

Final Report
TMW90-08.3

**TRAFFIC OPERATIONS AT ALL-WAY
STOP-CONTROLLED INTERSECTIONS**

**VOLUME III:
TDIP**

TRAFFIC DATA INPUT PROGRAM

**PROGRAM DOCUMENTATION AND
USER'S MANUAL
VERSION 2.0**

by

Michael Kyte
Assistant Professor of Civil Engineering
(Principal Investigator)
and
Anthony Boesen
Research Assistant

Department of Civil Engineering
University of Idaho
Moscow, ID 83843

Transportation Northwest (TransNow)
Department of Civil Engineering
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ACKNOWLEDGEMENTS

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PROGRAMMING LANGUAGE

TDIP was written using **QuickBasic** 4.0, a product of Microsoft Corporation. **QuickPak** Professional, a set of programming tools developed by Crescent Software, was used in the development of the program.

QUESTIONS OR PROBLEMS?

Every effort has been made to provide an easy-to-use, error-free, sturdy program. If you have any questions regarding program operation, or if you encounter problems, please contact:

Michael Kyte
Department of Civil Engineering
University of Idaho
MOSCOW, ID 83843
208-885-6002

TABLE OF CONTENTS

CHAPTER 1. GETTING STARTED WITH TDIP	1
What is TDIP?	1
Installing and Using TDIP	1
Program Menu	2
Collecting Traffic Volume Data	3
Collecting Vehicle Delay Data	4
Using This Manual	5
CHAPTER 2. AN OVERVIEW OF TDIP	7
What The Program Does	7
Program Limitations	8
Program Structure	8
Special Keys	9
CHAPTER 3. THE MAIN PROGRAM MENU	11
CHAPTER 4. COLLECTING TRAFFIC FLOW DATA	13
Setting The Beginning and Ending Times	14
Observation and Data Entry	15
Collecting Approach Volume Data	16
Collecting Turning Movement Data	18
Saving The Data File	20
CHAPTER 5. COLLECTING VEHICLE DELAY DATA	21
Setting The Beginning and Ending Times	22
Observation and Data Entry	23
Collecting Vehicle Delay Data	24
Saving The Data Files	26
CHAPTER 6. SAVING YOUR DATA	27
Saving The Master File	28
Saving The Summary File	30
Data In Memory	31
File Data	34
CHAPTER 7. HELP. DOS SHELL AND QUIT	37
Help	37
DOS Shell	37
Quit	37
CHAPTER 8. SAMPLE OUTPUT FILES	39
Example of The Master File Data	39
Example of the Summary File Data	41
CHAPTER 9. PROGRAM MESSAGES	43

CHAPTER 1. GETTING STARTED WITH TDIP

WHAT IS TDIP?

TDIP (Traffic Data Input Program) is a software program used for collecting traffic volume data and vehicle delay data. TDIP is used with a standard IBM-compatible personal computer in the office to collect traffic data while observing a videotape of traffic flow at an intersection. The computer keyboard is used in place of the traditional traffic counterboard.

Once data collection is completed, TDIP saves two kinds of files for further analysis. The **Master File** is a complete record of the times that each vehicle passed through the intersection, or entered and left a queue at the intersection. The **summary File** is a summary of vehicle volumes or vehicle delays in 1-minute, 5-minute, and **15-minute** increments.

You can observe a videotape of traffic flow at an intersection and use TDIP to:

- record vehicle volumes by approach or turning movements, or

- record times that vehicles enter and leave a queue to compute vehicle delay, and

- save volume and delay data in ASCII format for future data analysis.

INSTALLING AND USING TDIP

The TDIP diskette contains two files:

- TDIP.EXE** is the main executable file.

- TDIP.HLP** is the help file.

Both files should be on the same directory on either a floppy disk or a hard disk. TDIP can be run on any IBM PC or compatible computer with 512K RAM and DOS 2.1 or later.

TDIP can be run from either a floppy disk or hard disk. To run the program, type TDIP. There

Traffic Data Input Program

should be a minimum of 100,000 free bytes of memory on the default directory to provide sufficient space for backup data files.

Traffic Data Input Program

COLLECTING TRAFFIC VOLUME DATA

To collect traffic volume data, follow these steps:

First, select Enter Data from the **Program** Menu.

