# Louisiana Transportation Research

# Wet Weather Highway Accident Analysis and Skid Resistance Data Management System

(Volume II: User's Manual)

by

R. C. McIlhenny, Ph.D. K. S. Lee, Ph.D., P.E. Y. S. Chen, Ph.D.

LOUISIANA STATE UNIVERSITY



Louisiana Transportation Research Center

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### Abstract

The objectives and scope of this research are to establish an effective methodology for wet weather accident analysis and to develop a database management system to facilitate information processing and storage for the accident analysis process, skid resistance testing, and other related tasks. The methodology employed consists of four phases: review and documentation of current LDOTD and LTRC procedures, engineering and statistical review of literature and procedures in the area of accident analysis, identification and recommendation of improvements which may facilitate data management and recovery, and design and development of a new computer information system based on recommendations defined in the third task. An effective wet weather accident analysis, testing, and database management system that allows only needed locations to be identified, tested, and reported is implemented.

Volume II of this report consists of the data base management systems Users manual.

Volume III of this report consists of data base management systems Reference manual.

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## WET WEATHER HIGHWAY ACCIDENT ANALYSIS AND SKID RESISTANCE DATA MANAGEMENT SYSTEM

(Volume II: User's Manual)

by

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### conducted for

LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT LOUISIANA TRANSPORTATION RESEARCH CENTER

in cooperation with U.S. Department of Transportation FEDERAL HIGHWAY ADMINISTRATION

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ANALYSIS AND SKID RESISTANCE

DATABASE MANAGEMENT SYSTEM

USERS MANUAL

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# WET HIGHWAY ACCIDENT ANALYSIS AND SKID RESISTANCE DATABASE READY LITTC AT THE TSO'S 'READY' PROMPT, TYPE LITTC TO GET INTO THE DATABASE SYSTEM

### Figure 1

### FREQUENTLY USED KEYS

ALT-PF3 TO GO TO PREVIOUS SCREEN

ALT-PF7 TO SCROLL UP

ALT-PF8 TO SCROLL DOWN

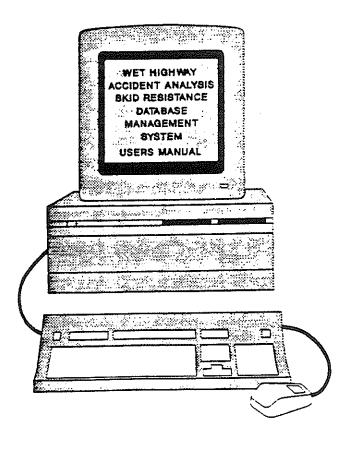
ALT-PF10 TO MOVE LEFT

ALT-PF11 TO MOVE RIGHT

ALT-CURSOR TO MODIFY THE CURSOR

RETURN TO MOVE THE CURSOR DOWN

TAB TO MOVE THE CURSOR LEFT/RIGHT



### WET WEATHER ACCIDENT ANALYSIS DATABASE MANAGEMENT SYSTEM

This software has been implemented on LSU's IBM 370 MODEL 3090600E running MVS/XA with TSO operating system.

To get into this system, first the user will have to get into the TSO environment by entering 'T' at the '===>' prompt. Then enter the user logon-id 'IEKLEE'. The system will then ask the user for password. Current password is \_\_\_\_\_'. This takes the user to the system's 'READY' prompt.

