The Impairment Analysis Tools User Manual

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I. Introduction

A. Overview

Welcome to the Impairment Analysis Tools Model.

The Impairment Analysis Tools Model works to construct an engineering model of a local telecommunications network that would be required by a CLEC attempting to offer facilities-based local competition using UNE-L. The resulting network design is costed, and the average additional cost of providing a particular set of services that would be incurred by the CLEC, but not by the ILEC, is then computed.

B. User Manual

The user manual describes how the model works and gives complete step-by-step instructions for both novice and experienced users. These instructions illustrate the model with a hypothetical example and demonstrate a typical model run.

II. Setting Up the Model

A. Hardware Requirements

The Impairment Analysis Tools runs in the Windows™ operating environment.

The model requires 80 MB of hard drive space on the personal computer on which it is being operated.

The software requirements are as follows:

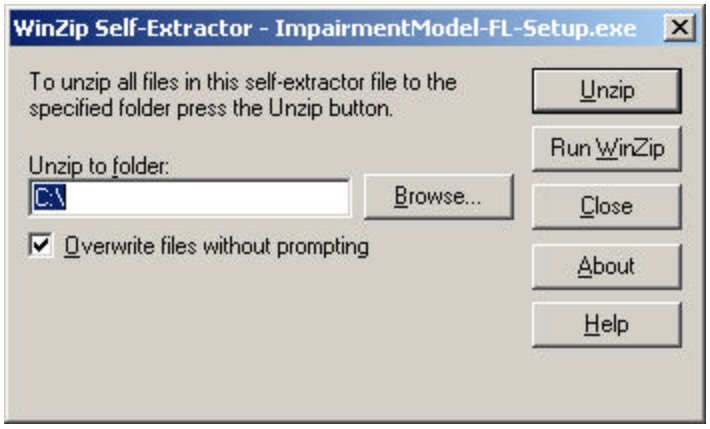
Microsoft Access™ 2000 or Access 2002
Microsoft Excel™ 97, Excel 2000 or Excel 2002

B. Loading Instructions

1. Close all programs on the Personal Computer except Windows Explorer™. Be sure no other programs, including MS Office, email, etc. are open during this process.

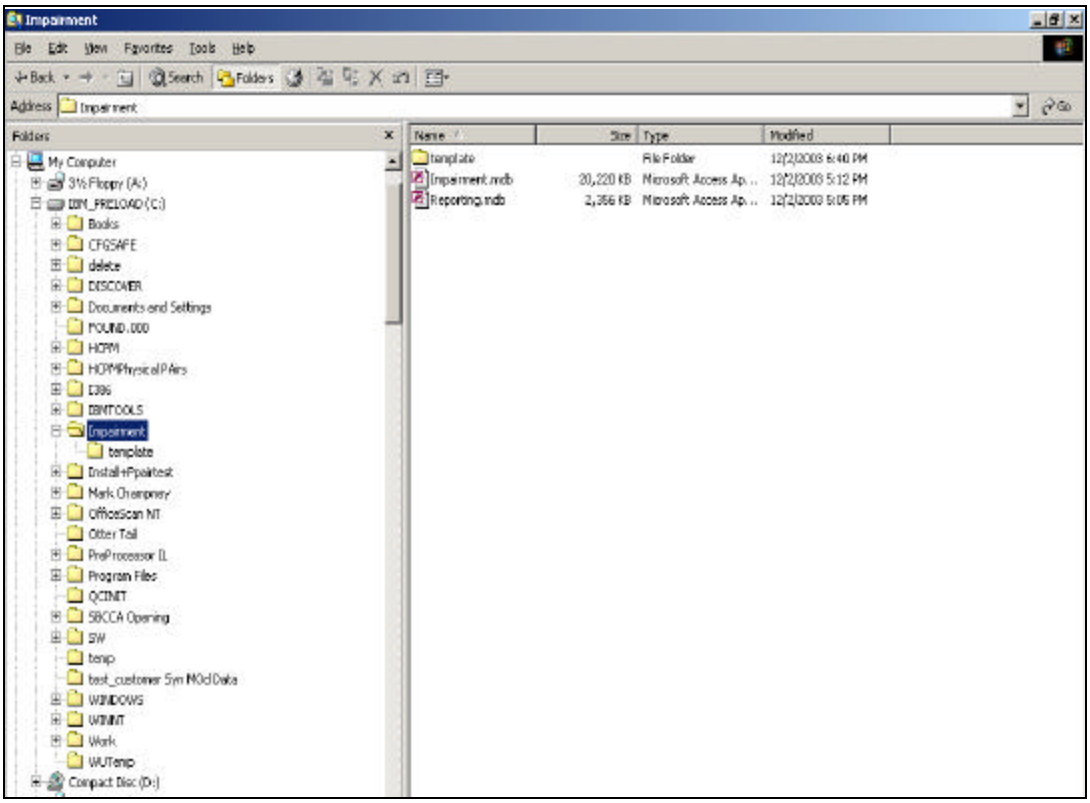
2. Along with this user manual, the user will receive a file named "ImpairmentModel-FL-Setup.exe". Save the file to the user's hard drive or local disk (C:\).

3. Double-click on the "ImpairmentModel-FL-Setup.exe" file and the box shown below should appear.



4. Click Unzip. The following box should then appear.

5. The folder C:\Impairment should appear on the user's hard drive (C:\). The new "Impairment" folder should contain two Microsoft Access database files (Impairment.mdb and Reporting.mde) and a folder called "Template." Before proceeding further to the next step, confirm that the folder "Impairment" contains all three items as shown below. Also confirm that the "Template" folder contains the impairment templates (which are four Microsoft Excel files).



