_NAME	Name of the link (street name). Copied from the <a href="#">BZ_ROADS.NAME</a>
LENGTH	The length of the link in meters, a thousandth part precision. Copied from the <a href="#">BZ_ROADS.LENGTH</a>
MINUTES	Amount of minutes to travel this link. Copied from the <a href="#">BZ_ROADS.LINK</a>
KPH	Speed limit. Copied from the <a href="#">BZ_ROADS.KPH</a>
GEOMETRY	Geometry column to specify link appearance. Copied from the <a href="#">BZ_ROADS.GEOMETRY</a>

**BZ\_ROADS\_NODE\$:**

NODE_ID	ID of the node
GEOMETRY	Geometry column to indicate node coordinates. Was taken from either a start or end point of each <a href="#">BZ_ROADS.GEOMETRY</a> row

## Creating index

If you want to use any spatial operators (such as finding all segments within distance, retrieving bounding rectangle etc.) you need to create an index for this table. How to do this for the LINK table (same for NODE, just substitute LINK\$ with NODE\$):

```
INSERT INTO USER_SDO_GEOM_METADATA(TABLE_NAME, COLUMN_NAME, DIMINFO)
VALUES ('BZ_ROADS_LINK$', 'GEOMETRY',
       SDO_DIM_ARRAY(SDO_DIM_ELEMENT('X', -180, 180, 0.05),
                     SDO_DIM_ELEMENT('Y', -90, 90, 0.05))
);
CREATE INDEX BZ_ROADS_LINK$_INDEX ON BZ_ROADS_LINK$(GEOMETRY) INDEXTYPE IS
MDSYS.SPATIAL_INDEX;
```

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Last update: **2019/01/16 10:03**