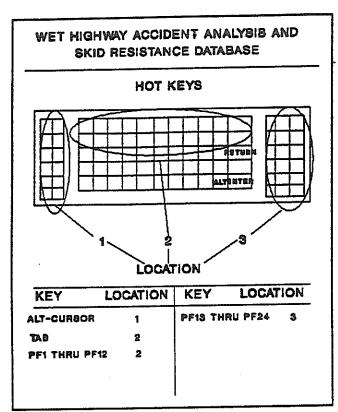


Figure 2

ALT-PF3 TO GO TO PREVIOUS SCREEN

ALT-PF7 TO SCROLL UP

ALT-PF8 TO SCROLL DOWN

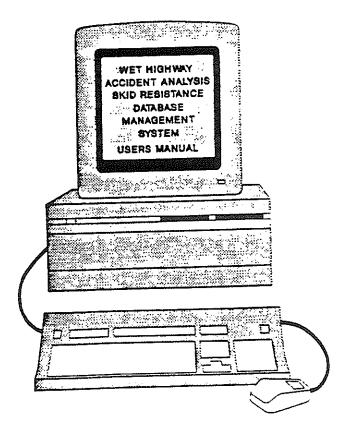
ALT-PF10 TO MOVE LEFT

ALT-PF11 TO MOVE RIGHT

ALT-CURSOR TO MODIFY THE CURSOR

RETURN TO MOVE THE CURSOR DOWN

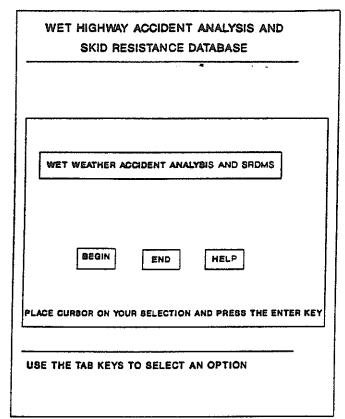
TAB TO MOVE THE CURSOR LEFT/RIGHT



### HOT KEYS

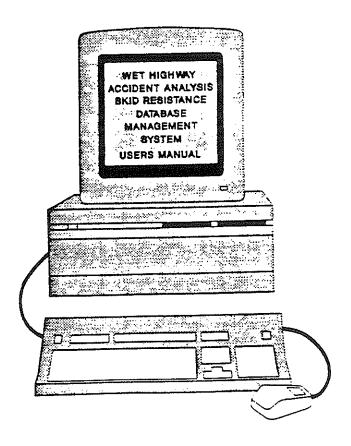
Before getting into the database system, the user should make a note of the keys shown in figure 2. These keys have been customized for some specific tasks for the purposes of this database system. Figure 2 will help the user to identify the exact locations of these 'HOT KEYS' on the keyboard.

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BEGIN REPORTS MAINTENANCE ARCHIVES ANALYSIS SCHEMES BROWSE UPDATE YEAR'S DATA PRINT DOTD RECOMMENDED LTRC MODIFY OC METHOD INSERT RERUN SECTIONS YEAR'S DATA INTERSECTIONS SPOTS ACCIDENT CLUSTERS SKID DRIVER BROWSE DELETE SECTION STATEWISE DISTRICTWISE PARISHVISE ACCIDENT TABLES 2 LN RRL DRIVER 4 LN RRL VEHICLE SECTION FREEWY UR LOCATIONS TABLES SKID REPORT INVENTORY-

Figure 3



### GETTING STARTED

Figure 3 shows the starting screen which the users see on entering the DMS. If the user feels that the cursor is nor visible/clear then by using the ALT and CURSOR keys the users can change the size and make the cursor blik. To move the cursor from one selection to another, use the TAB keys (location 2). END selection takes the user back to the READY prompt of TSO.

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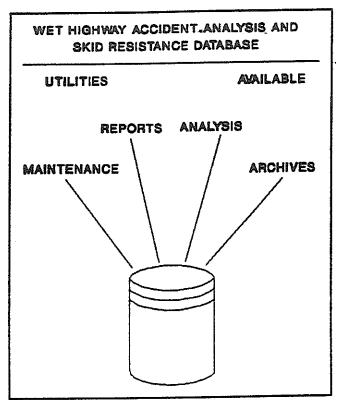


Figure 4

ALT-PF3 TO GO TO PREVIOUS SCREEN

ALT-PF7 TO SCROLL UP

ALT-PF8 TO SCROLL DOWN

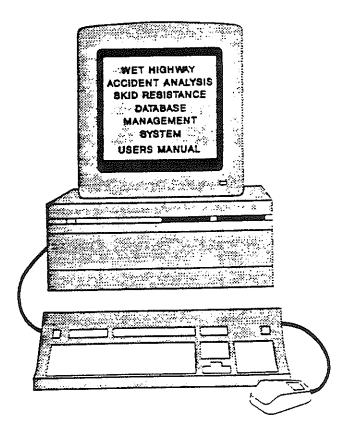
ALT-PF10 TO MOVE LEFT

ALT-PF11 TO MOVE RIGHT

ALT-CURSOR TO MODIFY THE CURSOR

RETURN TO MOVE THE CURSOR DOWN

TAB TO MOVE THE CURSOR LEFT/RIGHT



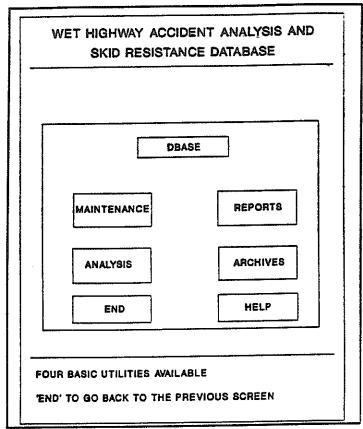
### BASIC UTILITIES

This figure gives a comprehensive view of the four basic utilities available on this DMS. They are as follows:

- 1. MAINTENANCE of the database.
- 2. REPORTS generation.
- 3. ANALYSIS of schemes.
- 4. ARCHIVES

To go back to the previous screen, go to the END selection and press ENTER or press ALT-PF3 keys simultaneously.