III. Running the Model

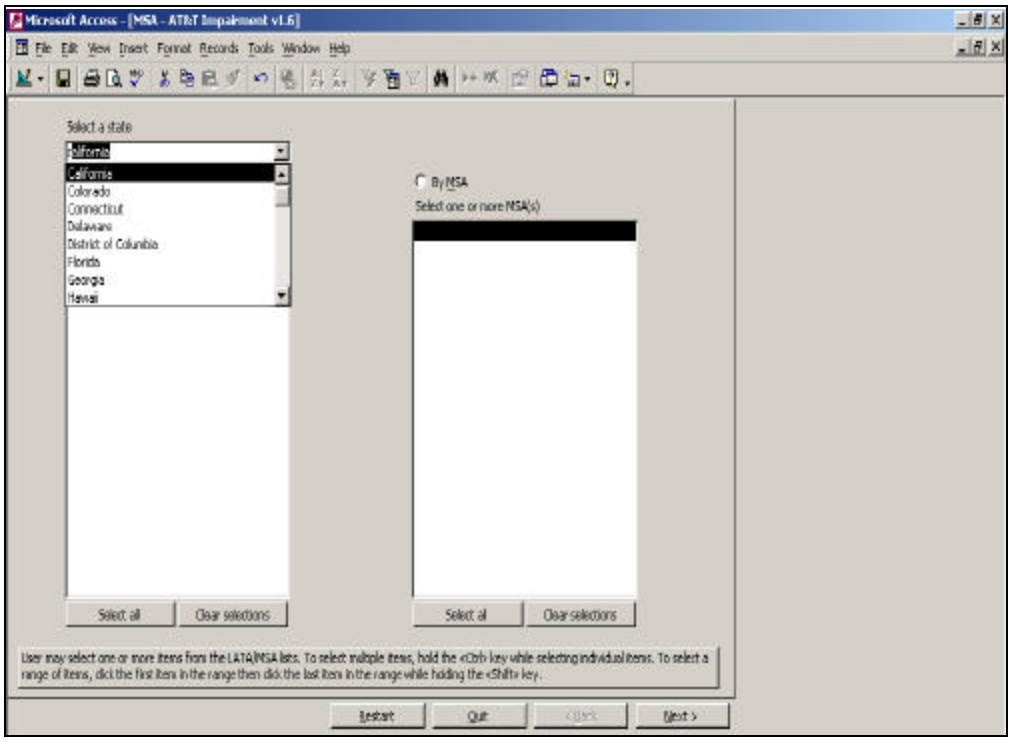
The typical sequence for the Impairment Analysis Tools Model operation is outlined below. In the subsequent sections, please find more details regarding each topic.

A. Geographic Selection
B. Carrier Selection
C. Transport Node Selection
D. Tool Selection
E. Changing Inputs
F. Saving, Deleting and Resetting Inputs
G. Actual Run of Model
H. Exiting and Saving

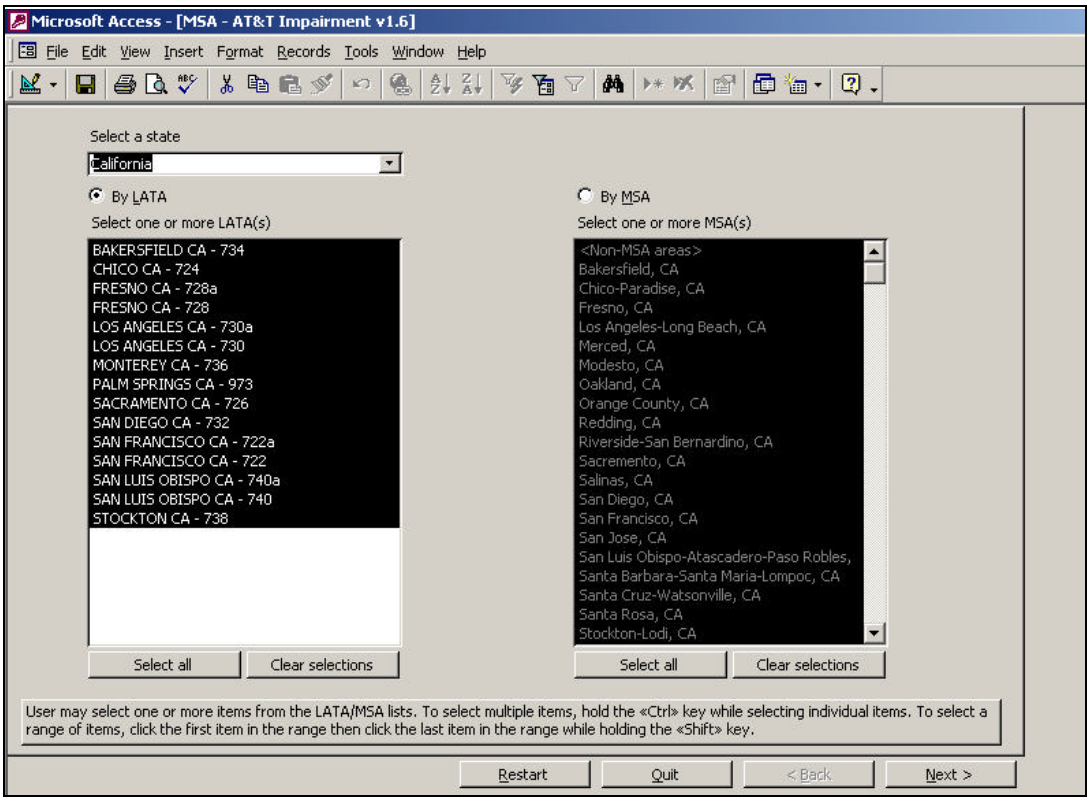
A. Geographic Selection

1. Open the MS Access database "Reporting.mde" by double clicking on the file.

2. The model will automatically open to the Geography Selection Menu. Click on the drop down arrow under the text 'Select a State'.



