VII. WEEKLY DATA PROCESSING

PROCESSING OF SHORT-TERM COUNT DATA

To maximize the efficiency and accuracy of traffic data, the Districts and Central Office must conduct a comprehensive analysis process that involves more than just obtaining and processing raw counts. They must analyze the counts for acceptability, evaluate and monitor conditions that affect traffic data, and maintain a Traffic Count Program that will obtain an accurate picture of evolving traffic characteristics.

Survey Processing Software (SPS)

All traffic surveys performed for the annual program should be processed and uploaded to the FDOT mainframe using the Survey Processing Software. SPS was developed to provide the FDOT Districts with a software package that could transfer raw data from a variety of traffic counters to a PC, perform the required edits on the raw data, and then upload summarized classification and count data statistics from the District PC to the FDOT mainframe. SPS is a custom application written within *Microsoft Access*.

—**Refer to the SPS User Manual for operating instructions.**

The four main functions of SPS are:

1) Convert Raw Data

This function was designed to download the files contained in the traffic counters to the District or Consultant PC. It was written so that FDOT need not purchase multiple copies of each counter manufacturer's proprietary software and spend the time learning how to use each. With SPS, the same steps are performed by the technician to download the counter data, regardless of brand--the software handles all the special vendor commands.

2) Load SPS Database

Video 7 Load SPS

Once the traffic data files have been extracted from the counters, they must be loaded into the SPS *Access* database before they can be further analyzed. This routine can read the files created by the previous step, and can also read the proprietary file formats created by several of the vendor software packages. All files transferred to the Districts by the Consultants must be in an *.txt or *.prn file format. These files can be transferred by disk, Email attachments, or through the FTP site.

When SPS loads the data into its database, it organizes the data into 24-hour blocks starting with the first data interval. It also organizes the data by station and by date. If less than 24-hours of data is available, further processing cannot be undertaken.

3) Edit SPS Database

Video 8 Edit SPS

The edits performed by SPS alert the Districts to possible problems with the quality and accuracy of the counts by comparing each traffic survey to information stored in two tables---the Station Inventory and the Variance Factors tables. If there are discrepancies, SPS creates error messages for analysis by District personnel. The operator can verify the accuracy of the count, make corrections to the input data files, or update the Station Inventory.

(See SPS EDITS PERFORMED and PROBLEM RESOLUTION)

Toward the end of this step, SPS asks the user if it should create Record Summary and Synopsis reports. The Record Summary Report is primarily useful in examining classification data by hour of the day and by lane. The Synopsis Report displays a single day of volume information on one sheet of paper, shows the calculated morning and afternoon peak hour data, and, for classification surveys, shows the Truck Percentage (T%). Even though the actual count may start at any time of day, SPS reorganizes the data into a uniform format running from midnight to midnight. This format makes it easy for the user to see how traffic flows through the day.

A final set of mental edits should be performed on the data before it is transferred to the mainframe. These edits are not performed by SPS, but by the user: are the types of vehicles and the volumes reasonable for the location where the count was collected? (See ANALYZING THE DATA)

4) Upload Data to Mainframe

Video 9 Upload Data

The final step in processing the traffic data through the Survey Processing Software is creating the summary records that are transferred to the mainframe. SPS creates for each station and date a single annual summary record, and a daily summary record for each direction of traffic data. Additionally, SPS adds the seasonal factor category from the Station Inventory to the volume summary record. If the volume data is from an axle counter, SPS also adds the axle factor category.

The summary records created by SPS to upload to the mainframe database are:

- ANS -- The annual summary record, which contains the county, site, year, date, peak hour time, peak hour volume, peak hour truck volume, peak/daily ratio, and peak hour factor.
- CNT -- The daily volume record, which contains the county, site, year, direction, date, survey type, survey program, total volume, seasonal factor category, and axle factor category.
- CLS -- The daily vehicle classification record, which contains the site, year, direction, date, survey type, survey program, class 01 through class 15 volumes, total volume, and truck volume.

The summary records described above are written by SPS into a file named NCTRAFF.FDF that is transferred to the mainframe. A message will appear in the Status bar to tell the user when the transfer is complete. Upon successful transfer, SPS then automatically launches a batch job that tries to load this summary data into the mainframe TCI database. The load program will then notify the user via email about the status of the upload. The email lists those records successfully loaded, and will create an error file for unsuccessfully loaded records. If an error file was created during the TCI upload, the user can log into TCI, click on the District Tab, make corrections to the ANS, CNT or CLS records, and re-submit the load job. Or the user may elect to make corrections to the appropriate data files on the PC, and rerun that station's data through the entire SPS process.

Manual Data Entry

Video 10 Manual Data Entry

Traffic counts can be manually entered into SPS by selecting the Count tab under the SPS Current Database. A new window will open. It will display detail “Records” in the top portion of the screen and “Summary” records below.