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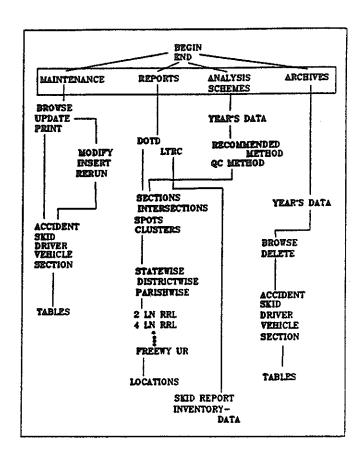
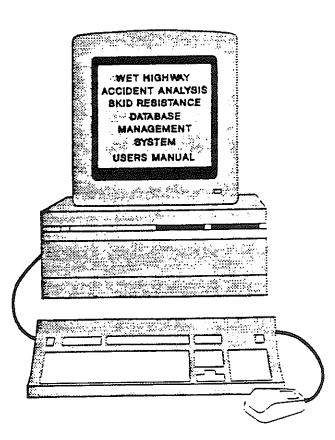


Figure 5



### OPTIONS Screen

This is the OPTIONS screen which pops up on selecting BEGIN from the previous screen i.e. screen shown in figure 3.

To select any option, bring the cursor to that selection and press ENTER. Horizontal movement of the cursor is controlled by the TAB keys, Vertical downward movement the cursor is controlled by the RETURN key.

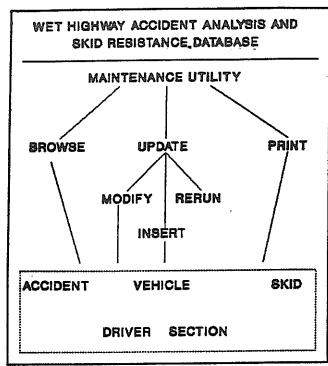


Figure 6

ALT-PF3 TO GO TO PREVIOUS SCREEN

ALT-PF7 TO SCROLL UP

ALT-PF8 TO SCROLL DOWN

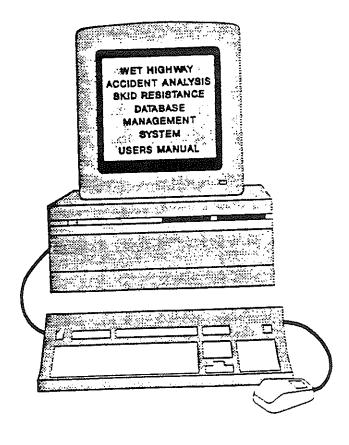
ALT-PF10 TO MOVE LEFT

ALT-PF11 TO MOVE RIGHT

ALT-CURSOR TO MODIFY THE CURSOR

RETURN TO MOVE THE CURSOR DOWN

TAB TO MOVE THE CURSOR LEFT/RIGHT



### MAINTENANCE Options

This figure (figure 6) gives the user a panoramic view of the various options available within the MAINTE-NANCE utility.

As shown in the figure, user can

- 1. Browse the various files present in the database. From this screen, the user will have an access to the most recent year's data.
- 2. Update the database.
- 3. Take a hard copy of any of the files in the database.

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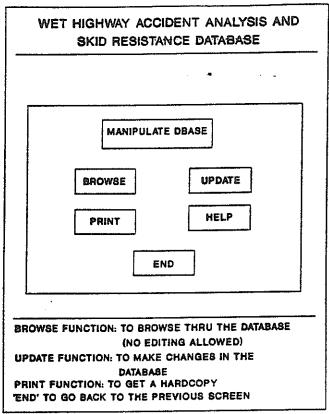
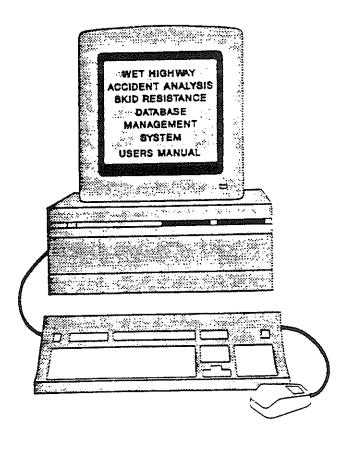
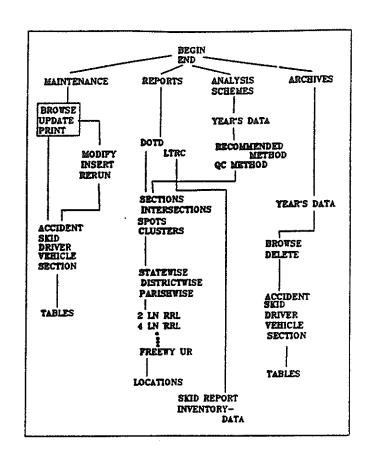