3. Select the state from the drop down user menu. For this hypothetical example, California has been selected, as seen above.

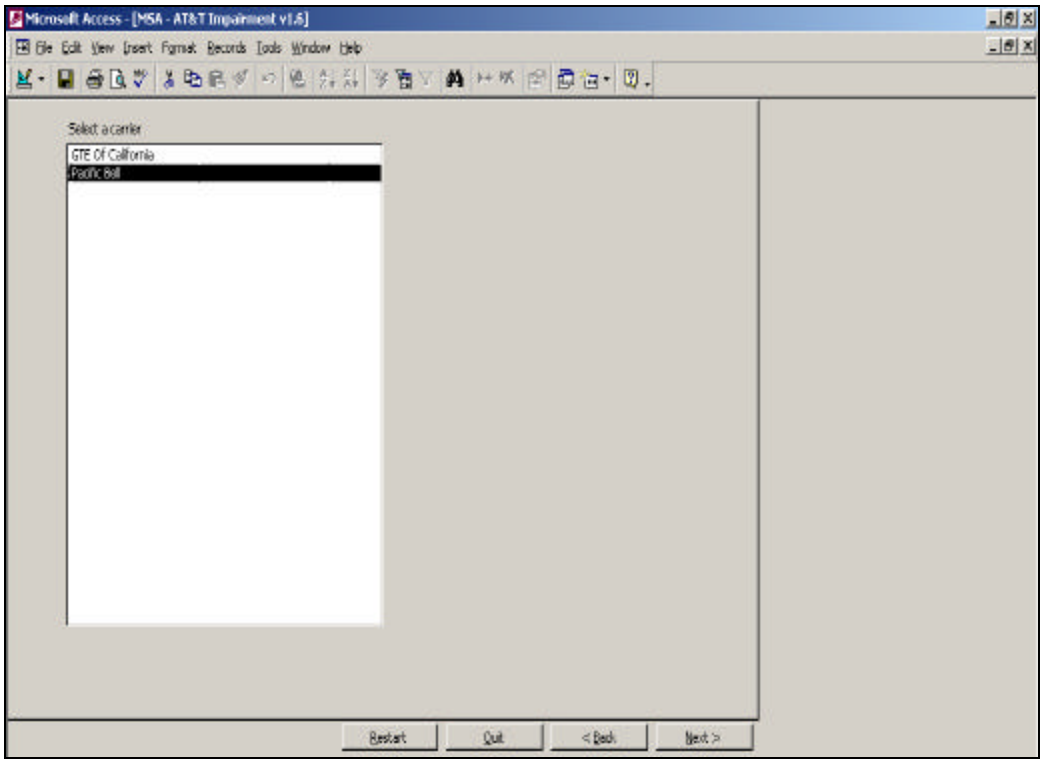


4. Once the state has been selected, it is up to the user to select whether they would like the Impairment Analysis Tools to run (i.e. calculate CLEC cost impairment) on a Local Access Transport Areas (LATA)–specific basis or an Metropolitan Statistical Area (MSA)-specific basis. To select multiple LATAs, hold down the control key while making the selections. This page also provides the user the option of selecting all or clearing all selections at once. For definitions of LATA and MSA, please see Appendix A.

5. For proper function, it is necessary for the user to select the circle next to the text "By Lata" if the Tools are to be run on a LATA-specific basis or select the circle next to the text "By MSA" for runs on a MSA-specific basis. In this hypothetical example, we have selected all LATAs for the state of California.[1] Select Next.

[1] Selecting all LATAs is termed as "Batch". By running the model in a batch process, the user is precluded from a transport node selection option of select nodes (see page 11).