First clear any summary records, then add new data by selecting the “Add a Count Summary Report” icon (third icon to the right of “Summary”—the icon looks like a sheet of paper). Type in the 2-digit county number, and the 4-digit site number, making sure to include leading zeroes. Type in the date in a MM/DD/YYYY format. Enter the alpha direction code--N, S, E, W or B. If the manually added count record is an estimate (most manually entered counts are), enter a Survey Type code of “0”, and a Survey Program code of “1”. Enter the AADT value, taking care to round estimates to the nearest 50, 100, or 1000 vehicles, depending upon the volume range. Enter an Edit Flag code of “0”. When complete, upload the manual counts to the mainframe via the process described above.

SPS EDITS PERFORMED

SPS performs the following edits on the traffic data being processed:

1) Verifies the County-Station number is valid.

2) Makes sure the type of data (axle, vehicle, class) agrees with the Survey Type code in SPS' PTMS Inventory.

3) Checks that the type of data being analyzed is compatible with the Sensor Type code in SPS' PTMS Inventory.

4) Checks that the SPS PTMS Inventory agrees that the data being processed is from a portable counter, i.e. the Survey Program code of the data must be 1 - 4.

5) Compares the direction codes in the data to the ascending and descending directions in SPS' PTMS Inventory.

6) Data from all lanes is present in the input files.

7) Checks the Station Inventory to ensure that the data is either directional or non-directional.

8) Checks for a minimum of 24-hours of data for each count

9) Are there any directional volumes equal to "0" between 5:00am and midnight?

10) Checks that no 4 consecutive hours have the same total

11) Checks that volume in one direction is not greater than 80% of the total volume.

12) Compares the daily volumes of the count being edited to the minimum and maximum "variance factor" values for the station for the month of year, taking into account whether the data is an axle or vehicle count.

13) Makes sure that hourly volumes do not exceed 2000 vehicles for 2-lane roads, or 2500 vehicles per lane on all others.

14) Checks that classification Types 1, 4, and 15 are not above specified percentage as identified by the user.

Problems

If codes in the raw data file don't match codes in the Inventory, SPS can't load the count; or can't process it. The codes for the following items must match:

1) County/Site Number
2) Number of Lanes Ascending/Descending
3) Ascending/Descending Directions
4) Count by Direction
5) Count by Lane
6) Sensor Type
7) Survey Program
8) Survey Type

Survey Type must agree with Sensor Type. Our Inventory currently utilizes the following codes for Sensor Type and corresponding Survey Type for short term counts:

1) Type 1 (Axle Counts) must be coded with Sensor Type 7 (Tubes)
2) Type 2 (Vehicle Counts) must be coded with Sensor Type 1 (Loops)
3) Type 3 (Classification Counts) must be coded with Sensor Type 7 (Tubes) or Sensor Type 5 (Two Loops and One Piezo)

Errors occur when the field technician doesn't program the counters with the proper codes for Survey Program, Sensor Type, and Survey Type.

1) Counts obtained by a consultant must be coded for Survey Program 2
2) Sensor Type will be either 7 (road tubes) or Type 5 (2 loops and 1 Piezo)
3) Survey Type will be either code 3 (Classification) or code 1 (Axle)

Problem Resolution

Often, the problem can be fixed by correcting the codes in the Inventory or raw data file.

1) To identify the problem, open the .PRN or .TXT file and compare it to the Inventory.
2) If you can't fix it, check your records before actually making a recount---the problem might be an incomplete or corrupted data file (for instance, maybe all the lanes were counted but are not being processed).

If the site was classified last year, the Inventory will be coded Survey Type 3 and Count-by-Lane yes; the count won't load if data is missing for any lanes. This happens when:

1) This year's data is volume, not counted by lane
2) The number of lanes being processed doesn't match the number of lanes listed in the Inventory.
3) Data is missing for any lane.

If the direction codes don't match, the count won't load:

This most often happens when the ascending/descending direction isn't obvious to the technician in the field---for instance, a road might be Ascending N (1) and Descending S (5) according to the Inventory, but the segment of roadway where the count is taken might run NE and SW and the technician codes the count with E (3) and W (7).

HINT: You can often save yourself research time by the way you describe the site location in the Inventory: in this case, if you have described the site as NE or SW of the intersection---you know that E is N and W is S, and you can correctly edit the data file.

Remember to update the TCI Station Inventory Database codes to match the data you send to the mainframe or the SPS upload to mainframe will fail---with the one exception: the software will allow you to utilize more than one Survey Program for each site.

ANALYZING THE DATA

Acceptability of Data

Even though you accept one or more days while performing preliminary edits, you should continue with your analyses to determine if all facets of your data appear reasonable.

To analyze the count for acceptability, apply SF and AF from the previous year and compare it to historic data.

Guidelines used to determine if counts are of acceptable quality will vary from site-to-site. There are no "hard, fast" rules because there are many variables that cause traffic characteristics to fluctuate.

Each District will determine what constitutes a significant difference for each facet of each short-term count. For example, you might:

1) Define a specific range that you consider reasonable; for instance, from 20% under 5,000 AADT to 5% over 50,000 AADT.

2) Select a single percentage such as 10% for volume and 5% for classification categories.