Figure 7





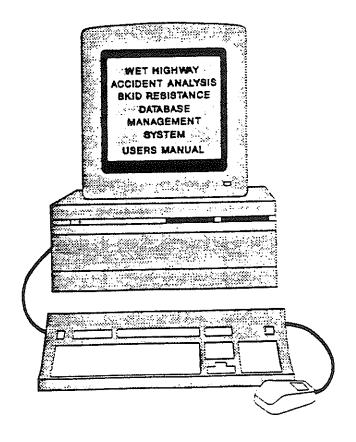
### MAINTENANCE Options

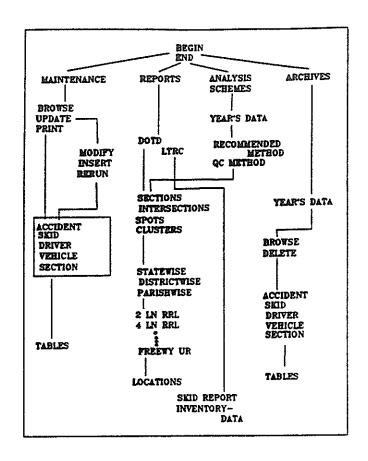
This figure (figure 7) shows exactly the screen associated with the Maintenance options. To get back to the previous screen, press ALT-PF3 keys simultaneously or go to END selection and press ENTER. This alternative command holds good for all the menus in this DMS.

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TO BROWSE THRU THE TABLES CLICK (PRESS ENTER) ON ANY OF THE TABLES AFTER BROWSING, PRESS ALT-PFS TO GET BACK TO THIS SCREEN		
END TO GO BACK TO THE PREVIOUS SCREEN		

Figure 8





### BROWSE TABLES

This screen shows the eight relational tables into which the entire accident data has been categorized and stored in this database system.

As mentioned earlier, the user will have an access to the latest year's data only. For browsing through the previous year's data, user will have to select the ARCHIVE option from the menu shown in figure 5.

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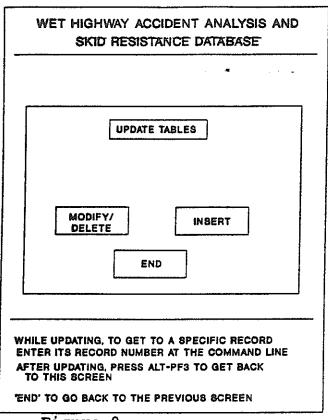
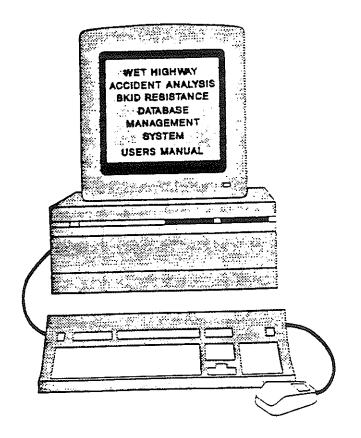
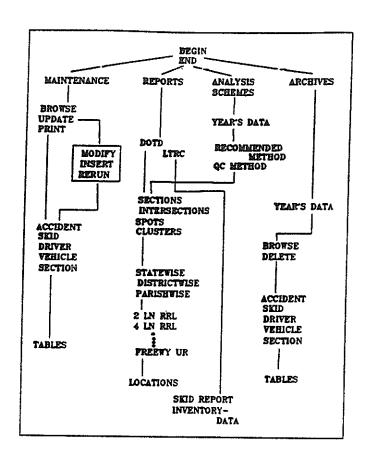


Figure 9





### UPDATE TABLES

This screen gives the various options available to the user for updating the database.

Before making any changes, the Data base Administrator should be convinced about the need for these changes will be PERMANENT.

RERUN option is for rerunning the analysis programs on the edited data. Once the changes have been made, press ALT-PF3 to get back to this screen.

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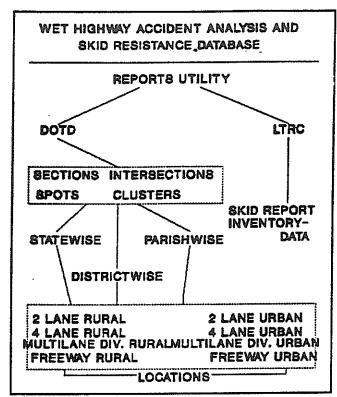


