Memorandum

U.S. Department
Of Transportation

Federal Highway Administration

6300 Georgetown Pike
McLean, Virginia 22101

Subject: **ACTION**: LTPP Directive TDP-39
Release of LTPP Traffic Analysis Software Version 1.5

Date: April 7, 2005

From: Deborah Walker
Long Term Pavement Performance Team

Reply to
Attn of: HRDI-13

To: Dr. Frank Meyer, PM - LTPP North Atlantic Regional Contract
Dr. Frank Meyer, PM - LTPP North Central Regional Contract
Mr. Mark Gardner, PM - LTPP Southern Regional Contract
Mr. Kevin Senn, PM - LTPP Western Regional Contract

Attached is the Long Term Pavement Performance (LTPP) Program Directive TDP-39. This directive addresses the executable and supporting table updates made to the LTPP Traffic Software. Installation instructions are included in the second attachment ("Installing Version 1.5"). Please ensure that all personnel involved with the Traffic Program are aware of this new directive.

Should you have any questions or would like to discuss this directive, please do not hesitate to contact me at 202-493-3068.

Attachments (2)

LONG TERM PAVEMENT PERFORMANCE PROGRAM DIRECTIVE

For the Technical Direction of the LTPP Program

Program Area:	Traffic	**Directive Number:**	TDP-39
Date:	April 7, 2005	**Supersedes:**	TDP-38
Subject:	*Release of LTPP Traffic Analysis Software Version 1.5*		

Purpose

This directive discusses the executable and supporting table updates made to the LTPP Traffic Analysis Software (LTAS). It also includes a list of all changes made to the software since the release of version 1.4.1.

Changes

This release addresses software functionality, Software Performance Reports (SPRs), miscellaneous items, and database modifications (see Section 3 of "Installing Version 1.5"). One significant change to this version of the software is the ability to load classification data. Version 1.5 allows the user to load classification data using either the Load Data or Daily Summaries function. However, starting with the use of this version, the Load Data function must be used to load classification data.

Suspension of Loading Weight Data

Version 1.5 alters all tables loaded as monthly through Daily Summaries for weight data. As a result, all weight data loading must be suspended while the table alterations and data modifications are taking place. Loading weight data can continue after all existing monthly data have been transformed from monthly to daily. The instructions for completing the transformation are included in the attachment. The necessary scripts are being provided with the software distribution through the Technical Support Services Contractor's (TSSC's) corporate ftp site in \Data_distribution.

Distribution and Installation of Updated Software

The updated software was posted for download Monday, February 4, 2005 through the TSSC's corporate FTP site. The software, scripts, and documentation remained on the site for distribution until Friday, February 11, 2005. The installation of the analysis software and support table elements to permit processing with the traffic data analysis software shall be completed within two weeks of the date of this directive. If a region experiences issues in successfully installing the software which requires fixes by the TSSC, then an additional week will be given to the region after receipt of the software with the corrections made.

The attachment "Installing Version 1.5" lists the steps for installing the new release of the traffic analysis software. The installation information is also included with the software distribution.

Manual Revisions

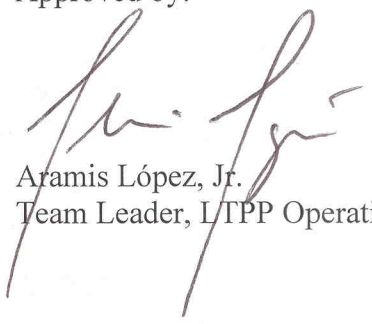
The major changes to the LTAS documentation are found in Volume 1—Users' Guide. There is a discussion on the new processes for loading, purging, and removing data. As a result of the Load Data function being added to the software, changes were made to SHRP_INFO. In addition, Volume 3—Appendices A (Schema) and B (Codes) reflect the addition of these new processes.

Questions or Issues

Questions concerning this directive should be addressed to the FHWA LTPP program office. Please submit a SPR if there are problems with implementing this directive.