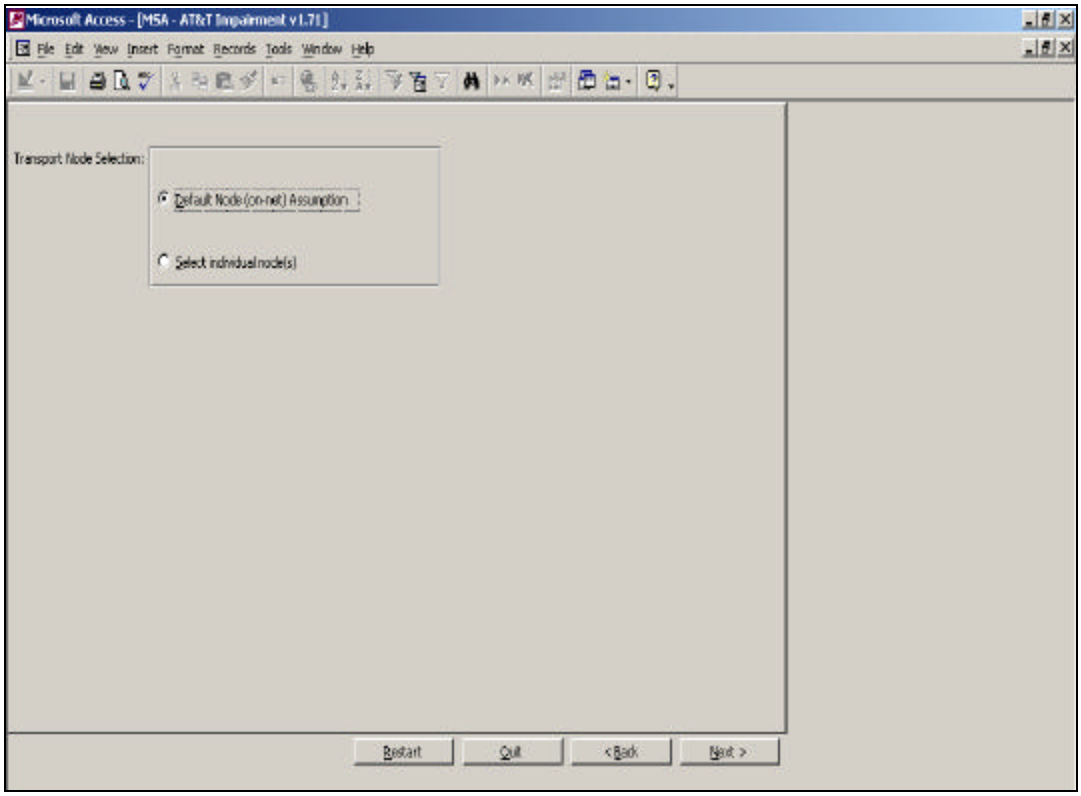
B. Carrier Selection



1. After clicking Next from the Geographic Selection page, the Carrier Selection Menu appears. The carriers (Regional Bell Operating Companies or RBOC's) that are available to choose from are based on the user's choices in the Geographic Selection Menu. In this example, based on the geographical selection of all LATAs for California, the carriers GTE of California and Pacific Bell are the only carriers available. We have selected Pacific Bell to proceed. The user must choose a specific RBOC to continue further in the model.

2. After determining which Carrier/RBOC to use, select Next.

C. Transport Node Selection

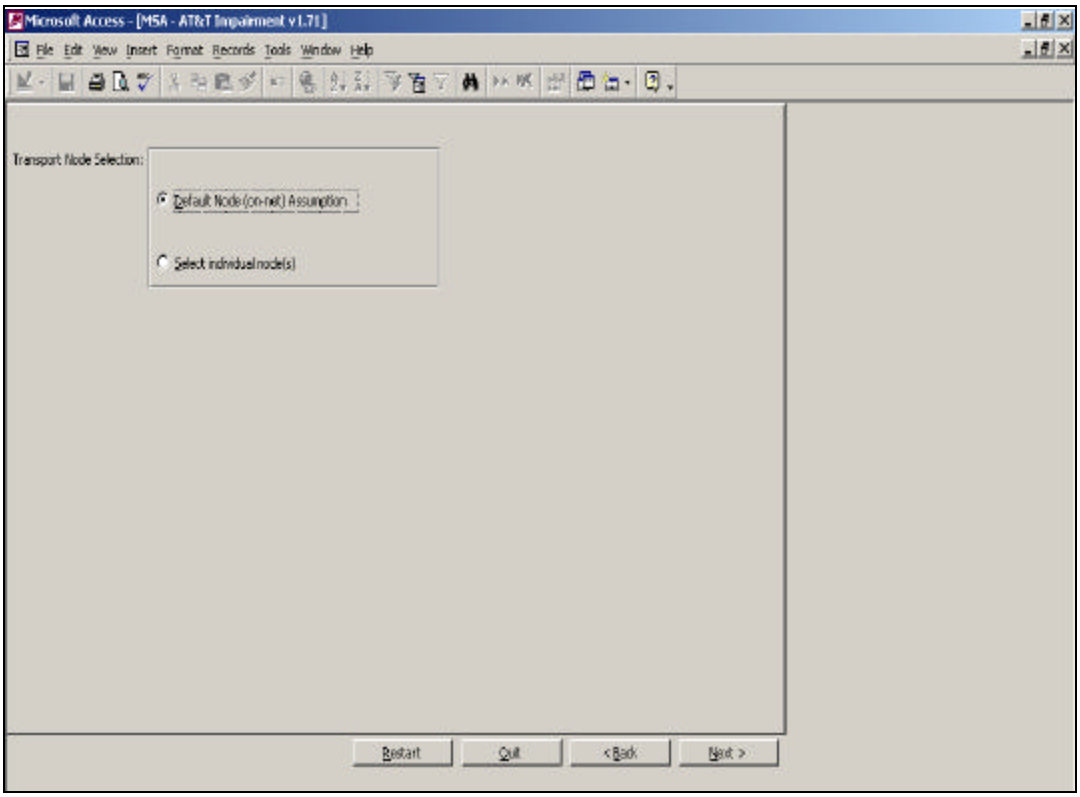


1. After the user has chosen a carrier/RBOC, the above menu will appear prompting the user to select the Transport Node presence that should exist.