Figure 10

ALT-PF3 TO GO TO PREVIOUS SCREEN

ALT-PF7 TO SCROLL UP

ALT-PF8 TO SCROLL DOWN

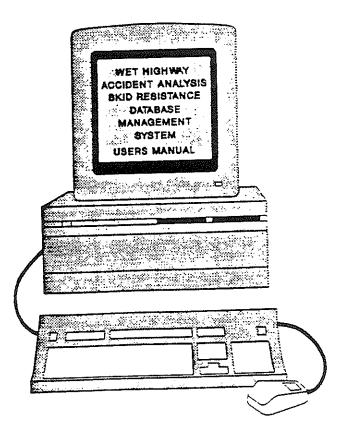
ALT-PF10 TO MOVE LEFT

ALT-PF11 TO MOVE RIGHT

ALT-CURSOR TO MODIFY THE CURSOR

RETURN TO MOVE THE CURSOR DOWN

TAB TO MOVE THE CURSOR LEFT/RIGHT



### REPORTS UTILITY

This figure (figure 10) gives a comprehensive view of the various options available to the user in Reports Utility. There are two basic kinds of reports being generated, based on the type of organization the user belongs to.

The DOTD reports rank the hazardous locations based on the analysis sch--eme recommended by the consultants.

Hazardous locations can be obtained for any combination of location type, area, highway type.

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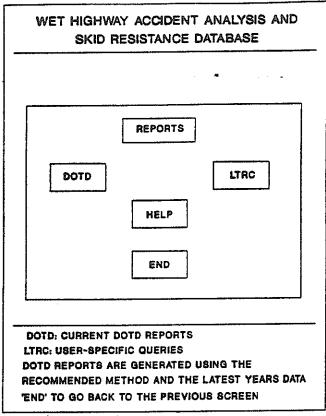
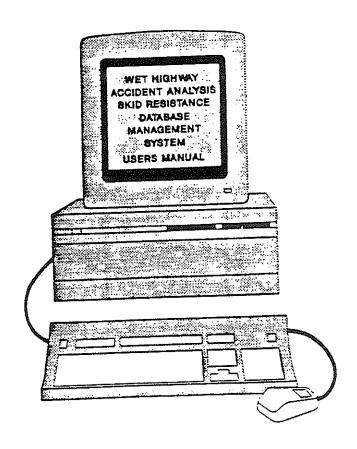
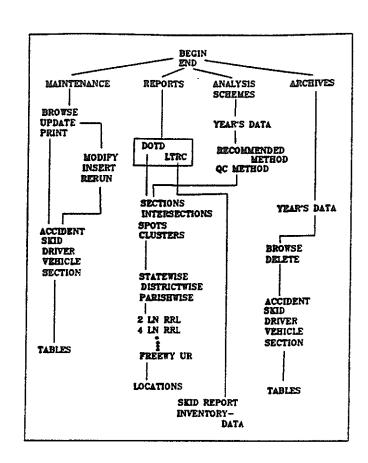


Figure 11





### REPORTS UTILITY

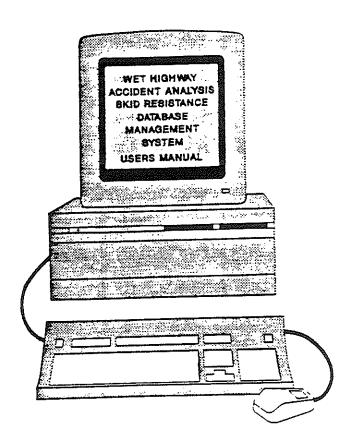
This figure (figure 11) is an exact replica of the screen obtained on selecting this option. As mentioned earlier, LTRC contains some special user-requests for users at LTRC. Request 1 gives a SKID TEST report for each parish. Request 2 is for retrieving INVENTORY TYPE data.

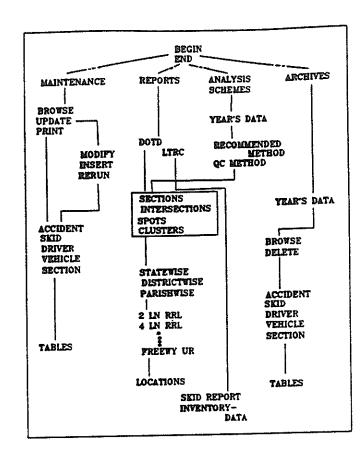
On selecting the DOTD option the users can have an access to DOTD reports made on the current format being followed by them.

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HELP	END	
REPORTS GENERATED FOR FOUR BASIC LOCATION TYPES		
'END' TO GO BACK TO THE PREVIOUS SCREEN		

Figure 12

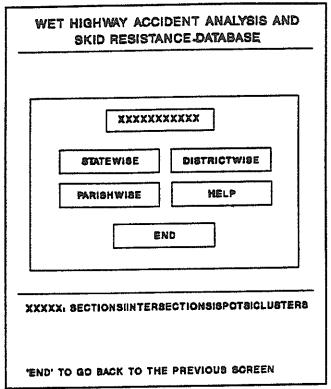




### LOCATION TYPES

This screen (figure 12) shows the basic location types for which the analysis has been performed. In addition to the three location types identified by the DOTD presently (sections, intersections and spots), the consultants felt the need of including another location type i.e. 'clusters' for identification of hazardous locations.

