

MTMUG TransCAD Quick tips – *Global U-Turn Penalty Issue (TransCAD 5.0)*

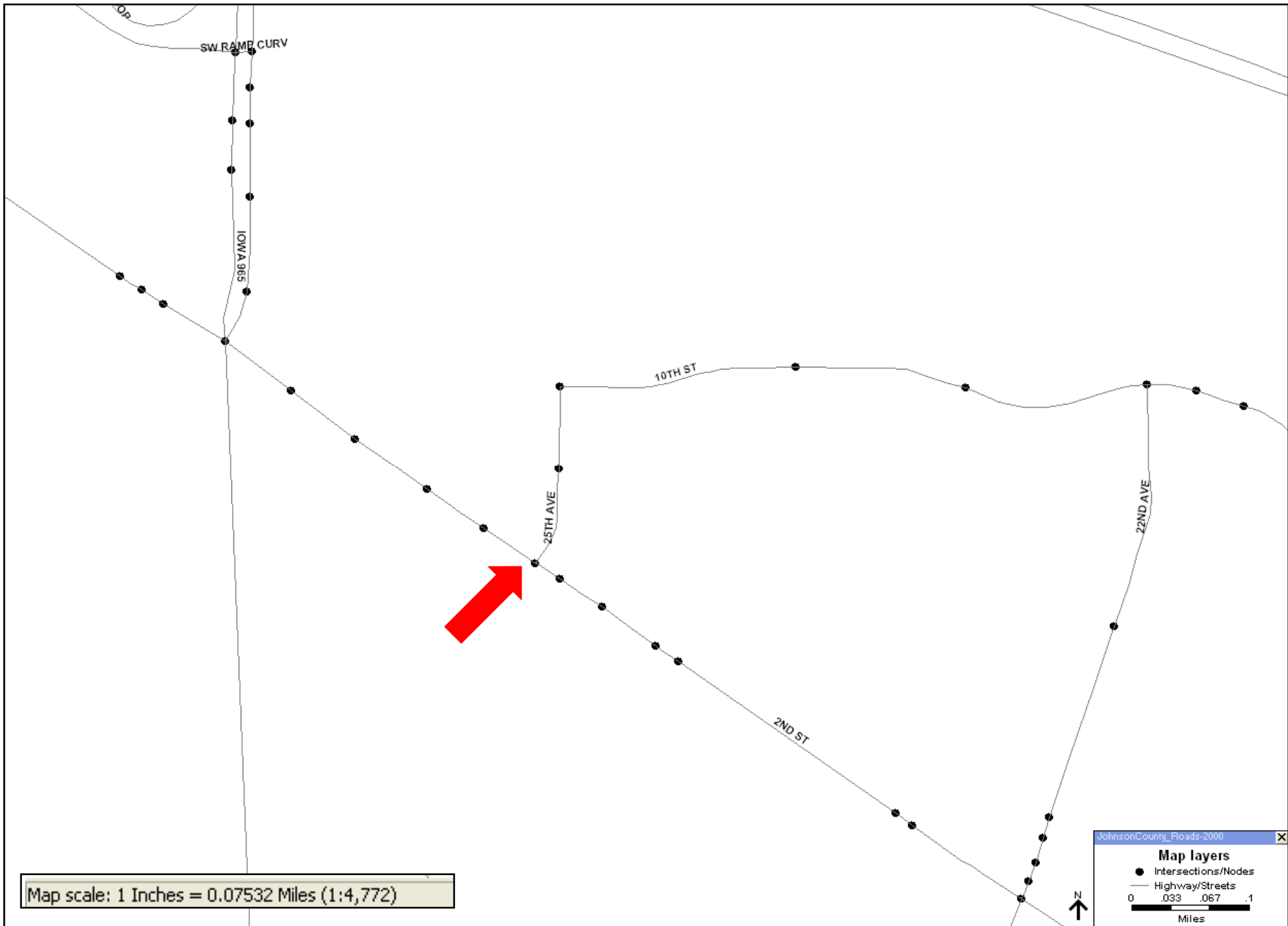
Prepared For: Midwest Travel Model User Group (MTMUG)
Prepared By: Office of Systems Planning – Iowa DOT
Date: Thursday, March 19, 2009