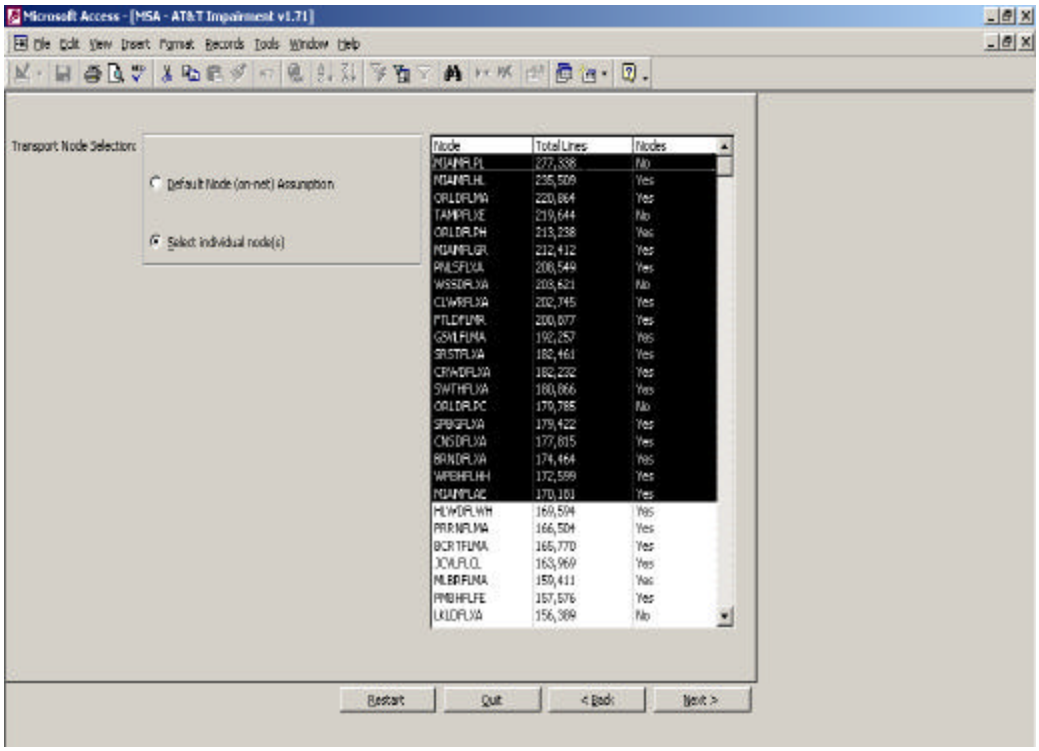
2. The Transport Node Selection Menu appears with following two choices:

Selection Choice	Assumption
Default Node (On-Net) Assumption	Assumes only carrier-select nodes on core network
Select Individual Node(s)	User selects individual nodes to be on core network

3. The user then chooses one of the above two choices. The default selection is for Default Node (On-Net) Assumption described in the DS-0 testimony and technical appendix. The other option is to select any grouping of individual nodes. **If the user selects all LATAs to be run (the batch process), the user can not use the "Select individual node(s)" criteria.**



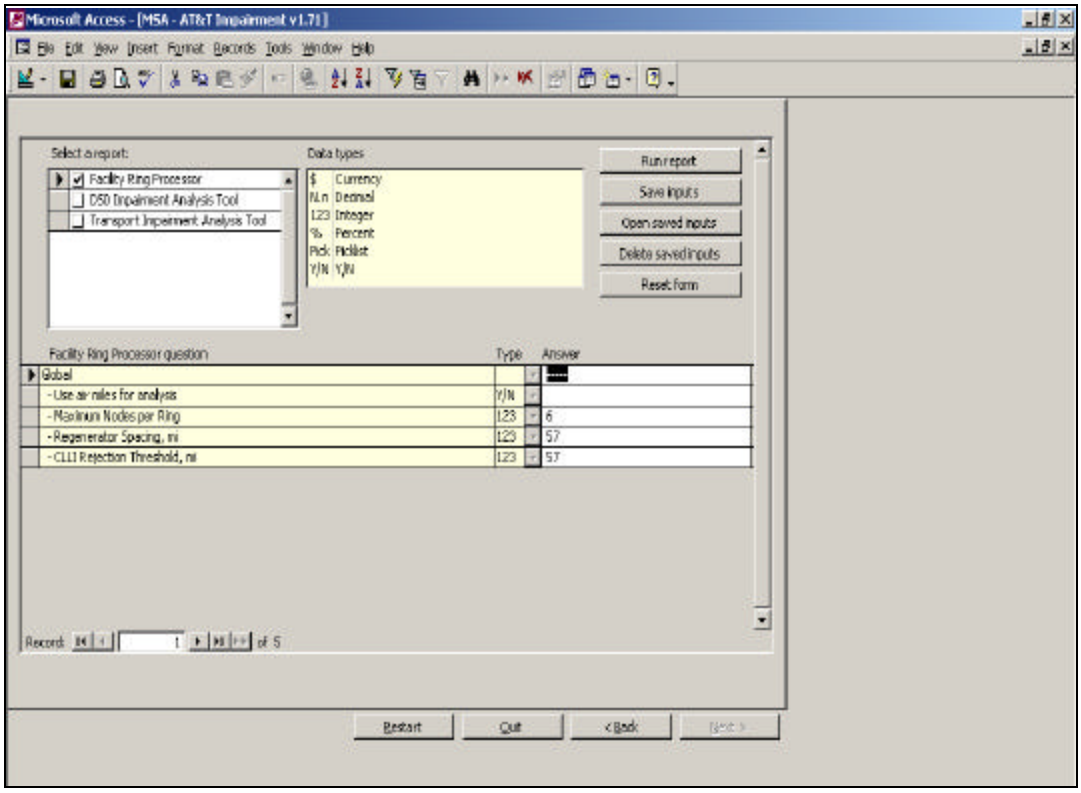
4. If the user chooses to select individual nodes, a box to the right will appear with the individual nodes that correspond to the prior geographic and carrier selections. The box will list individual nodes with the total number of lines in each node and whether there is a presence in that node. [2]



5. For this example, be sure to choose "**Default Node (On-Net) Assumption**" for California. Select Next.

[2] A LATA or MSA can not be run with only one on-net node selected.

D. Tool Selection



1. After the Transport Node Presence has been selected, the final page of the model appears. This is the Tool Selection and Input Menu page.