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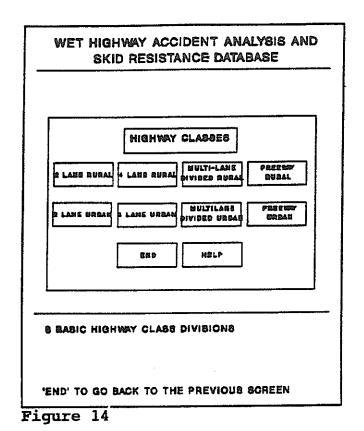
Figure 13

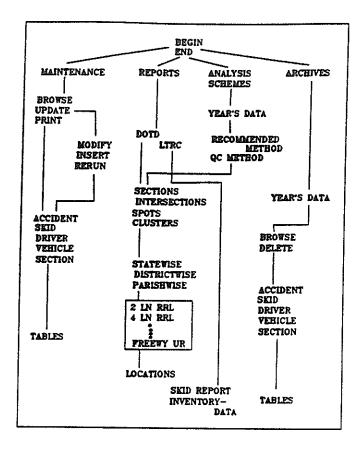


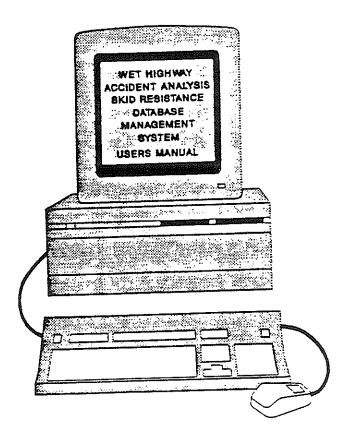
### REGION CLASSIFICATION

This screen (figure 13) asks the user to input the region classification based on which the results are desired i.e. 'Statewise' selection gives a screen shown in figure 14. The other options give some intermediate screens before going down to that screen.

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### HIGH TYPE CLASSIFICATION

This screen (figure 14) shows the user the eight basic highway types for which the analysis has been performed. Any selection (except END) made here takes the user to the coordinates of the hazardous locations ranked in order of decreasing hazardity.

### USEFUL TIPS FOR THOSE SCREENS

To scroll up, press ALT-PF7
To scroll down, press ALT-PF8
To move right, press ALT-PF10
To move left, press ALT-PF11
To exit, press ALT-PF3

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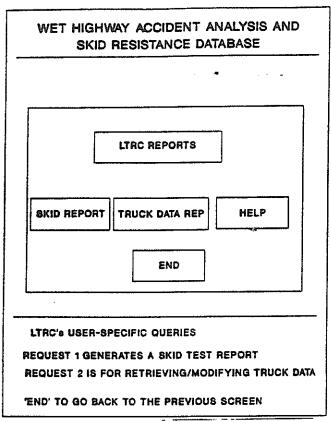
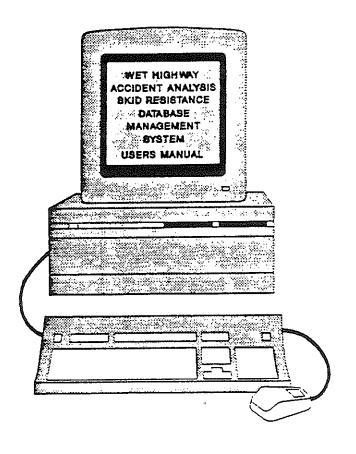
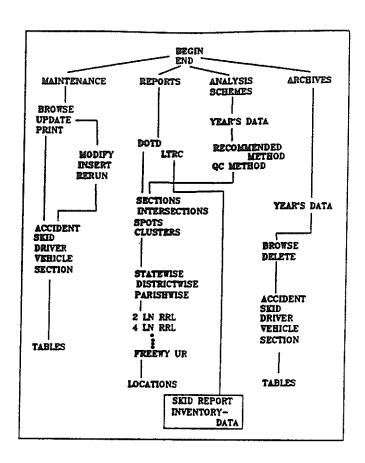


Figure 15





### LTRC REQUESTS

This screen (figure 15) shows the two LTRC requests. To make a selection, go to that option using the TAB keys and press ENTER. To get back to the previous screen, either press ENTER on END or press ALT-PF3.