Prepared by: TSSC

Approved by:



Aramis López, Jr.
Team Leader, LTPP Operations

Installing Version 1.5

Contents:

Section 1
Overview

Purpose

The following section lists the steps for installing the new release of the LTPP Traffic Analysis Software (LTAS). The installation information is also included with the software distribution. As a result of additional changes in the way IMS computations handle expansions to annual estimates for some sections; all IMS computations will be redone upon installation. This will correct previous estimates, reduce efforts to individually compute the affected sections, and address any sections with computations made since the last upload that may be affected.

Organization of Instructions

LTAS version 1.5 is a complex installation and will require some time to complete. However, if you follow the steps closely you should be able to get through the process with ease. Since some of the steps are complex, they have been divided into separate tables where appropriate. The main installation table titled *Installing LTAS Version 1.5* provides step-by-step instructions for installing the software from beginning to end and requires detailed actions for some steps. Therefore, the following three supporting tables were created to make the installation process easier:

- *Modifying SHRP_INFO*
- *Modifying SHRP_INFO (Beyond Column 51)*
- *Distributing Data for STAT_QC and ERR_WT Tables*

If you are directed to any of these tables from the main installation table (*Installing LTAS Version 1.5)*, you will always be directed to go back to the main table to complete the installation process.

Section 2
Instructions

Main Installation Table

The following table titled *Installing LTAS Version 1.5* lists the steps for installing version1.5 from beginning to end. There are a total of 12 steps to do this. However, within these steps, you are directed to other tables if you need to process data for the various tables such as modifying SHRP_INFO.

Installing LTAS Version 1.5

Step	Action
1	Download the Microsoft .NET Framework Version 1.1 from http://www.microsoft.com/downloads/details.aspx?FamilyID-262D25E3-F589-4842-8157-034D1E7CF3A3&displaylang=en and install it from the downloaded exe file (dotnetfx.exe). **NOTE:** This tool needs to be installed on all machines (clients and server) first, in order to install LTAS Version 1.5. Give close attention to the System Requirements listed on the website. There is also a SP 1 for .NET Framework 1.1 dated 8/30/2004 that addresses security issues.
2	Stop processing weight data through Daily Summaries until Steps 3 through 9 are completed.
3	Execute the following script (as the DBA for the traffic instance) to update the Traffic_Tables. *sqlplus dbaname/dbapwd@trfprod @Traffic_Tables_Update_1_5.sql* **NOTE:** This step may take some time because the indexes for several tables will either be created or recreated.
4	Execute the following script (as the DBA for the traffic instance) to update the codes in the TRAFFIC_CODES table. *sqlplus dbaname/dbapwd@trfprod @Traffic_Codes_Update_1_5.sql*
5	Execute the following script to update the TRAFFIC_DD table. *sqlplus dbaname/dbapwd@trfprod @Traffic_DD_Update_1_5.sql*
6	Replace the analysis.exe on the server using the updated analysis.exe located in the zip file Analysis_1_5.zip. **NOTE:** If .NET Framework did not install successfully on the server, contact the TSSC (SAIC) to obtain instructions to install and run the application from the clients.
7	If you need to modify SHRP_INFO (such as 1 a.m. volume > 1 p.m. volume, 8+ zero hourly volume, 4+ Static hourly volume, or data beyond column 51), **Then** Go to the table titled *Modifying SHRP_INFO* **Else** Go to Step 8

