

## MEMORANDUM

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<b>Date</b>	December 31, 2010
<b>To</b>	Derek Miura, FDOT District 4
<b>From</b>	Wade White, Whitehouse Group
<b>Subject</b>	Updates to SERPM 6.5 Beta 2 to Fix Reported User-Reported Difficulties Applying the Model

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### **Background**

SERPM 6.5 is in the process of testing for use on a variety of projects in the southeast Florida region. In the course of applications, users have reported some erroneous results and diagnostic reporting issues under certain conditions. To address these issues, FDOT District 4 has made some changes to the model. The reported issues, findings and resolutions are briefly described below.

### **MLEG.EXE**

#### *Reported Issue*

When MLEG ran having read certain file names it failed causing the model to abort execution.

#### *Findings*

Review of the MLEG.FOR program source code revealed that it used a character string too short for certain paths/file name combinations.

#### *Resolution*

The source code was revised to read file names and paths up to 255 characters in length. The consultant requested Corradino Group staff recompile the source code into an EXE using the same compiler used to compile the program before the changes. The updated program has been included with the new release.

### **PT2TRNB.EXE**

#### *Reported Issue*

If certain route coding errors occurred either by naming a route incorrectly or by including PT key words not properly processed by PT2TRNB no error reporting would occur and the model

would continue to execute with incomplete results or sometimes fail hours after the error occurred. This made it difficult for users to know the exact source of the error.

#### *Findings*

The PT2TRNB program would require significant changes to properly report and account for all possible user errors. However, the program's results do provide a way to isolate the source of the error.

#### *Resolution*

A custom script written in Cube Voyager's MATRIX program was completed that tests for PT2TRNB input/output lines processed to verify the number of transit lines read by the program is the same as the number written. If that is not the case, model execution stops immediately and reports the transit line name where the error first occurs.

### **Incomplete Purge of Temporary Output Data**

#### *Reported Issue*

When the model runs, it sometimes uses data from a prior run to complete. This has resulted in some erroneous results.

#### *Findings*

The current configuration of the model could possibly use results from a previous run, particularly in temporary data, to complete an analysis.

#### *Resolution*

Commands were introduced to the initial PILOT step to purge all temporary files before starting a model run.

### **The "Create Alternative" Application**

#### *Reported Issue*

When using the "Create Alternative" application in the SERPM catalog file some files that should be created are not.

#### *Findings*

Some of the files used in SERPM do not follow standard FSUTMS naming conventions. The "Create Alternative" application only copied files from the template alternative that follow the FSUTMS naming convention for YEAR and ALT.

#### *Resolution*

The "Create Alternative" application was modified to use all input files from the template alternative when creating the new alternative.

## **On Screen Reporting of Progress**

### *Reported Issue*

When the model is executing some Cube Voyager MATRIX steps report progress one zone at a time potentially increasing run time on certain operating configurations.

### *Findings*

This does not introduce errors or user difficulties in running the model but is a source of inconsistency.

### *Resolution*

All MATRIX scripts have been revised to use a ZONEMSG=100 parameter.

## **Installation Difficulty**

### *Reported Issue*

The SERPM model is a complex mix of Cube Voyager and user-written programs. Knowing which programs and data to put where on a computer requires the user to have a higher degree of knowledge than has been observed by FDOT staff.

### *Findings*

It was clear from the review that more experienced computer users would likely not encounter difficulties properly installing the model and data sets while more novice users would likely encounter difficulties.

### *Resolution*

A custom installer routine was developed that tests for the version of Microsoft Windows running on the local computer and the location of the Cube software package. The installer installs all data in the appropriate location on the local computer (c:\fsutms\d4) and the user-written programs that appear in the application manager flow chart into the appropriate directory for the local Microsoft Windows operating system. The installer was tested on the following versions of Microsoft Windows: XP (32 bit), Vista (32 and 64 bit) and 7 (64 bit). Additionally, a license file was added as part of the installer that contains the following text:

*Developed by the Florida Department of Transportation.*

*Permission to use this data and model application on any one computer for any purpose, including commercial applications, is subject to the following restrictions:*

- 1. The origin of this data and model must not be misrepresented; you must not claim that you wrote the original software.*
- 2. Altered versions of the model must be plainly marked as such, and must not be misrepresented as being the original.*

*3. Express written permission to install, use or modify the model for any purpose must be granted by the Florida Department of Transportation.*

*4. This notice may not be removed or altered from any distribution.*

*5. The contents of this model reflect the views of the authors who are responsible for the facts and accuracy of the data presented herein.*

#### **DISCLAIMERS**

*The user-written software has been tested on the Microsoft Windows XP and Vista Platforms. It has been further tested with Cube Voyager Version 5.1. The user-written software has not been tested on any other operating system and may not be suitable for use thereon. The user-written programs provided with this installation are provided 'as-is', without any express or implied warranty. In no event will the authors be held liable for any damages arising from their use.*

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