Select Enter Times from the **pulldown** menu and enter the starting and ending times for the study period.

Select Approach Times from the **pulldown** menu to collect volume data for each approach or Turning **Movements** from the **pulldown** menu to collect turning movement data.

Press S when the observation period begins. Record each vehicle by pressing the designated key (1-4 for approach volumes or 1-9 and D, E, or F for turning movements).

Press Q when the observation period is completed.

Next, select Save Data from the Program Menu to permanently save the data files.

Select Save Master File from the **pulldown** menu to save the complete record of vehicle movement times.

Select Save Summary File from the **pulldown** menu to save a summary of the volume data in 1-minute, 5-minute, and 15-minute increments.

Finally, select Quit from the Program Menu to exit the program.

COLLECTING VEHICLE DELAY DATA

To collect vehicle delay data, follow these steps:

First, select Enter Data from the Program Menu.

Select Enter Times from the **pulldown** menu and enter the starting and ending times for the study period.

Select Vehicle Delays from the **pulldown** menu to collect vehicle delay data.

Press **s** when the observation period begins. Record each vehicle by pressing the designated key (1-8) to record the time that each vehicle enters and leaves the queue.

Press **Q** when the observation period is completed.

Next, select Save Data from the Program Menu to permanently save the data files.

Select Gave Master File from the **pulldown** menu to save the complete record of vehicle movement times.

Select Save Summary File from the **pulldown** menu to save a summary of the delay data in 1-minute, 5-minute, and 15-minute increments.

Finally, select Quit from the Program Menu to exit the program.

Traffic Data Input Program

USING THIS MANUAL

This manual provides detailed information on using TDIP. The following topics are covered in the manual.

Chapter	Topic
1	Getting started with TDIP
2	Overview of collecting data with TDIP
3	Description of the main Program Menu
4	Using TDIP to collect traffic flow data
5	Using TDIP to collect vehicle delay data
6	Saving your data files
7	Miscellaneous TDIP functions: Help, DOS Shell, and Quit
8	Format of the output files
9	Description of the program messages

CHAPTER 2. AN OVERVIEW OF TDIP

WHAT THE PROGRAM DOES

Data collection in the "old days" of traffic engineering often consisted of a technician seated near the curb with a counter board on his or her lap recording the passing of each vehicle through an intersection. The counterboard registered a running total of volumes by approach or by turning movement. TDIP operates by much the same principle except that you now sit in the office observing a videotape of the traffic flow through the intersection. The counterboard is now the personal computer.

There are several important improvements with this new process over the traditional "manual count" methodology. First, the videotape is a permanent record of the intersection operation. You can observe special problems or review specific operational situations several times if necessary by simply replaying the videotape. Second, you enter data directly into the computer, thus eliminating errors that often occur when observers transcribe field data sheets several times. Finally, while completely automated traffic data collection techniques now exist, the procedure described here is much less costly, thus making available a partly-automated procedure to a greater number of traffic engineering organizations, particularly those with small staffs and budgets.

You can collect two kinds of data with TDIP:

Traffic volumes for each approach or turning movement. Record the time that each vehicle arrives at or departs from the intersection.

Vehicle delays for each approach. Record the time that each vehicle enters and leaves the queue on the intersection approach. The computer compares the times and calculates vehicle delay.

For each data entry method described above, the computer stores the data in two different files.

Traffic Data Input Program

The Master File is a record of the times that each vehicle enters the intersection or enters and leaves a queue. The Summary File is a summary of vehicle volumes or delays in 1-minute, 5-minute, and 15-minute time increments.

After the data is entered and the data file prepared using TDIP, you can use an electronic spreadsheet or other software for statistical analysis of the data.

PROGRAM LIMITATIONS

TDIP limits the total vehicle entries for each approach or turning movement to 1200. If you exceed these limits, the data entry module of TDIP terminates normally and returns to the Program Menu. You can then save the data that you have entered up to that point.