Installing LTAS Version 1.5

Step	Action
8	Run Admin QC a. Open the analysis software b. Click the **DB Administration** button to display the DB Administration screen c. Click the **Record_Status** button under Reset d. Select **Yes** to verify that the record status be reset for all Admin tables e. Click the **Perform QC** button f. Click the **Close** button after the report displays g. Run the following script to update the record status in TRAFFIC_ANALYSIS_TRACKER for SPS sites with computed comparison data *Update traffic_analysis_tracker set record_status = 'D' where record_status = 'C' and shrp_id in ('0100', '0200', '0500', '0600', 'A500', 'A600') and upload_ims_cl != 'C' and upload_ims_wt != 'C';* *Commit;* h. Click the **Perform QC** button i. Click the **Close** button
9	Go to the table titled *Distributing Data for STAT_QC and ERR_WT Tables* to redistribute Day 1 STAT_QC_A_AX, STAT_QC_BC_AX, STAT_QC_BC_SPACE, and ERR_WT data across all weekdays.
10	Resume processing of weight data using the Daily Summaries process.
11	Setup and execute IMS data clean up a. Connect to the Analysis software (LTAS) after the new executable is installed b. Click the **DB Administration** button to display the DB Administration screen c. Click the **IMS Date** button under Reset to display the Reset IMS Date screen d. Set the State selection, SHRP ID, and Year fields to "ALL" e. Click the **Process** button **Note:** This action will reset IMS_DATE to 01-JAN-1990 and RECORD_STATUS to "A" in TRAFFIC_ANALYSIS_TRACKER. At this point, IMS Computations can be recomputed. f. Close the Reset IMS Date screen g. Click the **Record Status** button under Reset options h. When complete, continue with QC of Admin i. Click the **Perform QC** button from the DB Administration screen under QC DB Admin Tables j. Review the report after QC of the DB Administration Tables k. Run a Detail Report to identify corrections needed if all records in TRAFFIC_ANALYSIS_TRACKER and SHRP_INFO are not at "E" l. Modify table as needed m. Iterate data until all records have a RECORD_STATUS of "E" in SHRP_INFO and "C" or "E" in TRAFFIC_ANALYSIS_TRACKER n. Exit the DB Administration Screen o. Click the **Compute IMS** button under Analysis Processing to display the Compute IMS Data screen p. Set the State and SHRP ID fields to "ALL" q. Click the **Process** button **Note:** This action will recalculate the IMS entries (TRF_MONITOR_* tables) for all sites (except those with shared site data) where the IMS_DATE is less than either the monthly class or the monthly weight dates. Since reprocessing of all sites for a region can take up to four hours, you may want to execute this overnight. r. Update any shared site data with the revised IMS computations
12	**Give yourself a pat on the back. You have successfully installed Version 1.5!** You are now set to use the Load Data Option by Folder / Directory to load the data for 2004 that have values beyond column 51and are parsed by other than 2, C-cards, and other data processed with this version.

Modification to SHRP_INFO

The following table lists the steps for modifying SHRP_INFO.

Modifying SHRP_INFO

<table>
<tr><th>Step</th><th>Action</th></tr>
<tr><td>1</td><td>Determine which part of SHRP_INFO needs modifying
<table>
<tr><th>If SHRP_INFO</th><th>then…</th></tr>
<tr><td>has to be modified because the site volume at 1 a.m. is routinely greater than at 1 p.m.</td><td>Go to Step 2</td></tr>
<tr><td>has to be modified because the site volume is equal to zero for 8 or more consecutive hours due to lack of traffic</td><td>Go to Step 4</td></tr>
<tr><td>has to be modified because the site volume (non-zero value) is consistently the same for 4 or more consecutive hours</td><td>Go to Step 6</td></tr>
<tr><td>has to be modified to address data beyond column 51 (4-card) or 85 (C-card) for years 2004 and later</td><td>Go to the table titled Modifying SHRP_INFO (Beyond Column 51)</td></tr>
<tr><td>does not need further modification</td><td>Go to the table titled Installing LTAS Version 1.5, Step 8</td></tr>
</table></td></tr>
<tr><td>2</td><td>Modify SHRP_INFO for all sites where the 1 a.m. volume is expected to be greater than the 1 p.m. volume
a. Open the analysis software
b. Click the DB Administration button to display the DB Administration screen
c. Select SHRP Information from the Database Administration screen under Maintain Database Information – Update
d. Click the Perform Maintenance button
e. Select State_Code and SHRP_ID
f. Uncheck the “1 AM > 1 PM” block under Loading Options – Error Checking at the bottom of the SHRP Information screen
g. Click the Update Current button
h. Click the Prior button to verify there are no earlier records in the set. If there are, repeat Steps 2f and 2g for each applicable period.
i. Click the Next button to go through all records in the set. Verify that all records had “1 AM > 1 PM” unchecked and applied. Repeat Steps 2f and 2g for records not modified and continue from Step 2h.
j. Click the Close button
k. Click the Perform Maintenance button
l. Click the Prior and Next buttons to verify that all changes were saved
m. Repeat Steps 2e through 2l if additional sites need modifying
n. Click the Close button