3) Use a combination of methods. Start with a single percentage (such as 10%) for all preliminary screening. For counts that fall through the preliminary screen, continue your analysis by using other guidelines that include regional growth trends and conditions.

4) For a quick preliminary volume screen without applying Seasonal Factors: If the County's seasonal fluctuation varies by at least 20% between peak and off-peak, and you use 10% as your screening percentage, there is no need to apply SF unless the ADT varies from historic AADT by more than 20%.

5) If, in your professional judgment, your data fails any Acceptability of Data tests; you need to find out why it failed, and conduct further analyses until you arrive at a logical decision to accept, recount, or estimate.
6) During the Annual Data Processing activities described in Chapter VIII you will have the opportunity to re-evaluate your accepted counts using current year Seasonal and Axle Factors. (See Chapter VIII Annual Data Processing)

Analyzing Raw Counts

When analyzing your counts, keep in mind that the purpose of the annual traffic count program is to monitor traffic growth. Try to avoid significant traffic fluctuations that are due to temporary events such as road construction or severe weather. The data must be examined by direction, hour, and count interval (usually 15-minutes); from one day to the next and year-to-year.

Conduct a preliminary analysis by utilizing reports produced by SPS, the PTMS Inventory Database, previous year AADT Report, Traffic Count Location Maps, Straight Line Diagrams, local street maps, and other counts obtained on adjacent roadway segments.

Using the reports produced by SPS, look at the count itself. Usually the directional split will be close to equal, and the count will be similar for both days. Also look for incorrect directional relationships---morning rush hour is usually toward town, evening rush is opposite.

Consider changes that have taken place in the field, such as lanes added, changes in one-way pairs, road transfers, new intersections, etc. Compare the count to last year's AADT. Total volume and truck volume should be within reasonable increase or decrease of previous years counts, considering the season the count is taken and historic growth trends, providing there have been no significant changes in the field.

If AADT appears to be significantly higher or lower than expected, find out if there have been temporary changes in the field that might have influenced the traffic. If changes are temporary (such as construction), don't use the count. If you can find no obvious reason for the change, apply the previous year's Seasonal and Axle Factors and conduct a more detailed evaluation.

1) Be aware that changes in one County can affect traffic patterns in another County.
2) Consider the possibility that our winter visitors moved to Florida early this year because it snowed earlier than usual, or they extended their stay in Florida to avoid a late snow up North.
3) Gas prices and the economy will influence travel.

Don't automatically reject a count just because the total volume or truck volume shows significant change. If there have been numerous changes in your District, counts might not follow historic trends.

Locate the site on a map and visualize how traffic would flow. Imagine yourself in various driving situations---what route would you

take? It might be very obvious why the directional split is extreme, or why truck % or volume significantly differs from one segment to the next.

Analyze each category of your classification counts according to your District's needs. In general, Federal Roads and Interstates require close scrutiny to produce accurate Classification and volume, State Roads require accurate T% and volume, Federal Aid (off-system) roads need accurate volume.

1) Except for classes 6 and 7 (due to dump trucks with lift axles), categories can be expected to be very similar by direction.
2) Most trucks are usually Class 9 vehicles---as much as 80-90% of traffic loadings on the interstate system.
3) There will be no numbers in category 14.
4) Class 11, 12 or 13 vehicles shouldn't be on roads where their use is not permitted or expected. For example, you can expect to see a lot of class 13 trucks traveling on the Interstate, but not on a 2-lane country road.
5) SPS creates error messages for counts with more than 3% in category 1, 5% in category 5, or 10% in category 15. Each District can adjust these defaults as they see fit.
6) Vehicles that could not be clearly classified are thrown into Category 15 – when SPS creates the summary reports, these vehicles are added into category 2. A high number in category 15 is a good indication that the traffic was not properly classified---it is also a good indication that the PIEZO might be going bad.
7) Historic analysis will help you verify questionable volumes in the classification categories.
8) Be alert to corrupted data files in which the total of vehicles in classification categories does not match the hourly or daily vehicle total – SPS currently doesn't catch this error. This error can most easily be found on the SPS Classification Summary Report or in the Record Summary Report (.RSR).

Review the .SYN Report to verify the following information.

1) AM/PM time: Occasionally a counter is set that reverses AM and PM resulting in a count that shows all the vehicles traveling during the night
2) Peak hours usually occur due to people traveling to work in the morning and home in the afternoon.
3) The Peak Hour Report produced by SPS is currently set by Planning requirements to assume the Peak Hour is from 5-6PM at all sites. This is not useful for analyzing accuracy of counts.
4) 15-minute intervals: There should be no 0's during peak hours.
5) There should be no exceptionally high or low counts during any intervals.
6) .SYN is the only report that shows T24 truck percentages, which can be verified with nearby class counts, other counts obtained at this site during the current year, and previous T%.

Compare it to counts that were made in adjacent roadway segments, and on intersecting roadways.