The program also has other limitations:

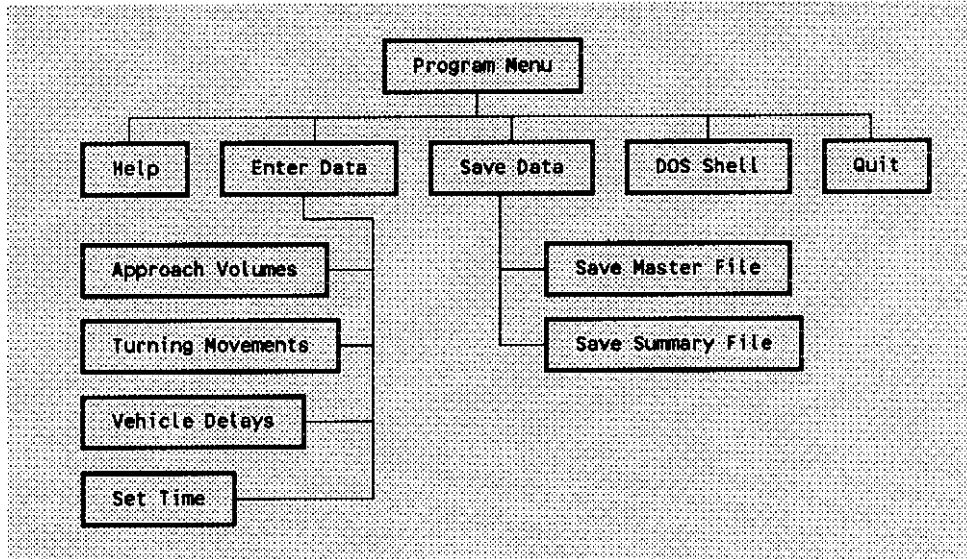
You are limited to 120 minutes of data entry.

You cannot select a time period such that 12:00 midnight is between the beginning and ending times of the study period.

There must be a minimum of 100,000 bytes free on the default drive so that backup files can be saved if needed.

PROGRAM STRUCTURE

The organization and program flow of TDIP is illustrated in the following structure chart:



SPECIAL KEYS

Special keys are used in a consistent manner for certain specific operations. These special keys are summarized below:

To:	Press:
Exit from a screen	Escape
Complete an entry	Enter
Erase an entry or character	Delete or backspace
Overtyping characters	Ins
Select an item from a menu	Up/Down Cursor Keys and Enter
Move to a selection on the Program Menu	Right/Left Cursor Keys
Move cursor to end of line.	End
Move cursor to beginning of line.	Home

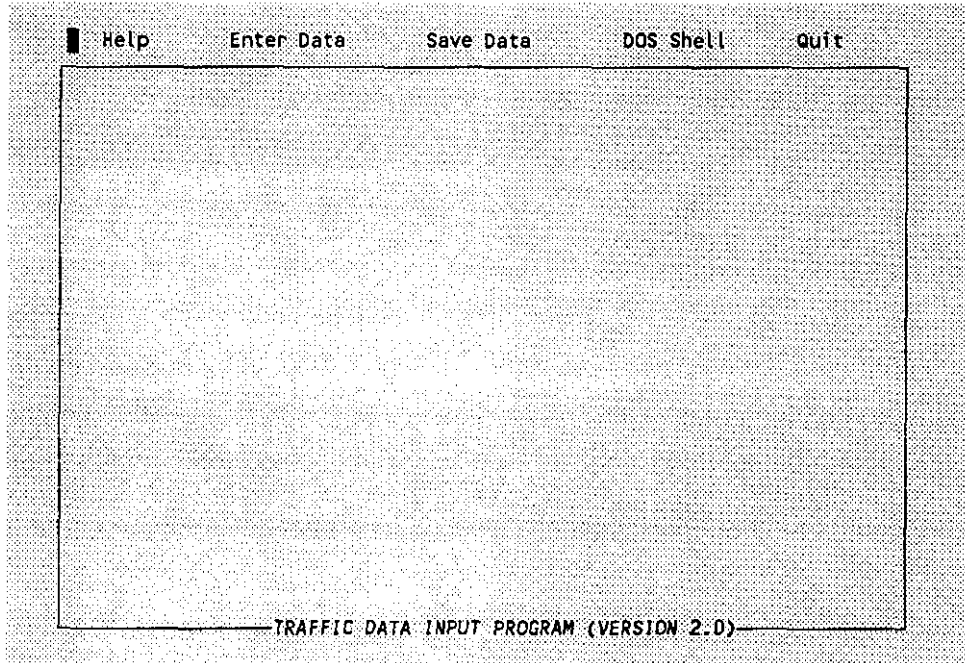
Traffic Data Input Program

CHAPTER 3. THE MAIN PROGRAM MENU

The first screen displayed by TDIP is the title screen. The second screen is the **Program Menu**.