NOTE: The region (in collaboration with the highway agency) must verify the individual site characteristics are reasonable. Do not make this change for data sets with clocks that are not correctly set.</td></tr>
<tr><td>3</td><td>Go to Step 1</td></tr>
</table>

Modifying SHRP_INFO

Step	Action
4	Modify SHRP_INFO for all sites where 8 or more consecutive hours of zero volumes are common a. Open the analysis software b. Click the **DB Administration** button to display the DB Administration screen c. Select SHRP Information from the Database Administration screen under Maintain Database Information – Update d. Click the **Perform Maintenance** button e. Select State_Code and SHRP_ID f. Uncheck the "8+ Zeros" block under Loading Options – Error Checking at the bottom of the SHRP Information screen g. Click the **Update Current** button h. Click the **Prior** button to verify there are no earlier records in the set. If there are, repeat Steps 4f and 4g for each applicable period. i. Click the **Next** button to go through all records in the set. Verify that all records had "8+ Zeros" unchecked and applied. Repeat Steps 4f and 4g for records not modified and continue from Step 4h. j. Click the **Close** button k. Click the **Perform Maintenance** button l. Click the **Prior** and **Next** buttons to verify that all changes were saved m. Repeat Steps 4e through 4l if additional sites need modifying n. Click the **Close** button **NOTE:** The region (in collaboration with the highway agency) must verify the individual site characteristics are reasonable. These will typically be SPS-8 sites. However, it is also possible to have records with this characteristic when the lane is closed due to construction or maintenance activities.
5	Go to Step 1
6	Modify SHRP_INFO for all sites where 4 or more consecutive hours having the same non-zero volume are common a. Open the analysis software b. Click the **DB Administration** button to display the DB Administration screen c. Select SHRP Information from the Database Administration screen under Maintain Database Information – Update d. Click the **Perform Maintenance** button e. Select State_Code and SHRP_ID f. Uncheck the "4+ Static" block under Loading Options – Error Checking at the bottom of the SHRP Information screen g. Click the **Update Current** button h. Click the **Prior** button to verify there are no earlier records in the set. If there are, repeat Steps 6f and 6g for each applicable period. i. Click the **Next** button to go through all records in the set. Verify that all records had "4+ Static" unchecked and applied. Repeat Steps 6f and 6g for records not modified and continue from Step 6h. j. Click the **Close** button k. Click the **Perform Maintenance** button l. Click the **Prior** and **Next** buttons to verify that all changes were saved m. Repeat Steps 6e through 6l if additional sites need modifying n. Click the **Close** button **NOTE:** The region (in collaboration with the highway agency) must verify the individual site characteristics are reasonable. These will typically be SPS-8 sites.
7	Go to Step 1

Modification to SHRP_INFO (Beyond Column 51)

The following table lists the steps for modifying sites with data beyond column 51.

Modifying SHRP_INFO (Beyond Column 51)

<table>
<tr><th>Step</th><th>Action</th></tr>
<tr><td>1</td><td>Run the following script.

Sqlplus Trafficusername/trafficuserpwd@trfprod @2004_beyond_51.sql

NOTE: You will get an output file listing all sites with more than 13 classes of data for 2004 and later. You can also change the site year or state in the script to identify and process data affected by the conditions identified in DAOFR TSSC-40. If there are no entries go to the table titled Installing LTAS Version 1.5, Step 8. Otherwise go to the next step.</td></tr>
<tr><td>2</td><td>Query LTPPFILETRACKER to determine which sites have 4-card data, C-card data, and which have both.

