Basic Active Transportation Network Generation

6/12/2017

This document steps through how to generate new SANDAG_Bike_Net and SANDAG_Bike _Node shapefiles, which is necessary anytime a change is made to any Transit Access Point (TAP)...either by addition, subtraction, movement of XY coordinates, or unique ID. Any of those changes would require these steps to get the AT network to successfully connect to the TAPs. This does not cover how to change the AT network itself (see T:\ABM\docs\final\Active Transportation Model Final Report for that).

With the development of a standard model directory for the ABM, there should be AT network shapefiles in each model year template. Sometimes, however, a change in either the Master TCOV or your local TCOV will affect the TAPs in your study directory. In which case, do the following:

1. Open create_final_AT.mxd in your study directory AT_files folder.
2. If there are already layers in the mxd, remove them.
3. Open your ArcToolbox, under BDM, click Run TAP CC Create & Network Finalization (if you do not have this toolbox, add it from M:\RES\GIS\ActiveTransportation\ABM\ATNetworkTool\ND FY Workspace).
4. An Input/Output GUI opens up, add the following:

- Working Geodatabase should be the bike_editing.gdb from your study directory's AT_files folder (note that you cannot cross inputs/outputs to any other gdb than the one specified here).
- Input TAP is the tapcov from your study year's folder.
- The rest of the inputs (except the signals) are from your study directory's AT_files/ bike_editing.gdb
- Working Bike Net is: bike_net\derived_working_bike_netxxx where xxxx is the year/funding scenario of your run. If the exact year does not exist, use the derived network from the next earlier year (ie. Use 2020rc for a 2025rc or 2030rc forecast)
- Working Bike Node: bike_net\derived_working_bike_nodexxx
- Input Bike Zone Centroids Feature Class: centroid\Centroidxxxx
- Input Bike Zone Centroid Connector Feature Class: centroid\centroid_connectors_xxxx
- Input Signal File: use the shapefiles in AT_files\signal\signal_xxxx.shp

Now come the outputs, which you will put all except for the shapefiles in the same bike_editing.gdb:

- Output TAP Connectors: tap\tap_connector_xxxx where xxxx is an indicator of your alternative name…try to use the same naming convention for all your output files in the gdb.
- Output TAP: tap\tap_xxxx
- Output Final Bike Net Feature Class: bike_net\bike_net_xxxx

For purposes of speed/clarity, I skip the shapefiles until the end and go to:

- Output Final Bike Node Feature Class: bike_net\bike_node_xxxx
- Output Signal Feature Class: signal\signal_xxxx

Now back to the only outputs that really matter, the AT network shapefiles. They should be put in your run's network folder and called SANDAG_Bike_Net.shp and SANDAG_Bike_Node.shp (these names must be used…you might need to delete previous versions of these shapefiles).

Once, all inputs/outputs are specified, click OK to run. If all goes well, you will get the outputs in about 15-20 minutes. Occasionally something hiccups and you need to run again…in which case, you can either delete the output files via ArcCatalog or name output files to something slightly different.

The SANDAG_Bike_Net/Node shapefiles will be copied over during the create_scenario process. If you do this process after that, copy the shapefiles directly to your input folder of the ABM model run.

Make sure to change your sandag_abm.properties file in the conf folder so that skipCopyWalkImpedance = true and skipWalkLogsums = false.

See next page for a screen shot of how the complete input/output GUI should look:

Run TAP CC Create & Network Finalization

Working Geodatabase

T:\projects\sr13\OWP\TNET3\AT_files\bike_editing.gdb

Input TAP

T:\projects\sr13\OWP\TNET3\2035_tn2\tapcov.shp

Working Bike Net

T:\projects\sr13\OWP\TNET3\AT_files\bike_editing.gdb\bike_net\derived_working_bike_net2035

Working Bike Node

T:\projects\sr13\OWP\TNET3\AT_files\bike_editing.gdb\bike_net\derived_working_bike_node2035

Input Bike Zone Centroids Feature Class

T:\projects\sr13\OWP\TNET3\AT_files\bike_editing.gdb\centroid\Centroid2035rc_final

Input Bike Zone Centroid Connector Feature Class

T:\projects\sr13\OWP\TNET3\AT_files\bike_editing.gdb\centroid\centroid_connectors_2035rc_final

Input Signal File

T:\projects\sr13\OWP\TNET3\AT_files\signal\signal_2035rc.shp

Output TAP Connectors

T:\projects\sr13\OWP\TNET3\AT_files\bike_editing.gdb\tap\tap_connector_2035tn2

Output TAP

T:\projects\sr13\OWP\TNET3\AT_files\bike_editing.gdb\tap\tap_2035tn2

Output Final Bike Net Feature Class

T:\projects\sr13\OWP\TNET3\AT_files\bike_editing.gdb\bike_net\bike_net_2035tn2

Output Final Bike Net Shapefile

T:\projects\sr13\OWP\TNET3\2035_tn2\SANDAG_Bike_Net.shp

Output Final Bike Node Shapefile

T:\projects\sr13\OWP\TNET3\2035_tn2\SANDAG_Bike_Node.shp

Output Final Bike Node Feature Class

T:\projects\sr13\OWP\TNET3\AT_files\bike_editing.gdb\bike_net\bike_node_2035tn2

Output Signal Feature Class

T:\projects\sr13\OWP\TNET3\AT_files\bike_editing.gdb\signal\signal_2035tn2

OK   Cancel   Environments...   << Hide Help