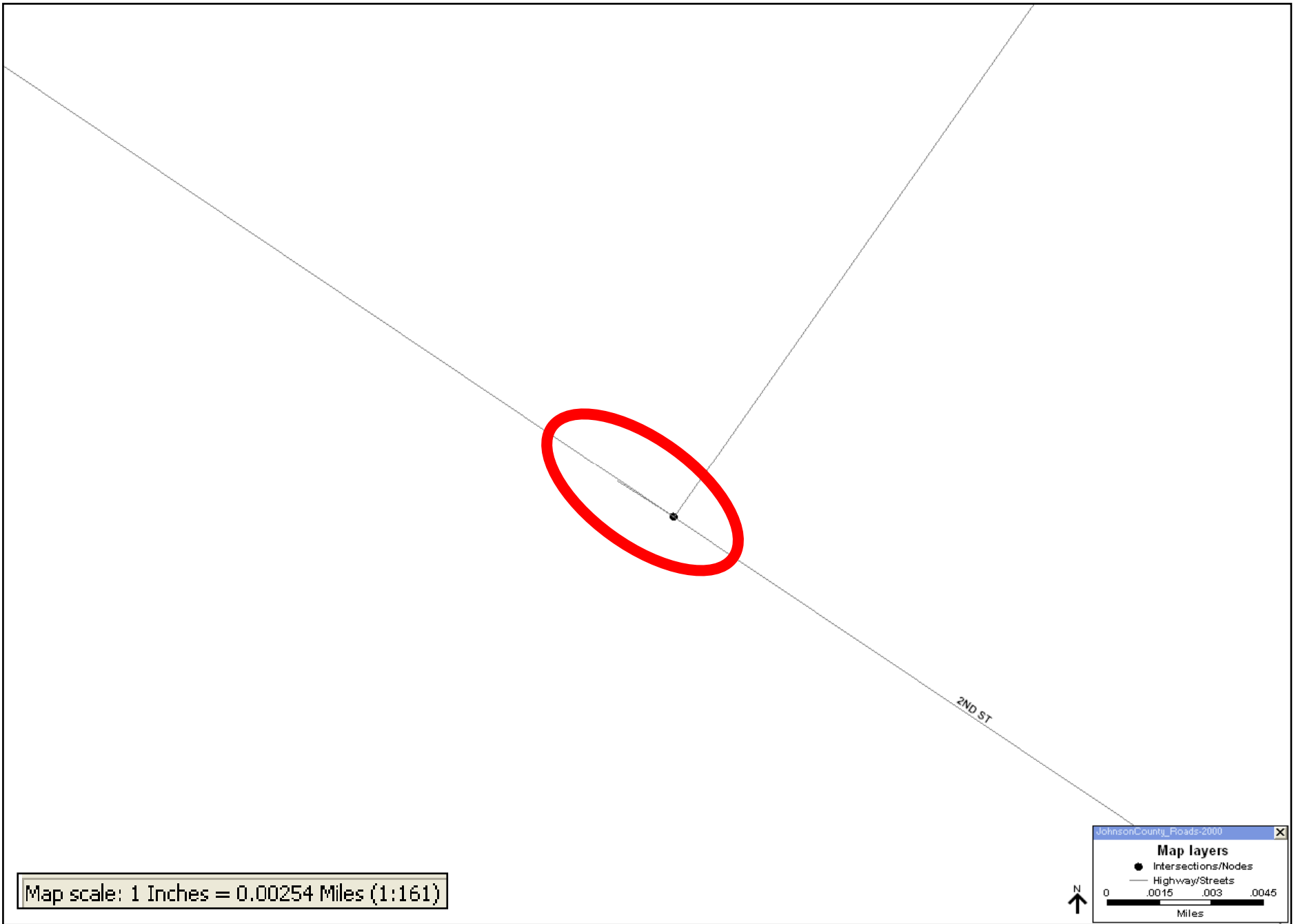
Often times a new model network is created by importing GIS files from another database system. Depending on how the links (vectors) were drawn, instances near intersections can occur that cause irregularities in the assignment of traffic to the network. The consequence of this can be directional flows (AB/BA) that exceed 90% (or 90/10).