Spool PATH\2004_class_filetypes.txt;
Select unique(state_code), shrp_id, filetype from ltppfiletracker where filename like ‘C%’ and startdate >=’1-jan-2004’ and state_code = XX and shrp_id = ‘AAAA’
order by state_code, shrp_id, filetype;
Spool off;

NOTE: This script may be run individually for each site identified in Step 1 or it can be run for the entire state or year.</td></tr>
<tr><td>3</td><td>Determine the format of the data

<table>
<tr><th>If</th><th>then…</th></tr>
<tr><td>the sites have C-card data only</td><td>Go to Step 4</td></tr>
<tr><td>the sites have 4-card data only</td><td>Go to Step 6</td></tr>
<tr><td>the sites have both 4-card and C-card data</td><td>Go to Step 8</td></tr>
<tr><td>there are no more sites to modify</td><td>Go to the table titled Installing LTAS Version 1.5, Step 8</td></tr>
</table>
</td></tr>
</table>

Modifying SHRP_INFO (Beyond Column 51)

Step	Action
4	For sites with C-card data only a. Find the original data files provided by the agency **Note:** These should be the QC software input files, not the output files. b. Copy all the files to a holding folder **Note:** These files will be loaded using the Load Data option. c. Open the analysis software d. Click the **DB Administration** button to display the DB Administration screen e. Select SHRP Information from the Database Administration screen under Maintain Database Information – Update f. Click the **Perform Maintenance** button g. Select State_Code and SHRP_ID combination h. Set Start Date to "1-Jan-2004" i. Select 5-Digits/Vehicle under Extra Data Beyond Column 89 (C-card) at the bottom of the Loading Options screen j. Click the **Add New** button k. Click the **Prior** button l. Change End Date to "31-Dec-2003" m. Click the **Update Current** button n. Click the **Next** button o. Verify that 5-Digits/Vehicle is still checked for the record with a start date of "1-Jan-2004." Reselect it and click the **Update Current** button, if necessary. p. Repeat Steps 4g through 4o if additional C-card only sites exist q. Click the **Close** button if no additional C-card only sites exist
5	Go to Step 3

Modifying SHRP_INFO (Beyond Column 51)

<table>
<tr><th>Step</th><th>Action</th></tr>
<tr><td>6</td><td>For sites with 4-card data only
a. Find the QC software output files
b. Use a text editor to open all the files in the AVC4 folder for the first site-year on the list
Note: Use a text editor (such as TextPad) that permits easy counting of columns of data.
c. Determine the record length EXCLUDING flags in each file and identify the parsing rule(s) from the following table. Write it next to the site-year on the print out used to track sites with data beyond column 51.

<table>
<tr><th>Digits/Vehicle</th><th>Length</th><th>Digits/Vehicle</th><th>Length</th></tr>
<tr><td>Any</td><td>51</td><td>2 or 3</td><td>53, 57, 65</td></tr>
<tr><td>2</td><td>53, 57, 65</td><td>2 or 4</td><td>67, 75</td></tr>
<tr><td>3</td><td>54, 57, 60, 69</td><td>2 or 5</td><td>61</td></tr>
<tr><td>4</td><td>67, 75</td><td>3 or 5</td><td>66</td></tr>
<tr><td>5</td><td>56, 76</td><td>2, 3 or 4</td><td>63</td></tr>
<tr><td></td><td></td><td>4 or 5</td><td>71</td></tr>
</table>

Note: Consulting with the agency or inspecting the data and location of the non-zero data values should resolve records that can be parsed more than one way. There may be more than one record length in a year. There cannot be more than one record length in a file.
d. If there are two lengths and neither is 51 OR there are three or more lengths, do not proceed. Instructions on how to process this data will be documented in the upcoming Traffic Operations Guide. Go to the next site or continue with Step 6e for all similar sites with a single record length greater than 51 OR some files with record length of 51 and others with the same length greater than 51.
e. Open the analysis software
f. Click the DB Administration button to display the DB Administration screen
g. Select SHRP Information from the Database Administration screen under Maintain Database Information – Update
h. Click the Perform Maintenance button
i. Select State_Code and SHRP_ID combination
j. Set Start Date to “1-Jan-2004”
k. Select X-Digits/Vehicle under Extra Data Beyond Column 51 (4-card) at the bottom of the Loading Options screen
Note: X is determined by files with a record length greater than 51.
l. The source of the parsing rule may be added under Comments. It should be added when there is more than one choice and determination is made by either consulting with the agency or inspecting the data. For example, “The agency confirmed use of 3 columns per vehicle beyond column 51.”
m. Click the Add New button
n. Click the Prior button
o. Change End Date to “31-Dec-2003”
p. Click the Update Current button
q. Click the Next button
r. Verify that X-Digits/Vehicle is still checked for the record with a start date of “1-Jan-2004.” Reselect it and click the Update Current button, if necessary.
s. Repeat Steps 6i through 6r if additional 4-card only sites exist. If Step 6c was not done for all site years at the same time, repeat Steps 6C and 6D before going to Step 6i.
t. Click the Close button if no additional 4-card only sites exist</td></tr>
<tr><td>7</td><td>Go to Step 3</td></tr>
</table>