If you still question the validity of a count; conduct additional in-depth analyses using Historic Traffic Data, Videolog, and field review to consider long-term changes that are taking place in the field. Consult with people in other FDOT departments or local governments (MPO, County or City) who are knowledgeable about local conditions. SLD, field review, I-View and Videolog, can be helpful in identifying conditions that have influenced a long-term change in traffic characteristics such as:

1) Lanes added (this can be done by restriping as well as widening)
2) Changes in one-way pairs
3) Road transfers
4) New intersections/interchanges (especially on limited access roads)
5) New roads
6) New housing developments
7) Changes in land use.
8) Unusual configuration of one-way pairs can influence directional splits on other segments.
9) Truck routes divert truck traffic.
10) Traffic generators such as truck stops influence truck traffic.
11) When City Limits are moved, speed limits will change.
12) Orange groves can die causing sudden changes in traffic flow.
13) Over a period of years, mining operations open new entrances or move to new areas when the old mines are played out.
14) Truck patterns and type are heavily affected by local economic activity.
15) A high percentage of through trucks tends to result in higher weekend and nighttime truck traffic than on a road with a low volume of through trucks. This can cause significant differences in T% at TTMS's (which count all week) and T% at nearby Short Term sites (which count only weekdays).
16) Traffic flow exhibits more seasonal variation in recreational areas.
17) Traffic flow exhibits higher daily fluctuations in rural areas.

You might need recounts, or additional counts later in the year, to help with your decisions.

After you are reasonably confident that a count is of acceptable quality, send it to the mainframe. (See Chapter VII UPLOAD DATA TO MAINFRAME)

Some or all counts and recounts along a roadway might show significant change for no apparent reason. After completing your analyses, what are your options for counts that remain questionable?

1) If you believe a change is temporary, and the count would significantly skew the history for the site; you can elect to reject the count and have Central Office provide an estimated AADT for the site.
2) If you believe the change is part of a new trend, or if you are still not confident in a count, you can elect to send the data to the mainframe and re-evaluate it during the AADT Development and Finalization process.
3) Follow-up during next year's count cycle to confirm your decisions and resolve remaining unanswered questions.

Examples and Tips from the Districts

Sites 2000 and 2002 are coded as Classification counts, and databases were submitted in the classification format. Volumes look reasonable, but these look like bad counts since there are 0's in all categories except Category 2. What caused this to happen? Was the counter programmed wrong, was data lost? If classification is required, request a recount. Probably the counter was merely incorrectly coded for classification, but a volume count was collected---in which case, you can recode the data file and accept it as a volume count.

SPS won't load data for Site 1007. The error message reads "missing lane number 2 direction (E)." The classification data file submitted for this tube count has only 1 lane "E" and 1 lane "W" for this 4-lane location. Did the technician find a nearby 2-lane segment where the count was obtained? If so, you need to know where the count was made and why the site was moved. The site can be moved to the new milepost for a more accurate classification, you can use the same site number, if there is nothing between the old location and the new one that will cause a significant change in traffic characteristics (such as a truck stop or major intersection); otherwise, assign a new site number. If an axle count was submitted instead of a class count, change SPS' PTMS Inventory "SURVEYTYP" code to "1", and change "CntByLane" code to "F". If the site can no longer be classified with tubes, maybe this site is a candidate for permanent sensor installation.

Site 5130, with an ADT of 5,900 each direction is a little low, but not low enough to reject the count. In the classification categories, however, there are several discrepancies: in category 3, SB is more than twice as high as NB; Category 6 NB is 10 times higher than SB; Categories 5, 8, 9, and 10 have similar differences. This site is located on a 2-lane road several miles from the Interstate, so we don't expect to see 410 vehicles in category 13. Nearby sites don't have this many Class 13 trucks---where did they all come from, and where did they go? Looking only at Category 13, the 410 vehicles (378 of them are NB) with 7 or more axles is potentially 1,435 class 2

vehicles---no wonder the ADT is low! You don't have to look any further to reject this data and request a recount. Maybe this site can no longer be classified. Is your PIEZO going bad?

Sites 0108 and 0111 cause the error message "missing lane number 2 direction (E)." These volume counts are coded as classification. Change the SPS PTMS Inventory "CntByDir" code to "F" and the “SURVEYTYP” code to “1” and these records should pass the edits.

Site 0079 NB on 3/5 the ADT was significantly (approximately 45%) lower than NB---historically, D is similar; so you should reject that day. On 3/6, NB and SB are similar and look reasonable according to last year's count. In the class data, however; there are 1002 class 6 trucks NB and 40 class 6 trucks SB. The Synopsis Report shows 1020 vehicles in one 15-minute interval. Since there was only a total of 2,641 vehicles for the day, request a recount.