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# WET HIGHWAY ACCIDENT ANALYSIS AND SKID RESISTANCE DATABASE ANALYSIS SCHEMES UTILITY YEARS 1987 1988 BAYESIAN QUALITY CONTROL METHOD REPORTS

Figure 16

## FREQUENTLY USED KEYS

ALT-PF3 TO GO TO PREVIOUS SCREEN

ALT-PF7 TO SCROLL UP

ALT-PF8 TO SCROLL DOWN

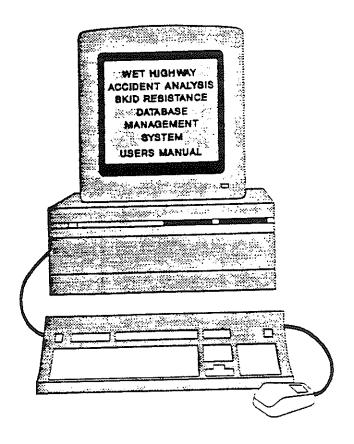
ALT-PF10 TO MOVE LEFT

ALT-PF11 TO MOVE RIGHT

ALT-CURSOR TO MODIFY THE CURSOR

RETURN TO MOVE THE CURSOR DOWN

TAB TO MOVE THE CURSOR LEFT/RIGHT



# ANALYSIS SCHEMES Options

This figure gives the user a broad view of various choices available within the ANALYSIS SCHEMES utility.

As shown in the figure, the user can select a particular year of his interest in order to generate different reports based on any of the available analysis methods.

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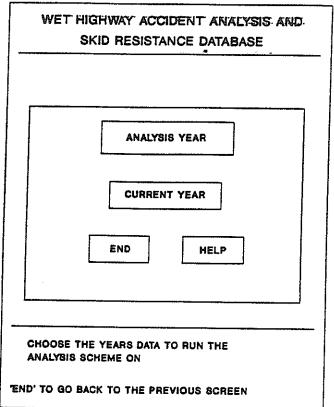
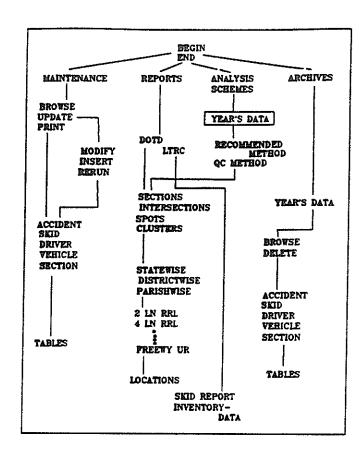
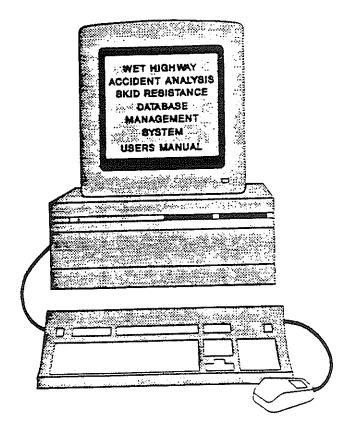


Figure 17





# ANALYSIS YEAR Options

17) shows figure (figure This exactly the screen associated with the Analysis year option. To get back to the previous screen, press ALT-PF3 keys simultaneously or go to END selection and press ENTER. This alternative command holds good for all the menus in this DMS.

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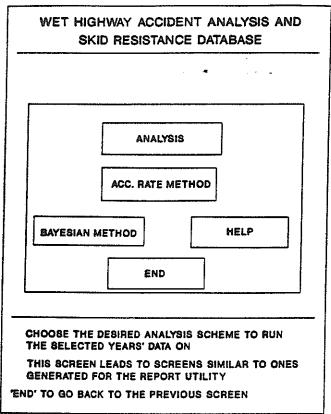
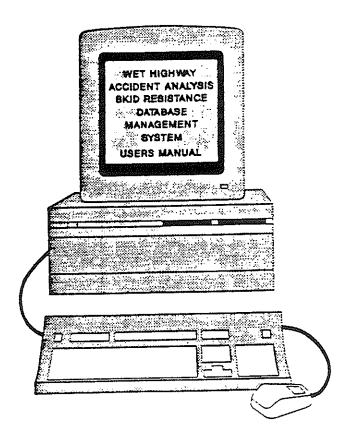
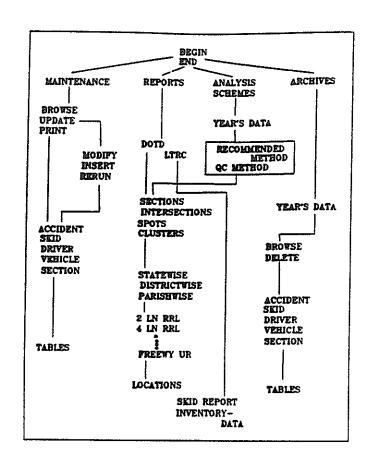


Figure 18





### ANALYSIS SCHEMES

This screen shows the two alternate methods of analysis available within this system. Selection of one of these methods prompts the system to analyze the data corresponding to the year chosen from the previous menu as shown in figure 17.