Modifying SHRP_INFO (Beyond Column 51)

<table>
<tr><th>Step</th><th>Action</th></tr>
<tr><td>8</td><td>
For sites with 4-card and C-card data only
a. Find the original data files provided by the agency
Note: These should be the QC software input files, not the output files.
b. Copy all the files to a holding folder for sites with 4-card and C-card data
Note: These files will be loaded using the Load Data option.
c. Use a text editor to open all the files in the folder for the first site-year on the list
Note: Use a text editor (such as TextPad) that permits easy counting of columns of data.
d. Determine the record length for 4-card files present. Write it next to the site-year on the print out used to track sites with data beyond column 51.
e. If the original files are not found, use the Level 4 data to determine the record length of 4-card files EXCLUDING flags in each file and identify the parsing rule(s) from the following table. Write it next to the site-year on the print out used to track sites with data beyond column 51.
<table>
<tr><th>Digits/Vehicle</th><th>Length</th><th>Digits/Vehicle</th><th>Length</th></tr>
<tr><td>Any</td><td>51</td><td>2 or 3</td><td>53, 57, 65</td></tr>
<tr><td>2</td><td>53, 57, 65</td><td>2 or 4</td><td>67, 75</td></tr>
<tr><td>3</td><td>54, 57, 60, 69</td><td>2 or 5</td><td>61</td></tr>
<tr><td>4</td><td>67, 75</td><td>3 or 5</td><td>66</td></tr>
<tr><td>5</td><td>56, 76</td><td>2, 3 or 4</td><td>63</td></tr>
<tr><td></td><td></td><td>4 or 5</td><td>71</td></tr>
</table>
Note: Consulting with the agency or inspecting the data and location of the non-zero data values should resolve records that can be parsed more than one way. There may be more than one record length for 4-card or C-card files.
f. If there are two lengths for 4-card files and neither is 51 OR there are three or more lengths, do not proceed. Instructions on how to process this data will be documented in the upcoming Traffic Operations Guide. Go to the next site or continue with Step 8g for all similar sites with a single record length greater than 51 OR some files with record length of 51 and others with the same length greater than 51.
g. Open the analysis software
h. Click the DB Administration button to display the DB Administration screen
i. Select SHRP Information from the Database Administration screen under Maintain Database Information – Update
j. Click the Perform Maintenance button
k. Select State_Code and SHRP_ID combination
l. Set Start Date to “1-Jan-2004”
m. Select 5-Digits/Vehicle under Extra Data Beyond Column 89 (C-card) at the bottom of the Loading Options screen
n. Select X-Digits/Vehicle under Extra Data Beyond Column 51 (4-card) at the bottom of the Loading Options screen
Note: X is determined by files with a record length greater than 51.
o. The source of the parsing rule for the 4-card data may be added under Comments. It should be added when there is more than one choice and determination is made by either consulting with the agency or inspecting the data. For example, “Parse by 3 determination made by inspection of the data.”
p. Click the Add New button
q. Click the Prior button
r. Change End Date to “31-Dec-2003”
s. Click the Update Current button
t. Click the Next button
u. Verify that 5-Digits/Vehicle is still checked. Reselect it and click the Update Current button, if necessary.
</td></tr>
</table>