MAINTAINING EFFICIENCY AND ACCURACY

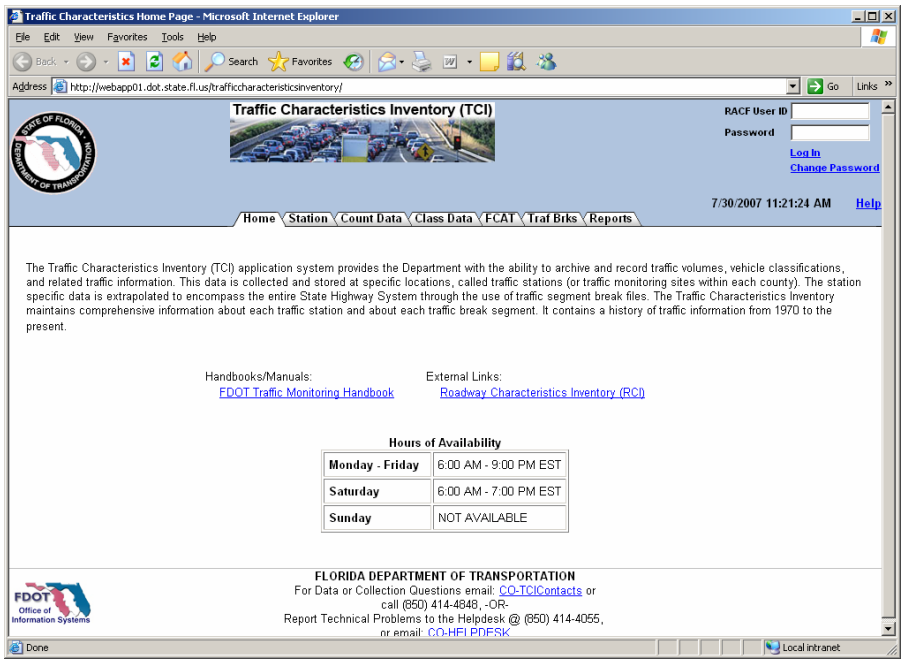
Over time, traffic data must effectively document evolving traffic patterns, and identify local variations in traffic characteristics. The Districts will develop recommendations and modify their Traffic Count Program to maintain maximum efficiency and accuracy.

1) It might be desirable to count more frequently, or for longer count periods, at locations where traffic characteristics are rapidly changing.
2) Begin counting at additional sites as growth indicates.
3) As segments along a roadway become more homogenous, discontinue counting at some locations.
4) Consider locations for permanent sensor installation.
5) Unusual seasonal fluctuations might require an increase in counting frequency, or a modified count schedule.
6) Unique vehicle mix, or seasonal variations in truck percentage, might require more than one classification count per year.

During analysis, you might realize the need to conduct counts at “test” sites to obtain supplemental data for current or future analyses.

1) Test counts will provide data for analysis of evolving field conditions.
2) Test counts can be used to follow-up on questions that weren’t resolved to your satisfaction while analyzing current-year counts.
3) If you wish, tests can be conducted every 2 or 3 years over a period of several years---the data can be kept in the mainframe database and a history can be built without assigning the test site to a section break.

TRAFFIC CHARACTERISTICS INVENTORY DATABASE



The official traffic database resides on the Department's mainframe computer, where it can be viewed by anyone in the Department. However, only authorized traffic count personnel may insert, delete, or change any data, or view the open-year traffic data.

The Traffic Characteristics Inventory database is a DB2 relational database. It contains traffic station information, and historical and current year traffic volumes and vehicle classification data. Some traffic count stations have history stored as far back as 1970.

The traffic databases on the mainframe are used frequently to make sure the short-term counts are valid and are processed correctly.

TCI
Traffic Characteristics Inventory

Station Identification

Video 11 Station Identification

The official Station Inventory is maintained on the FDOT mainframe computer. It contains information such as County, Station Number, Location, Directions of Travel, Number of Lanes, Survey Type, Survey Program, Sensor Type, Axle Factor Category, and Volume Factor Category.

Each evening, the data in the Station Inventory is copied to a dataset residing on the mainframe. It is this copy that is downloaded by SPS and placed into an ACCESS table on the District PC. SPS can download this dataset whenever the operator desires.

If the District operator does not want to wait until the following day to download the updated Station Inventory to the District PC, it is possible to change the particular piece of data in the SPS station inventory and continue to process the traffic data. However, the next time SPS downloads the Station Inventory from the mainframe, any changes made to the SPS station inventory will be overlaid. In order to avoid problems with the Weekly Load, be sure to update the mainframe Station Inventory database so it matches the information in the summary records. (See SPS EDITS PERFORMED and PROBLEM RESOLUTION)

Stations Per Roadway

Video 12 Stations Per Roadway

All the traffic count stations located along a particular section of road can be viewed using this transaction. The stations are listed in ascending order of station milepoint. The user can elect to display all stations, or just the active or inactive stations. The count year is optional. If entered, the transaction will display the AADT of the selected count year. This transaction can make a nice ad-hoc report of the traffic volumes on a particular road.

Station Counts

Video 13 Station Counts

The detailed traffic count data are stored in this traffic database. It contains the date and direction of the count, and its raw and adjusted values. Anyone can look at this historical data, but only traffic count personnel can view the data for the current open year. A quick look at this database can confirm that a load job has run successfully.