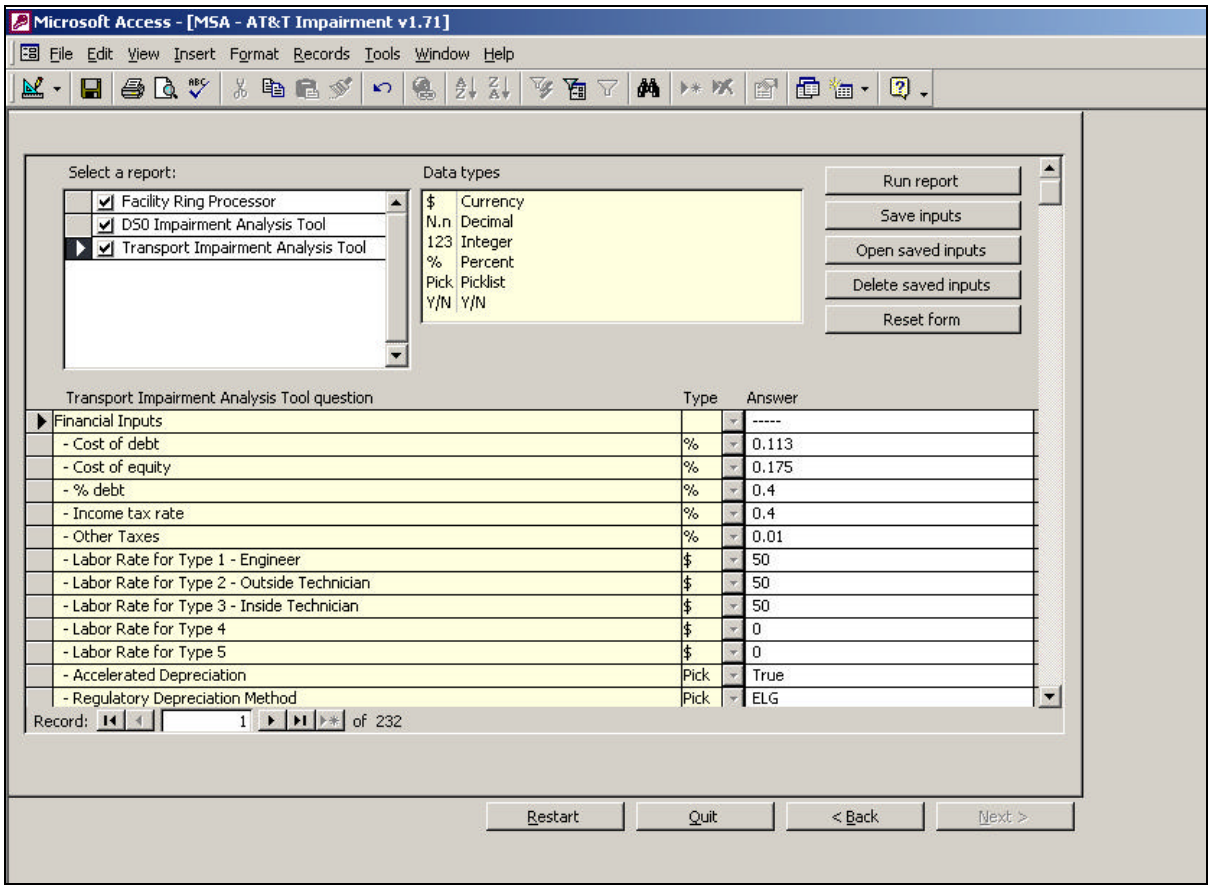
2. In the left hand corner of this page, the 'Select a Report' box appears with the following reports as options:

    a. Facility Ring Processor (default)

