1. MODEL USER GUIDE

This document outlines step-by-step guidance to perform a model run. The process can be divided into following steps:

- Opening the interface
- Checking the variables
- Running the model
- Checking input and output files in model directories

1.1 OPENING THE INTERFACE

The project files will have the directory structure as shown in Figure 1-1. The main directory within which all subdirectories and files exist, is called **Root Directory**.

- Double click the catalog file GDOT_State_Wide.cat.
- The first-time catalog is opened, it updates the path where the user has saved the complete setup (Figure 1-2). Click **Yes** to continue.
- The GSTDM interface will open as shown in Figure 1-3.

**Figure 1-1: Directory Structure**

<table>
<thead>
<tr>
<th>Name</th>
<th>Date modified</th>
<th>Type</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applications</td>
<td>1/29/2019 1:43 PM</td>
<td>File folder</td>
<td></td>
</tr>
<tr>
<td>Base2015</td>
<td>1/10/2019 4:00 PM</td>
<td>File folder</td>
<td></td>
</tr>
<tr>
<td>Parameters</td>
<td>1/3/2019 10:23 AM</td>
<td>File folder</td>
<td></td>
</tr>
<tr>
<td>TMP</td>
<td>1/29/2019 1:43 PM</td>
<td>File folder</td>
<td></td>
</tr>
<tr>
<td>clean.bat</td>
<td>1/10/2019 4:37 PM</td>
<td>Windows Batch File</td>
<td>1 KB</td>
</tr>
<tr>
<td>GDOT_State_Wide.cat</td>
<td>1/4/2019 4:02 PM</td>
<td>Cube Catalog File</td>
<td>35 KB</td>
</tr>
<tr>
<td>Stat.VAR</td>
<td>1/6/2019 11:50 AM</td>
<td>VAR File</td>
<td>2 KB</td>
</tr>
<tr>
<td>Stat576.VAR</td>
<td>12/26/2018 10:19 AM</td>
<td>VAR File</td>
<td>2 KB</td>
</tr>
<tr>
<td>Stat2019.bin.end.10</td>
<td>1/6/2019 10:36 AM</td>
<td>10 File</td>
<td>24,086 KB</td>
</tr>
<tr>
<td>Stat2019.bin.end.15</td>
<td>1/6/2019 10:41 AM</td>
<td>15 File</td>
<td>24,086 KB</td>
</tr>
<tr>
<td>StateWideModelApplication.app</td>
<td>1/4/2018 4:02 PM</td>
<td>Application Mana...</td>
<td>3 KB</td>
</tr>
<tr>
<td>STATEWIDEAPPLICATION.REP</td>
<td>1/6/2019 12:04 AM</td>
<td>REP File</td>
<td>8 KB</td>
</tr>
<tr>
<td>STATEWIDEAPPLICATION.S</td>
<td>1/6/2019 12:04 AM</td>
<td>S File</td>
<td>300 KB</td>
</tr>
<tr>
<td>StateWideModelApplication.TRF</td>
<td>12/25/2018 5:46 PM</td>
<td>Task Monitor Run...</td>
<td>5 KB</td>
</tr>
<tr>
<td>TPPL.PRJ</td>
<td>1/6/2019 11:47 AM</td>
<td>Application Mana...</td>
<td>1 KB</td>
</tr>
</tbody>
</table>
Figure 1-2: Update Path

The base path of this Application has been moved from \63267\tec\Work Order 1\GSTM\Modeling\2_Facilities\GAStrateWideModel_v101919\ to \63267\tec\Work Order 1\GSTM\Modeling\2_Facilities\GAStrateWideModel_v10319\v2\.

Do you wish to update the path for all Application (APP) and Control (.CTL) files in the Application structure?
(Note that the same subdirectory structure as in the original Applications will be assumed)

[Yes] [No]

Figure 1-3: GSTDM Interface
1.2 REVIEWING THE MODEL STRUCTURE AND VARIABLES

Within the interface, there is a panel on the left with four windows as shown in Figure 1-4. User must check each of those and make relevant changes.

- **Scenario** – This panel consists of the scenarios within the GSTDM model. As of now, there are three scenarios:
  - Base2015: Base year validated network
  - YR2050: 2050 scenario with STIP projects included
  - YR2050wHB170: 2050 scenario with STIP and TFA/ HB-170 projects included

- **Data** – This panel consists of a list of files organized under input and output folders for easy access.
- **App** – This is main Application/User Interface shown in Figure 1-3 in the drop-down format. Double-clicking a module will open that module in User Interface.
- **Keys** – Keys are the variables used in a scenario. User should review them but not change for any existing scenario. For any new scenario, users may have to change the keys that are specific to the scenario.
Figure 1-4: GSTDM Interface Windows
1.3 RUNNING THE MODEL

The model run is executed by first selecting the scenario to run from the Scenario window. Figure 1-5 shows example of selecting Scenario 2050 with STIP projects.

- Double clicking the scenario will open the window shown in Figure 1-6. The user can verify the values and select the appropriate steps in Select a Scenario to Run section.
- The user can click the Run button at the bottom on the Scenario Information screen, or click Run from the menu on the top. Both Run locations are highlighted in Figure 1-6.
  - Alternatively, the user can close the Scenario Information window, which takes the user back to the interface shown in Figure 1-3. The user can click on Run in top left corner of the interface.
- Clicking Run using any of the previous methods described above will open an application as shown in Figure 1-7. Check Run Application from Task Monitor and click OK to continue.
- A window providing a warning will open (Figure 1-8). Click YES.
- A window with message about Run File creation will open as shown in Figure 1-9. Click OK.
- A window with Start Prompt will open as shown in Figure 1-10. Click Start.
- The model will start running.
Figure 1-6: Scenario Information
Figure 1-7: Run Application

![Run Application](image1)

Figure 1-8: Warning Window

![Warning Window](image2)
Figure 1-9: Message for Run File Creation

![Image of Run File Creation Message]

Figure 1-10: Start Prompt for Model Run

![Image of Model Run Start Prompt]
1.3.1 Troubleshooting Early Model Crashes

Please note that if there are issues running the model (due to bug in Cube), an alternate way is provided below.

- If Run Application from Task Monitor crashes, select Create Script (Run from VOYAGER) as shown in Figure 1-7.
- The next three windows will be the same as shown in Figure 1-8, Figure 1-9, and Figure 1-10.
- Proceed as described earlier and the model will start running.

1.4 CHECKING INPUT AND OUTPUT FILES IN MODEL DIRECTORIES

This section describes the directory structure with the Root Directory. The root directory has three main directories:

- Applications – Consists of all applications and scripts
- Parameters – Files common to all scenarios
- Base2015 – Base 2050 inputs and outputs

Base 2015 has following directories:

- Inputs
- Outputs
- Passenger
- Any future scenario (YR2050 & YR2050wHB170)

The future scenarios will have:

- Inputs
- Outputs
- Passenger

Following is description about the files and their folders:

- For any scenario, all the input files are in Inputs folder or in Parameters in the root directory
- The output files are in Outputs and Passenger.

Loaded volumes are in final output network loaded.lod in Passenger.