Volume Statistics

Video 14 Volume Statistics

The processed traffic data is stored in the annual count database. The data is stored by county-station and year. It consists of such items as the AADT, K, D. and T factors, and the peak hour information. This data is updated annually.

AADT History

Video 15 AADT History

Historical Annual Average Daily Traffic volumes are saved in the TCI database. The database contains traffic from as far back as 1970 for some stations. This data can be viewed by specifying the six-digit count station number, and the earliest year for which data is desired. The transaction will return traffic volumes from the entered year (or next closest stored year) forward to the latest year.

Monthly ADT

Video 16 Monthly ADT

This table stores the monthly ADT values for the continuous counters only. The monthly ADTs are stored for each direction of travel at the station.

Class Detail

Video 17 Class Detail

The 24-hour summaries of each type of vehicle, and the daily total volume are stored for each direction, lane, and date for each class station.

Vehicle Statistics

Video 18 Vehicle Statistics

Annual vehicle summary class data is stored in this database table. It contains the annual percentages of traffic by each vehicle class, the annual T factor (daily truck percentage), and the design hour heavy, medium and total truck percentages. This data is updated annually.

Vehicle History

Video 19 Vehicle History

The annual class summary data are displayed on this Inquiry Only screen. The 15 Modified Scheme "F" vehicle classes are collapsed into just 4 groups (passenger vehicles, single-unit trucks, semi-trailer trucks, multi-trailer trucks) in order to fit on the screen. The percentages are multiplied with the AADT to calculate the numbers of vehicles in each group.

Seasonal Factor Category

Video 20 Seasonal Factor

Seasonal factor categories are those groupings of continuous count stations whose data will be used to develop the factors that will adjust short-duration counts for the time of year. The category is a four digit number—the first two digits are the county codes, and the second two digits are a user supplied sequence number. It contains a verbal description that informs the user of its intended use, and a maximum of eight continuous count station numbers.

The End-of-Year processing programs calculate the appropriate factors from the data collected at the stations assigned to the factor categories. It is best if multiple stations are assigned to a factor category, so that reasonable factors can be calculated even if a single station is not counted that year, or if it is counted but has atypical traffic.

Axle Factor Category

Video 21 Axle Factor

Axle factor categories are those groupings of vehicle classification stations whose data will be used to develop the factors that will adjust axle counts into vehicle counts. The category is a four digit number—the first two digits are the county codes, and the second two digits are a user supplied sequence number. It contains a verbal description that informs the user of its intended use, and a maximum of eight vehicle class stations. Both short-duration and continuous class stations can be assigned to axle factor categories.

The End-of-Year processing programs calculate the appropriate factors from the data collected at the stations assigned to the factor categories. It is best if multiple stations are assigned to a factor category, so that reasonable factors can be calculated even if a single station is not counted that year, or if it is counted but has atypical traffic.

Seasonal Weekly Adjustment Factors

Video 22 Seasonal Factors

The weekly seasonal adjustment factors are stored in the database and displayed with this application. There can be from 52 to 54 weekly factors, depending upon which day-of-week January 1 falls. The seasonal adjustment factors are multiplied with the raw count to derive an AADT estimate. If the seasonal factor is greater than 1, that means the count was collected during a time of the year when the traffic volumes are low, and must be raised to reach the annual average. If the seasonal factor is less than 1, the raw count was collected during a time of year when the traffic volumes are high, and the raw count must be lowered to the annual average.

Axle Weekly Adjustment Factors

Video 23 Axle Factors

The weekly axle adjustment factors are stored in the database and displayed with this application. There can be from 52 to 54 weekly factors, depending upon which day-of-week January 1 falls. All axle adjustment factors are less than or equal to 1. The axle adjustment factors are multiplied with the raw count to lower axle counts into vehicle count estimates.

District Jobs – Resubmit Load

Video 24 Resubmit Load

Occasionally, traffic data uploaded from the District PC to the mainframe will fail to load into the TCI database. This happens when the mainframe load program detects an inconsistency between the submitted data and the information in the database tables. Often, this is attributable to a minor difference in codes (say Survey Type or Survey Program) and can be easily corrected. This screen allows you to edit the file containing the rejected records, change the incorrect codes, and then save and resubmit the corrected file. This can be a significant timesaver when the data is rejected for a minor problem. If there are substantial problems with the data, it is best to return to the Survey Processing Software, make required changes, and re-upload the data to the mainframe.