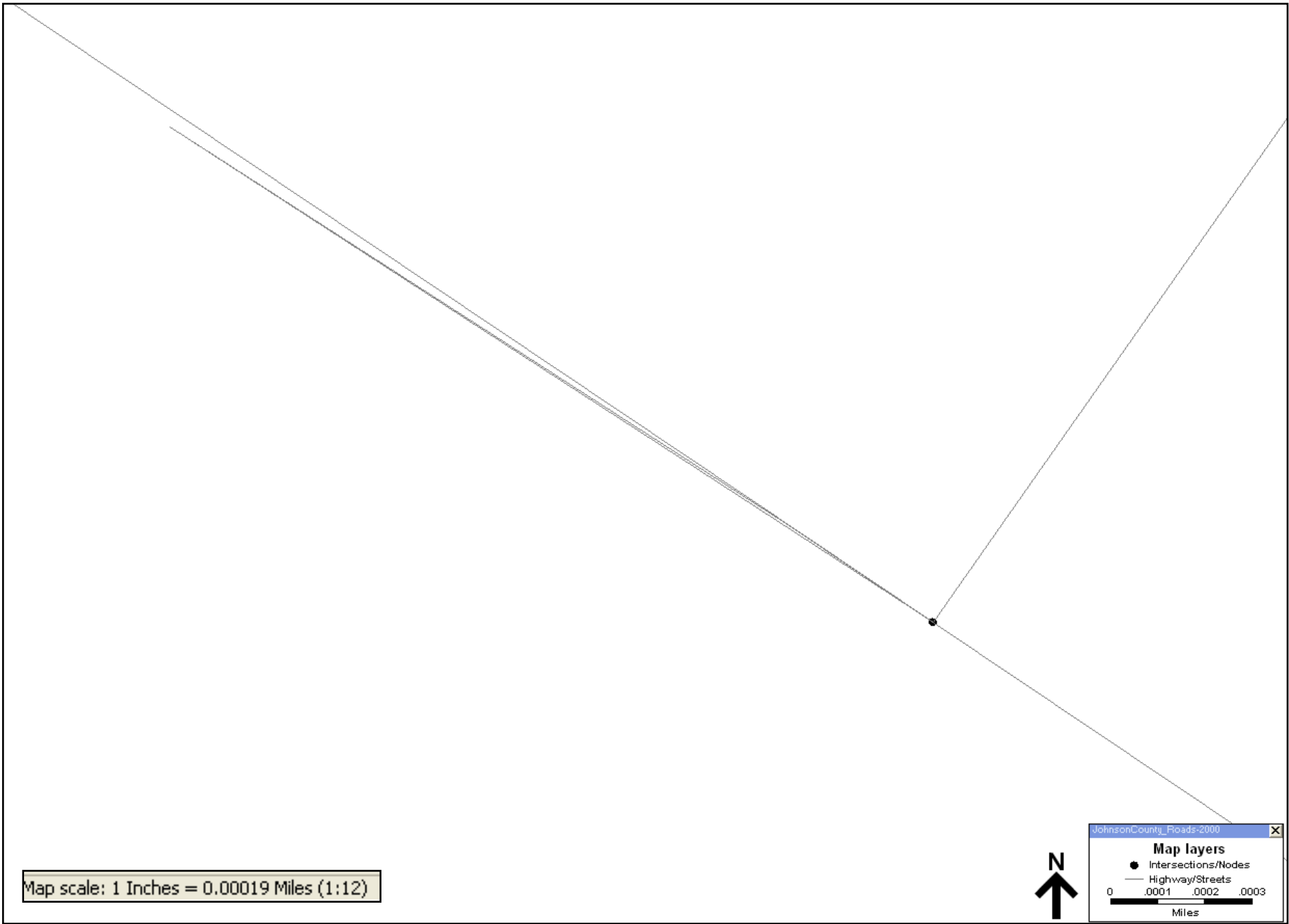
This memo briefly documents the issues concerning the application of global u-turn penalties during model run procedures in TransCAD 5.0. A few diagrams (on pp. 2-5) are provided to show the scale at which the cause of the problem is occurring. Pages 6 and 7 illustrate how to correct this issue in TransCAD and in the GISDK script.