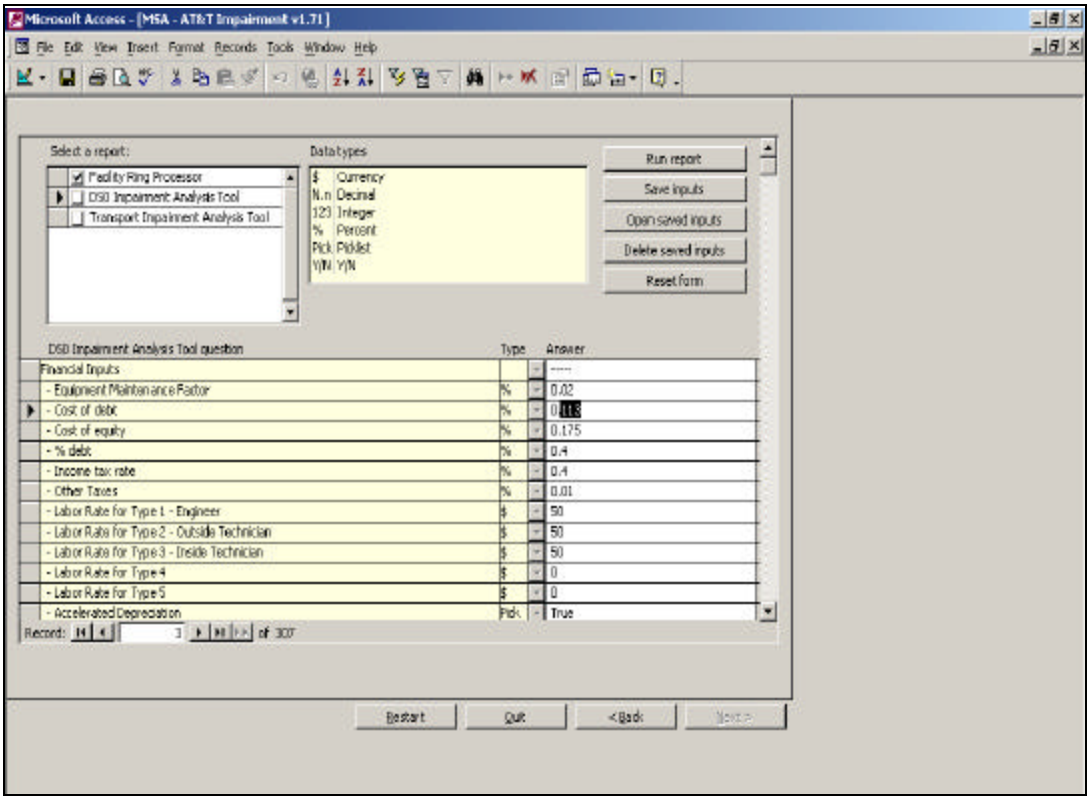
    b. DSO Impairment Analysis Tool

    c. Transport Impairment Analysis Tool

3. The user then selects which reports (in addition to the already selected default report) to run by selecting the box next to the report name. In this California Run, all reports should be selected.



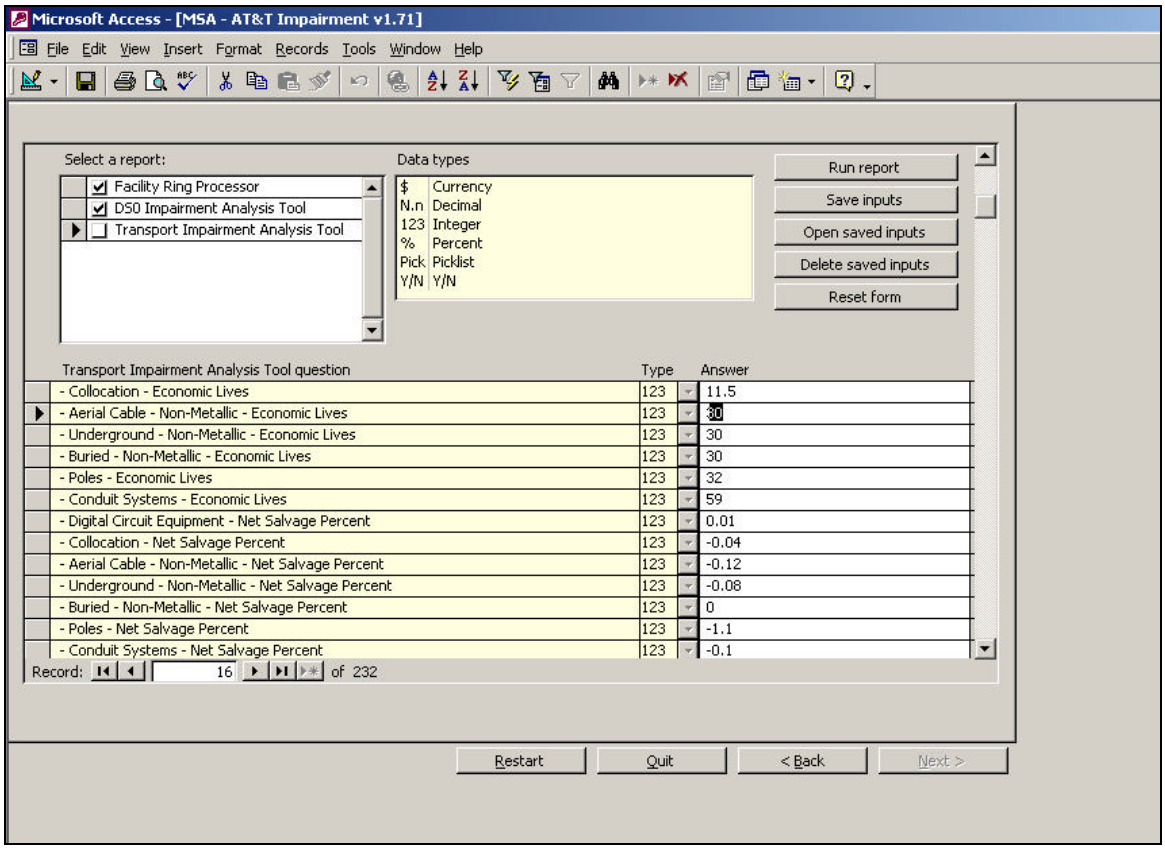
E. Changing Inputs



1. As the user selects a report to be run, the bottom half of the screen will populate with the inputs associated with that tool. The user can then adjust the inputs for each of the tools to be run.

2. To adjust the inputs, the user will make specific adjustments in the "Answer" column. Make sure that the box next to the report is unchecked. For example, the screen above depicts the inputs that can be changed for the DS0 Impairment Analysis Tool Report yet the box next to DS0 Report is unchecked. The "Type" column displays the data type the input is in for the model run. In this California example, we will change the cost of debt to 9.5% from 11.3%.

3. The Facility Ring has fewer inputs that can be manipulated, whereas the DS0 and Transport Impairment Analysis Tool have numerous inputs that can be modified.