Traffic Breaks Per Roadway

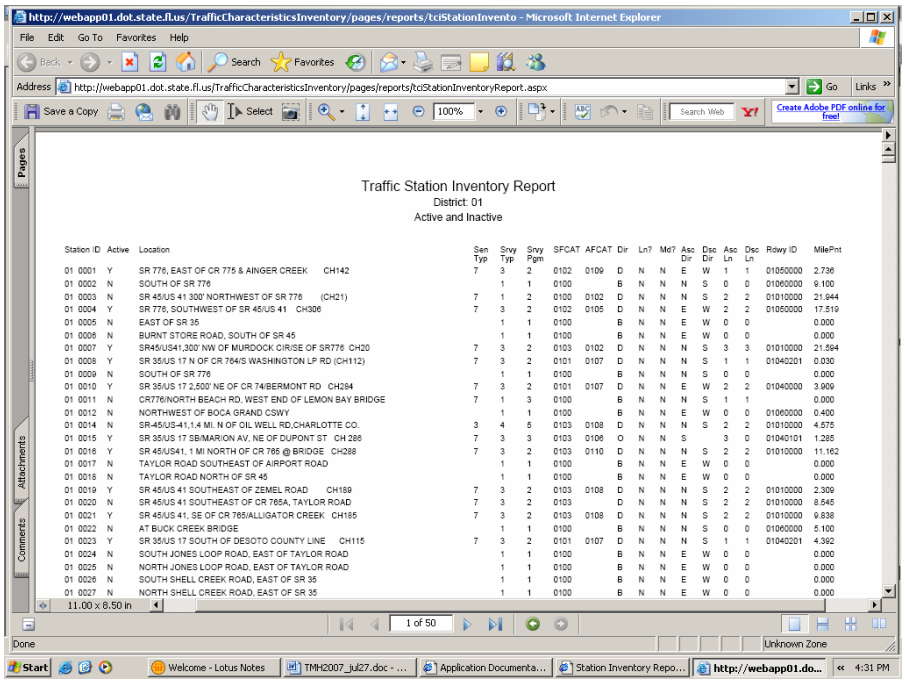
Video 25 Traffic Breaks

The Section Breaks Database contains the milepost limits of the traffic break segments as defined by District personnel, and the station at which the traffic for that break is counted, and a flag indicating whether that station is located within, adjacent to, or off the traffic break segment. Traffic section breaks are defined for each traffic count cycle. They are used to distribute the traffic volumes taken at a specific point (i.e., station) to a length of highway (i.e., section).

Station Inventory Report

Video 26 Station Inventory Report

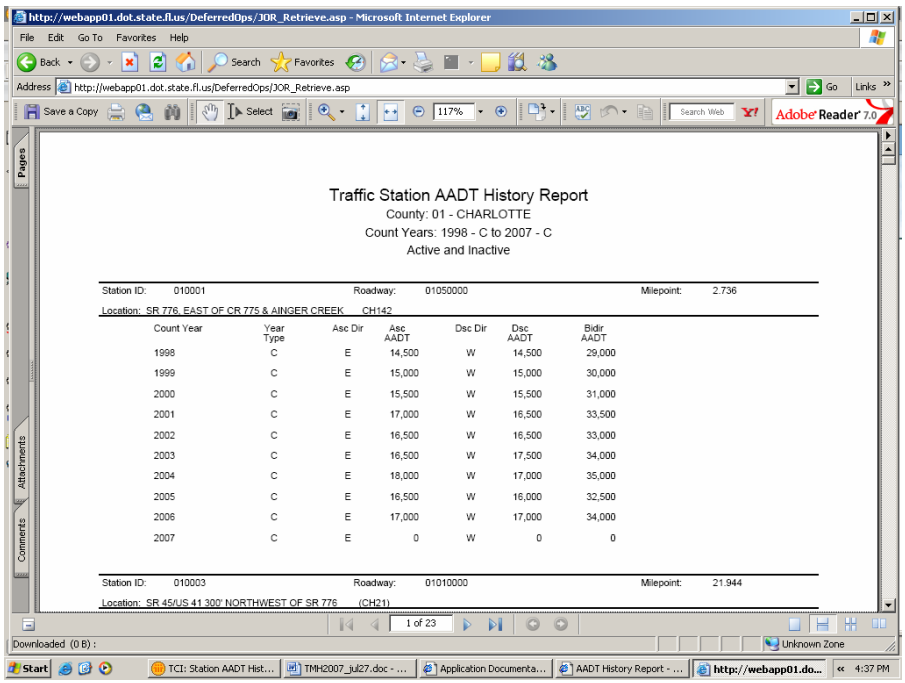
This Tab produces a report of the traffic monitoring stations for the District and station status selected by the user:



AADT History Report

This tab produces a report of the AADTs for the selected years and stations:

