Example exercise with NERPM AB1v2

The actual user interface for the exercise is approximately 2 hours. The whole exercise will take approximately 24 hours to complete (depending on the hardware). The majority of this time will be computer running time.

If you run into problems or have questions, please visit http://northfloridatpo.com/modelwiki/ or, send an email to Milton Locklear at mlocklear@northfloridatpo.com.

Part 1: Installation and basic application for the NERPM AB1v2

1. Make sure ArcGIS is installed on your computer. ArcGIS 10.2 or higher is required in order to run the Land Use/Parcel Editing Tool.

2. Go to http://www.fsutmsonline.net/index.php?/model_pages/modD22/index/ and follow the directions to download the District 2 NERPM AB1v2 model. You will receive an email from gana@fiu.edu informing you that your request has been received. Next, you will receive an email from FDOT District 2 Modeling containing a password.

3. Use the password to download the NERPM AB1v2 model compressed file.

4. Make sure Cube 6.1.1 Cluster, without GIS, is installed on your computer. NERPM AB1v2.

5. Run the "R" executable that is downloaded with the NERM AB1v2. Please refer to section 2.2 Software Requirements in the Wiki: http://northfloridatpo.com/modelwiki/2.2_Software_Requirements

6. Next, make sure you have the 7-zip application downloaded on your computer. Then right click the NERPM AB1v2.rar file and "Extract all…".

Congratulations, you have successfully installed your software!!

Part 2: Create a new scenario

7. Follow the instructions in Wiki Section 6.3 for Creating a new scenario: http://northfloridatpo.com/modelwiki/6.3_Creating_a_New_Scenario
8. The new scenario you will create is to be call "ALT11B" and will be a child to scenario Base2010. Follow the directions in the Wiki; Right click the Base 2010 and add a "Child". Name it ALT11B.
9. Next, highlight scenario ALT11B and double click on application NERPMAB1*. The steps of the application will show in your Cube window. Double-click on step 1 (Prepare Data Folders) to populate the input and output directories.
10. Go to Windows Explorer. Navigate to NERPM AB1v2>Master>Base 2010>ALT11B>Input and check if you have Input and Output data folders under the ALT11B folder. Verify that the Input folder contains the input files. If the folders were not created, go back to Cube, highlight any other scenario then highlight scenario ALT11B again, and finally double- click on step 1 again.
11. Next, the "Master Network" needs to be updated to add the "11B" fields. Highlight the application "Create an Alternative" and double click on the ALT11B scenario. Fill in the boxes. The alternative letter of the new scenario is "B" and the Model Year is "11". Click save and run.
12. Open the "Master Network" in Cube and verify that the attributes for 11B have been added to the links and nodes in the master network.

Congratulations, you have successfully added a new scenario!!

***At this point the scripts have not been renamed to the new version.

Part 3: Update the socioeconomic data

13. Prior to running the ALT11B scenario, the user has to replace all references to 10A in the ALT11B input folder to 11B. Navigate to NERPM AB1v2>Master>Base 2010>ALT11B>Input and change all the 10A to 11B.

14. Next, you are going to edit the socioeconomic data for your new scenario. First, you are going to create default DaySim input files. Follow the directions in the Wiki in Section 5.1.2 DaySim Input Preparation – Using Parcel and land use Editing Tool: http://northfloridatpo.com/modelwiki/5.1.2_DaySim_Input_Preparation_-_Using_Parcel_Editing_Tool

15. Highlight the application Generate or Edit Parcel File, and double click on the ALT11B scenario. A box will pop up that will ask you to identify the model year, which is 11. It also asks you to verify the path to Python.exe. Using Windows Explorer, please go to the Python27 directory and verify that your version of ArcGIS is 10.2 or higher. Next, select edit parcel file. Hit save and run. Then wait, and click install add-in, then wait, wait, wait (approximately 25 min.) until the program comes back with a message that the application has completed. Once you see the message complete, click ok. ArcGIS will open on your screen.

16. Next, you are going to add a development to TAZ 543. You want to add 3,500 households and 7,000 office employees. ArcGIS is open on your screen and you are going to zoom into the area where TAZ 543 is located, which is in southeast Duval County. Start editing. Select the Geoprocessing tab at the top of your screen. Click “Tools”, then “Editor”. The Editor toolbar will appear. Next select Editor>Start Editing. You are now in Editor mode. Select parcel 317499 and update the attributes. Save the edits, stop editing and click on the tool symbol. Then, wait, wait, wait (approximately 25 min.) until a box pops up which states that the Tool Run was Successful!

17. Now you want to run the ALT11B. Close ArcGIS and return to Cube. In the user interface, update the references to the four new files. These are the DaySim parcel file, the DaySim HH file, the DaySim Person File, and the Employment file.

18. Next, make sure you have identified the right number of CPUs. Right

click on your task bar of your computer and open up the Task Manager, open the performance tab and note the number of logical processors and place that number in the CUBE box listing the number of CPUs. Update the number of half and 4 times the number of CPUs boxes. (You need to do the arithmetic. For example, if you have 8 CPUs, then half would be 4 and four- times would be 32.)

19. Check the box labeled "Shadow Pricing" if you have made edits to employment or school data.
20. Following the instructions in Wiki Section 7.1 Version NERPMAB1v2: http://northfloridatpo.com/modelwiki/7.1_Version_NERPMAB1v2

    Update the user interface for the assignments by time period according to the number of cores your computer has.
21. Next, you want to conduct a select link analysis so that you can analyze the trips coming out of TAZ 543. Go to the page on the user interface which allows you to save the selected links and zones. You are going to conduct a daily select link analyses, so the daily and all 4 time period "Perform Select…" boxes should be checked and all 4 query fields should be filled. Enter both directions for the centroid connector associated with zone 543. Click save and run.

Congratulations, you have successfully updated your data and are running a new scenario!!

Part 4: Look at the vehicle trips associated with the zone to which data were added.

22. Now, let's look at the results. In the Wiki in Table 7.1 in section 7.1 Version NERPMAB1v2
    http://northfloridatpo.com/modelwiki/7.1_Version_NERPMAB1v2

    all the attributes that appear on the loaded highway network are listed. In this case, you are looking for the daily loaded highway network in the ALT11B output directory. Open this network in Cube and zoom into zone 543. Click on link 543-55306 and scroll down the attributes until you find ALSL_VL_TOT_11B. Post this attribute to see where all trips using this link are distributed across the network.

Congratulations, you successfully finished the preparatory exercise for the NERPMAB1v2 webinar!!