Modifying SHRP_INFO (Beyond Column 51)

Step	Action
8	For sites with 4-card and C-card data only (*continued*) v. Verify that X-Digits/Vehicle is still checked. Reselect it and click the **Update Current** button, if necessary. w. Repeat Steps 8k through 8v if additional mixed record type-sites exist. If Step 8c was not done for all site years at the same time, repeat Steps 8c-8e before going to Step 8k. x. Click the **Close** button if no additional mixed record sites exist
9	The sites are now ready for re-loading. Sites with C-card, 4-card (parsed by other than 2s), and mixed data records should be loaded using the Load Data option, By Folder / Directory. For 4-card data parsed by 2s, no action is required because the data was correctly loaded.
10	Go to Step 3

Distribution of Data for STAT_QC and ERR_WT Tables

The following table lists the steps to redistribute Day 1 STAT_QC_A_AX, STAT_QC_BC_AX, STAT_QC_BC_SPACE, and ERR_WT data across all weekdays.

Distributing Data for STAT_QC and ERR_WT Tables

Step	Action
1	Execute the following command line statement to export the tables being modified. *exp dbaname/dbapwd @trfprod parfile=1_stat_err_1_5.par* **NOTE:** Zip the file (stat_err_install.dmp) and save it to send with the other materials for the next traffic data upload.
2	Create a directory "oracle_spool" on the C:\ drive if it does not exist. Either create or modify the following line in every subsequent script identified in this table. *SPOOL c:\oracle_spool\statqc_err.txt to contain the directory to which the output files are to spool. The same modification will need to be made in every other SQL script run in this section.* **NOTE:** This needs to be done all machines where this process will be done.
3	Run the following script to create temporary tables. *sqlplus dbaname/dbapwd@trfprod @2_stat_err_prep.sql*
4	Make a checklist with every state for which weight data exists. **NOTE:** This will be used to keep track of which states were modified.
5	Make a copy of the following script and save it as State_ID_dist_stat_qc_and_err.sql starting with the first state on the checklist. *3_dist_stat_qc_and_err.sql* **EXAMPLE:** For South Dakota "SD_dist_stat_qc_and_err.sql"
6	Update the following script by replacing the value of state code AA with the appropriate number for the state data being modified. State_ID_dist_stat_qc_and_err.sql **NOTE:** There are nine occurrences of the value for STATE_CODE to be replaced. All occurrences are between the lines like – XXXXXXXXXXXXXXX. Since recovering from an error is difficult, make sure the script is checked to make certain that all values are correct.
7	Start SQLPlus and run the following script. *@c:\State_ID_dist_statqc and _err.sql* **NOTE:** The above command assumes that the script is located on the C:\ drive in the root directory.
8	Enter the following commands at the SQL prompt after the script stops running. *commit;* Press **ENTER** *spool off;* Press **ENTER**
9	Rename the output script (statqc_err.txt) in its spool directory prefacing it with the State ID.

Distributing Data for STAT_QC and ERR_WT Tables

Step	Action
10	Review the output file for orphan records. **NOTE:** At a minimum, records with lane or direction of 0 or 9 will be included in this output file. They may be removed with the **Remove Data** function in the software. If other orphan records appear, bring them up for discussion with FHWA and/or the TSSC if necessary.
11	Go to Step 4 to process the next state. Otherwise go to Step 12 if no other states need processing. **NOTE:** Processing all the States from the checklist in Step 4 may take several days to complete.
12	After all states are processed, check to make sure the number of XX_dist_stat_qc_and_err.SQL and number of XX_statqc _err.txt files match the number of states with weight data. Then run the following completion query to check for the states in the various temp tables. *sqlplus Trafficusername/trafficuserpwd@trfprod @4_check_final_stat_err_temp.sql* **NOTE:** Every state that submitted weight data should be included in this list. In the event that there were no errors in the weight data submitted for the agency, the only table that may be missing a state is ERR_WT_DIST_TEMP.
13	Execute the following export to save the TEMP files for later reference. *exp dbaname/dbapwd @trfprod parfile=5_complete_stat_err_1_5.par* **NOTE:** Zip the file (stat_err_temp_complete.dmp) and save it to send with the other materials for the next traffic data upload.
14	Run the following script to replace the data in the modified statistics tables. *sqlplus dbaname/dbapwd @trfprod @6_update_stat_err_data.sql* **NOTE:** The script includes counts of the values for both tables in a pair to verify that all data was copied. It may take some time to run since all of the tables being updated are indexed.
15	Run the following script to remove all the temporary tables associated with the installation of version 1.5. *sqlplus dbaname/dbapwd @trfprod @7_clean_stat_err.sql* **NOTE:** Make sure all data has been replaced and verified before running this script.
16	Go to the table titled *Installing LTAS Version 1.5,* Step 10