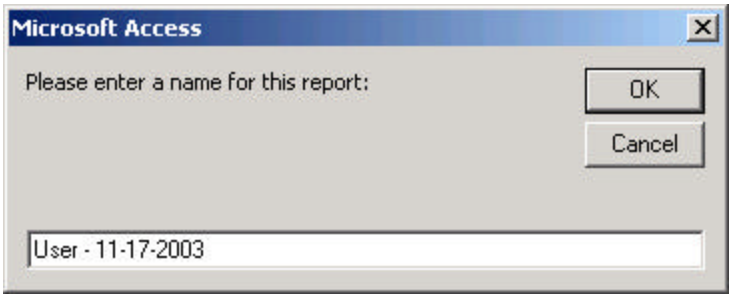
4. To review the inputs for the Transport Impairment Analysis study, select the Transport Impairment Analysis Tool row in the 'Select a Report' box, as seen above. Make sure the box to the left of the Report remains unchecked. The inputs will appear in the bottom half of the page. Make modifications to the inputs as necessary. In this example, we will change the "Aerial cable – Non Metallic – Economic Lives" to 10 years instead of 30 years.

F. Saving, Deleting and Resetting Inputs

It is the user's responsibility to initiate any saving, deleting or resetting of inputs. These features are not necessary for the model run but are amenities that can be very resourceful. This section will discuss these features but will not be applied to our hypothetical California example.

1. Before the report is run, the user may elect to save the input changes that have been made by selecting the "Save Inputs" option from the right hand side menu.

2. The user will then be prompted to name the file with the saved inputs. A default name for the inputs is generated, as seen below. It is advised to include relevant information about the inputs after the default name.



3. The option of "Open Saved Inputs" seen on the right hand side menu allows the user to open the input changes made in prior model runs.

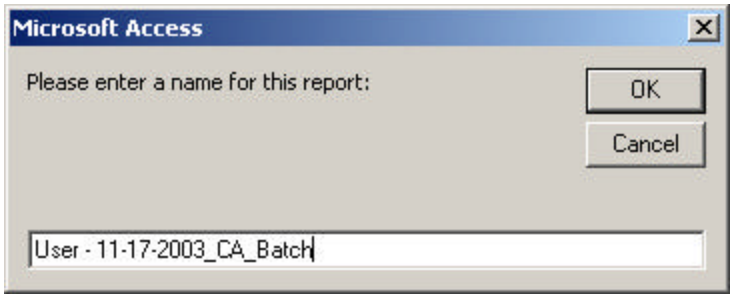
4. There is also an option of "Delete Saved Inputs" which in the same manner, allows the user to delete the input changes made in prior model runs.

5. The "Reset Form" option allows the user to reset the input values to the default values.

G. Actual Run of Model

1. After selecting the reports to be run and reviewing all of the inputs, the user should select the "Run Report" option from the right hand side of the Menu

2. The 'Name Report' Box appears prompting the user to name the study. A default name for report is generated. The user can override this name and it is advised to include relevant information about the geographic selection, carrier selection, Transport node presence selection and input information after the default name. In this California example, the report name will be "User – 11-17-2003_CA_Batch". The term 'batch' indicates all LATAs.



3. Select OK. Once the user has selected "OK" the model will begin to run and populate the reports the user has selected to create.

4. The length of time the model takes to populate all reports is dependant upon the selections made by the user at all stages of the model run. Depending upon the hardware or software being used, the geographic region selected and the number of reports selected, it can vary from 2 minutes to 30 minutes.

5. The results of the model can be found in the folder "C:\Impairment\Output" on the user's hard drive.

H. Exiting and Saving

1. Once the model has generated results in the folder "C:\Impairment\Output" on the user's hard drive, the user should select the "Quit" option on the bottom half of the tool selection screen.

2. If the user would like to run the model again, be sure that the results populated in the "Output" folder have been moved to another location and the folder is empty.

3. It is now up to the user to go through the reports generated to assure that the tools have been populated for the criteria specified by the user. A quick reference is to look at the text file titled "Run Log" in the "Output" folder that determines which tools were run and which were populated successfully.

4. The definitions for the reports and the report outputs can be found in Appendix A: Impairment Analysis Tools Dictionary.

Appendix A: Impairment Analysis Tools Dictionary

- **Transport Node Presence –** The amount of nodes (i.e. switching locations and collocations in ILEC's central offices) that the user specifies in constructing the hypothetical CLEC local transportation network.

- **DS0 Impairment Analysis Tool –** The DS0 Impairment Analysis tool determines equipment cost by selecting and sizing the required DLC equipment and supporting infrastructure based on the number of lines that is assumed can be served by an entering CLEC and its assumed market penetration.

- **Facility Ring Processor (FRP) –** The Facility Ring Processor tool determines the transport equipment and facilities required to accomplish the connections for 1) each ILEC wire center where incumbents make the UNE-L loops available to a point on its own network and 2) interconnections at the previous point to the location where the CLEC has a local switched installed.

- **Impairment Summary –** The Impairment Summary is a file that summarizes important output information from the FRP, DS0 and transport tools for the LATAs run for a specific geographic region. This summary also provides net impairment per line information and a breakdown of total impairment costs into the various components (some components include: collocation, backhaul and termination investments, etc.).

- **Local Access Transport Area (LATA) –** A geographic area covered by one or more local telephone companies, which are legally referred to as local exchange carriers (LECs).

- **Metropolitan Statistical Area (MSA) –** A Census Bureau-defined urbanized area of at least 50,000 inhabitants with a total metropolitan population of at least 100,000.

- **Regional Bell Operating Company (RBOC) –** Regional Bell operating company (RBOC) is a term describing one of the U.S. regional telephone companies (or their successors) that were created as a result of the breakup of American Telephone and Telegraph Company (AT&T, known also as the Bell System or "Ma Bell") by a U.S. Federal Court consent decree on December 31, 1983.

- **Transport Impairment Analysis Tool -** The Transport Impairment Analysis tool calculates the transport cost per DS3 as a function of the number of DS3 active at a network node based on the transport network for each geographic region built by the FRP.