Outline

1. Diagrams pp. 2-5
2. TransCAD User Preferences p. 6
3. GISDK Script..... p. 7







Map scale: 1 Inches = 0.00019 Miles (1:12)



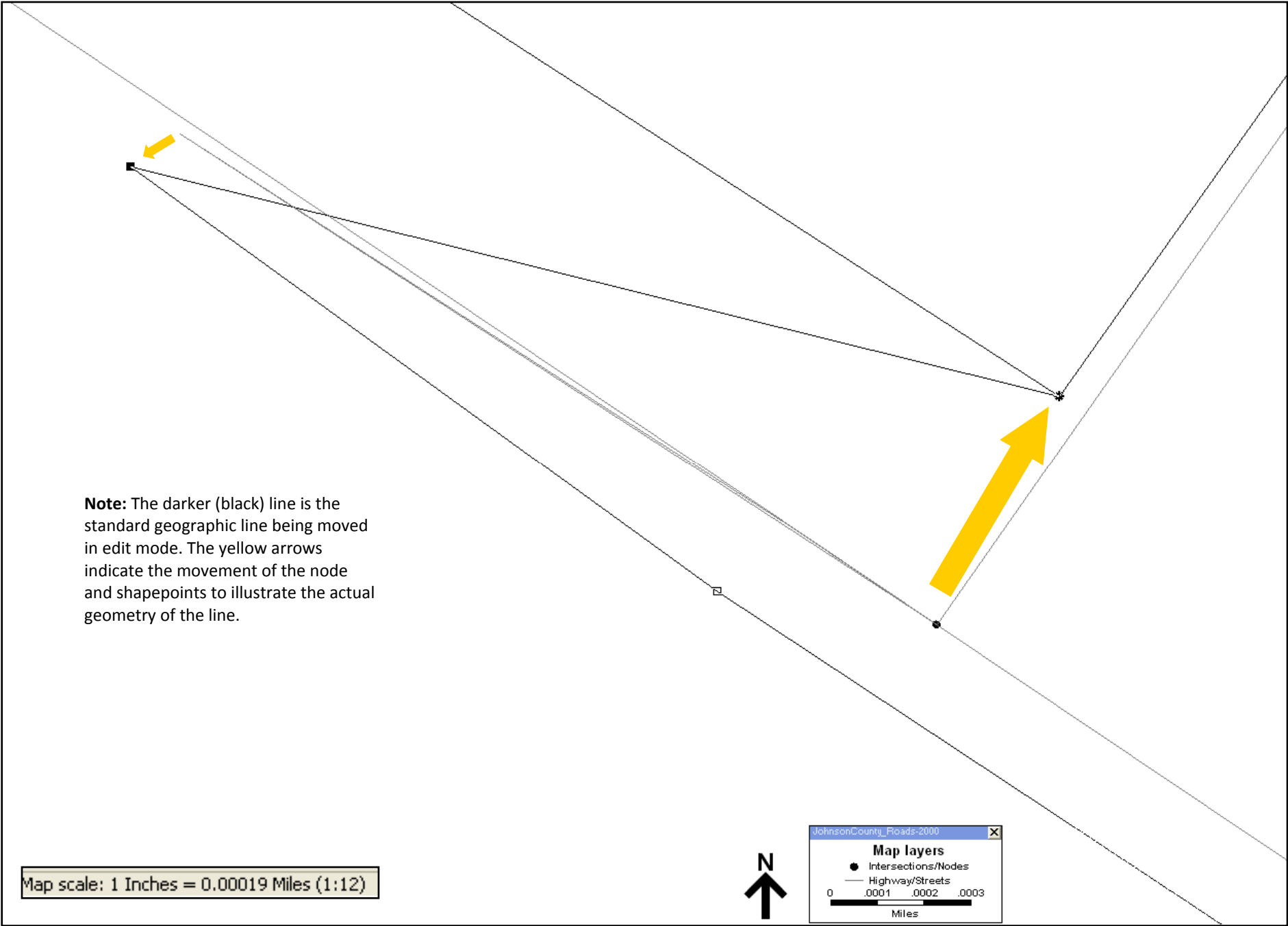
JohnsonCounty_Roads-2000

Map layers

- Intersections/Nodes
- Highway/Streets

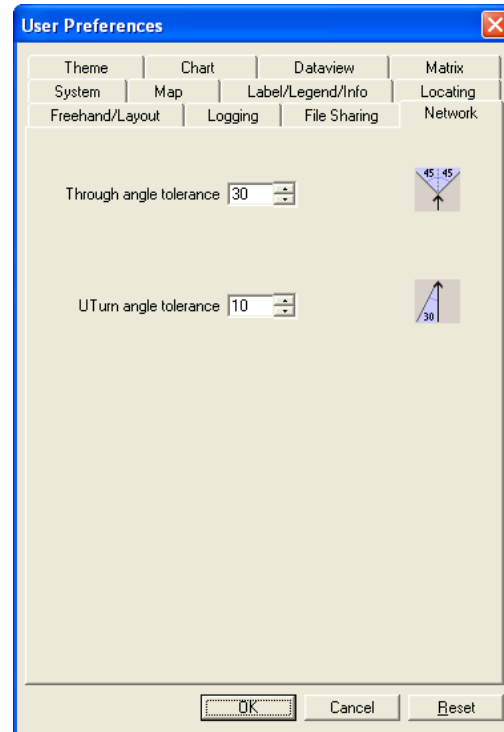
0 .0001 .0002 .0003

Miles



TransCAD User Preferences

1. Within TransCAD, go to the **Edit** menu, scroll to the bottom, and select **Preferences...** (or you can press: CTRL + K, from the home screen).
2. Once the **User Preferences** dialog box is open, go to the **Network** tab. The dialog box below should be present:



3. The U-Turn angle tolerance can be adjusted according to the user's needs. (Note: In discussing this issue with Caliper, they recommended setting the u-turn angle tolerance value at default which is 10.)

GISDK Script

```
// STEP 3: Highway Network Setting
```

```
Opts = null
```

```
Opts.Input.Database = path + "JCCOG2035Network.DBD"
```

```
Opts.Input.Network = path + "JCCOG2035Binary.net"
```

```
Opts.Input.[Centroids Set] = {path + "JCCOG2035Network.DBD|Intersections/Nodes", "Intersections/Nodes", "Selection", "Select * where [node ID] > 0"}
```

```
Opts.Input.[Spc Turn Pen Table] = {path + "JCCOG2035turns.bin"}
```

```
Opts.Global.[Global Turn Penalties] = {1, 2, 4, 3} //Change to Opts.Global.[Global Turn Penalties] = {0, 0, 0, 0}
```

```
Opts.Flag.[Centroids in Network] = 237
```

```
ret_value = RunMacro("TCB Run Operation", 3, "Highway Network Setting", Opts)
```

```
if !ret_value then goto quit
```