Section 3
List of Changes

Software Functionality (Analysis.exe)

- Added the following to the DB Administration screen
  - Remove Data button. The user has the option of choosing a single state and a single SHRP. Date range is allowed, but days and months apply only to the daily tables. When data is deleted, all monthly, annual, and IMS data is deleted at the year level.
  - Ability to view files loaded through the LTAS software (Traffic Filetracker). Fields available for updating are QC Packet Sent; QC Packet Received; and comments.
- Added "Create Purges" and "Apply Purges" options to the Main Screen.
- Updated QC, Reports, Graphs, Daily, and Monthly processing to exclude purged data.
- Added Class Loading directly into LTAS from the main screen.
- Updated Daily Weight processing to process weight files into the STAT_QC_* tables and ERR_WT table as daily values.
- Updated graphs to address the STAT_QC_* tables changing from monthly to daily.
- Updated reports to address the ERR_WT table change from monthly to daily.
- Updated SHRP Information screen to include loading directions.

SPRs Addressed

- *SPR 3-869*. Changed wording of error message for "SITE_EQUIPMENT_INFO-E-103" to be "Data collection periods overlap." Also modified the report to include all records that fail this check and not just one record per site. (1.4.1 revised)
- *SPR 4-483*. Corrected the QC on SPS sites to correctly update from Level D to E records passing the Level D checks. (1.4.1 revised)
- *SPR 3-872*. Restructured the output of the log report and added an option to exclude non-errors from the report. (ERROR_CODE of 0) (1.5)

Miscellaneous Items

- Updated DB Administration QC for the TRAFFIC_ANALYSIS_TRACKER table cross check against the COMP_*_CT tables for SPS Pooled Fund sites. (1.4.1 revised)
- Updated the Reprocessing Report for SPS Pooled Fund sites to require the upload_ims_* flag to be Y and the sps_com_*_date to be not null to be included in the report. (1.4.1 revised)
- Modified Daily Weight loading to address files from the "old" QC software where the first record of a vehicle was valid "__" and the second or third record of the vehicle was flagged with either a "Q" or "C".
- Modified Monthly processing to handle records at record status of "D" in the daily tables with invalid days for a month so as not to cause the monthly processing to fail. It will take more time to complete monthly processing because of this change.
- Updated TRAFFIC_ANALYSIS_TRACKER-E-106 and TRAFFIC_ANALYSIS_TRACKER-E-109 per new specifications:
  - QC check is for SHRP_ID values of (0100, 0200, 0500, 0600, A500, A600)
  - Daily date being greater than 01-JAN-1990
  - SPS comparison date must exist and be computed within the past year
- Updated IMS Compute processing when checking for a lane or direction change in SHRP_INFO to process sites where multiple entries cover a timeframe.

Database Modifications

- Updated codes for Remove Data, Purges, Traffic Filetracker, and Class Loading process modules and error codes in TRAFFIC_CODES table.
- Added tables TRAFFIC_PURGES and TRAFFIC_FILETRACKER.
- Modified the following tables:
  - TRAFFIC_ANALYSIS_TRACKER
  - DD_CL_CT_TEMP
  - TRAFFIC_USER
  - SHRP_INFO
  - STAT_QC_A_AX
  - STAT_QC_BC_AX
  - STAT_QC_BC_SPACING
  - ERR_WT