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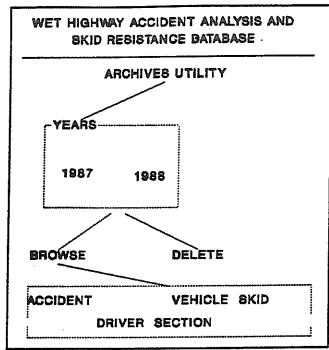


Figure 19

### FREQUENTLY USED KEYS

ALT-PF3 TO GO TO PREVIOUS SCREEN

ALT-PF7 TO SCROLL UP

ALT-PF8 TO SCROLL DOWN

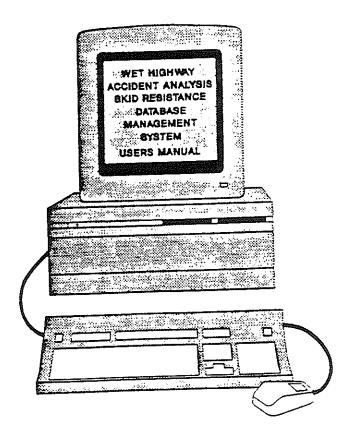
ALT-PF10 TO MOVE LEFT

ALT-PF11 TO MOVE RIGHT

ALT-CURSOR TO MODIFY THE CURSOR

RETURN TO MOVE THE CURSOR DOWN

TAB TO MOVE THE CURSOR LEFT/RIGHT

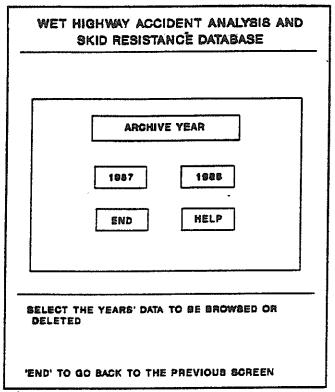


# ARCHIVES Options

This figure (figure 19) gives the user an overview of the various options provided with the ARCHIVES utility.

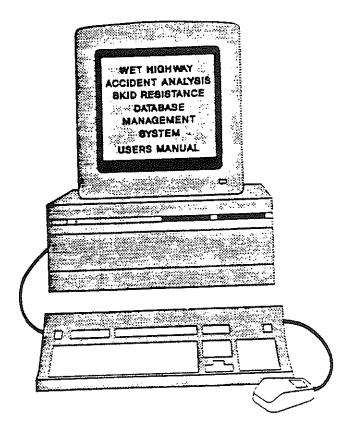
As shown in the figure, the user can have access to the previous year's information not available in the active database.

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Figure 20



# ARCHIVES YEAR options

This figure (figure 20) shows exactly the screen associated with the Archives year option.

To get back to the previous screen, press ALT-PF3 keys simultaneously or go to END selection and press ENTER. This alternative command holds good for all the menus in this DMS.

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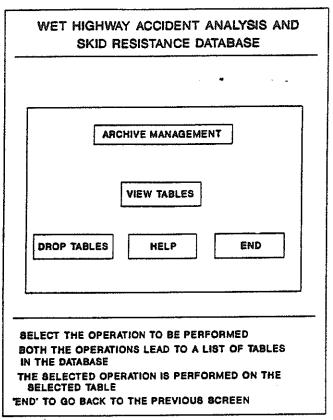
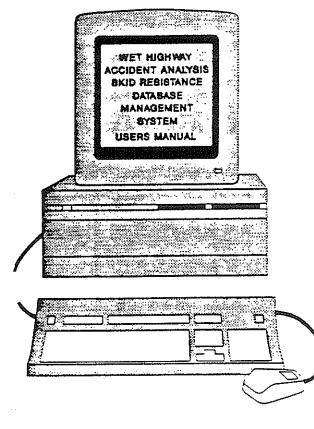
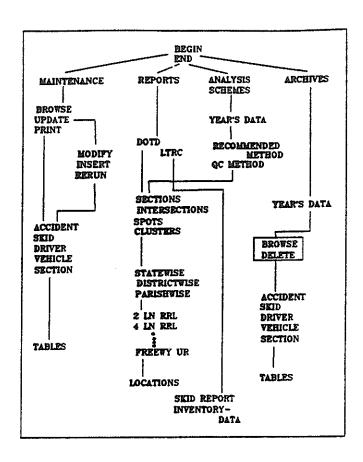


Figure 21





### ARCHIVE MANAGEMENT

This figure (figure 21) gives the user a view of various manipulation options supported by this utility.

As shown in the figure, the user can

- 1. Browse the various files present in the archive.
- Delete files corresponding to a year that is no more than five years old.

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