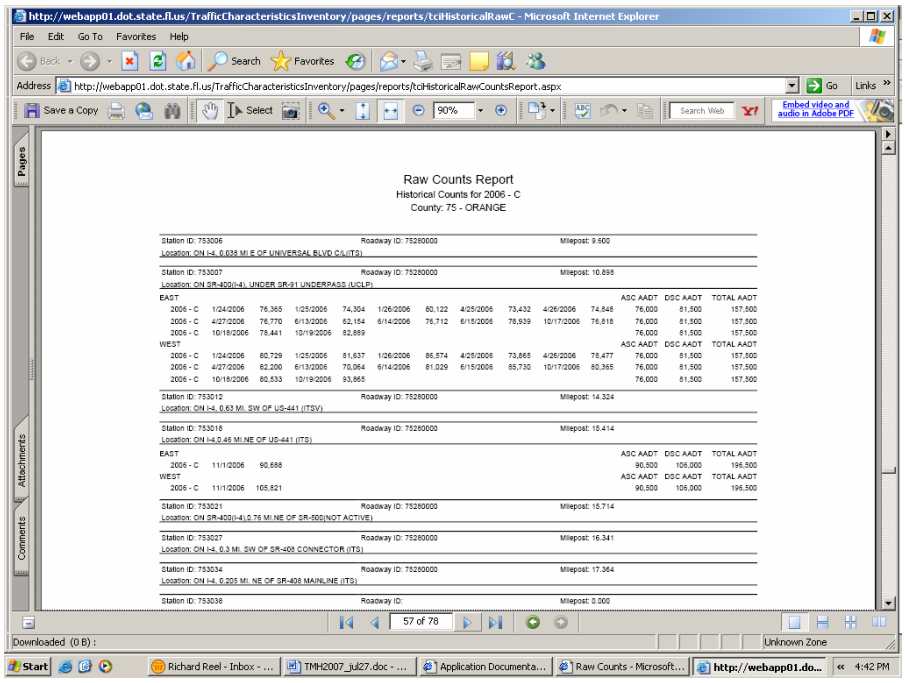
Video 27 AADT History Report



Raw Counts Report

This tab produces a report of all the raw counts that have been saved in the database for the selected year and stations:

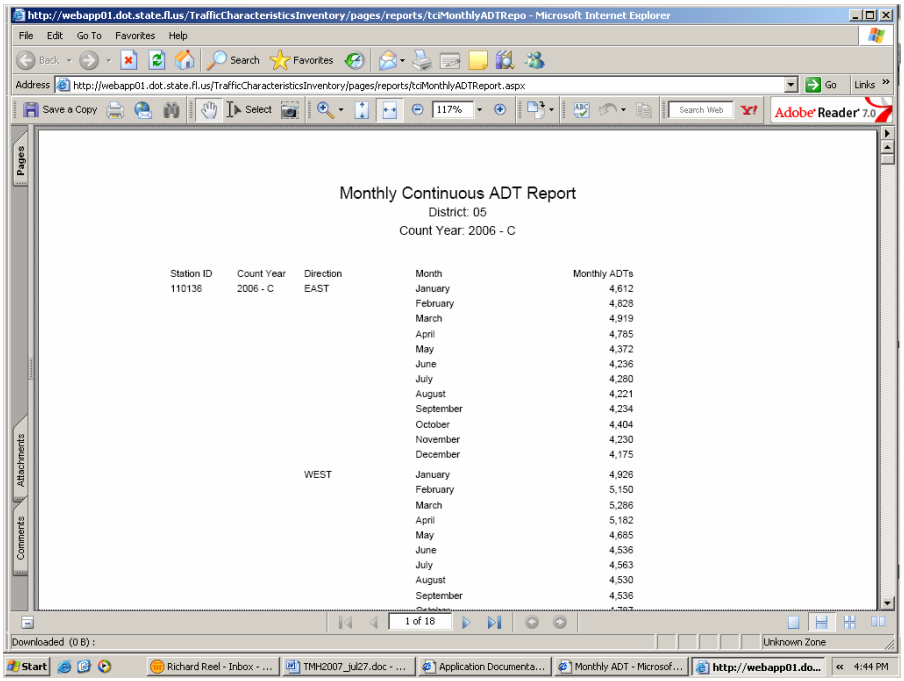
Video 28 Raw Counts Report



Monthly Continuous ADT Report

Video 29 Monthly Continuous ADT Report

This tab produces a report of the monthly ADTs for the selected years and stations:



Monthly Continuous ADT Report
District: 05
Count Year: 2006 - C

Station ID	Count Year	Direction	Month	Monthly ADTs
110136	2006 - C	EAST	January	4,612
			February	4,828
			March	4,919
			April	4,785
			May	4,372
			June	4,236
			July	4,280
			August	4,221
			September	4,234
			October	4,404
			November	4,230
			December	4,175
		WEST	January	4,926
			February	5,150
			March	5,286
			April	5,182
			May	4,685
			June	4,536
			July	4,563
			August	4,530
			September	4,536

Traffic Flow Break Station

Video 30 Traffic Flow Breaks

The traffic flow breaks are stored and maintained in RCI Feature 330. The user must enter the roadway ID (county,section,subsection) of the desired road. RCI will return a list of all traffic break segments that have been identified along this road. Each traffic break consists of the beginning and ending milepoints of the break, and two characteristics: FLWBRKID (count station assigned to the traffic segment) and TRFBRKCD (count station code).

If the beginning and ending milepoints of a traffic break segment are tied to an intersecting road (RCI Feature 251), when the roadway is shortened or lengthened (due to a re-inventory), then the milepoints of the traffic break are automatically adjusted correspondingly. This keeps the traffic breaks synchronized with RCI so that the AADT, K, D and T can be easily placed into RCI Feature 331 at the conclusion of the annual traffic data processing cycle.