The cursor is initially in the top left corner of the screen. Activate the **Program Menu** by pressing the **Left** or **Right** cursor key.

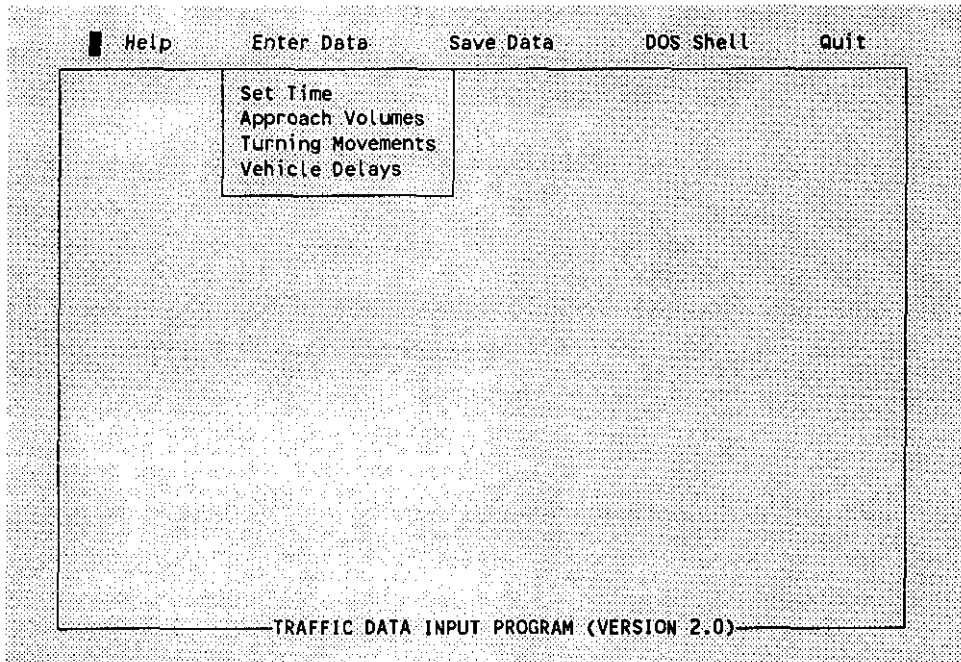
Use the **Right** or **Left** cursor keys to select **Help**, **Enter Data**, **Save Data**, **DOS Shell** or **quit** from the **Program Menu**. Press **Enter** to make your selection.



Traffic **Data** Input Program

CHAPTER 4. COLLECTING TRAFFIC FLOW DATA

You can collect two kinds of traffic volume data using TDIP, approach volume data and turning movement data. First, set the beginning and ending times of the observation period. Second, select the kind of traffic volume data that you want to collect. Procedures for collecting each kind of data are explained in this chapter.



Traffic Data Input Program

SETTING THE BEGINNING AND ENDING TIMES

Move the cursor to **Enter Data** and highlight **Set Time**. Press **Enter**. You are now ready to set the beginning and ending times of the observation period. These times should correspond to the actual times for which you observed traffic flow at an intersection in the field.

Note: The program will not function properly if 12:00 midnight falls between the beginning and ending times.

Enter the beginning and ending times in a character string with one of the following formats: **hh:mm:ss**, **h:mm:ss**, **hh:mm**, or **h:mm** using a 24-hour clock format. For example, enter 7:30 AM as **07:30:00**.

Press **Enter** to change the cursor location to the other box. Press **Escape** to exit the screen.

1. Enter Beginning and Ending Times For Study Period
Formats: hh:mm:ss, h:mm:ss, hh:mm, h:mm

2. Press <Enter> To Change Screen Location

3. Press <Escape> To Exit This Screen

Beginning Time:

Ending Time:

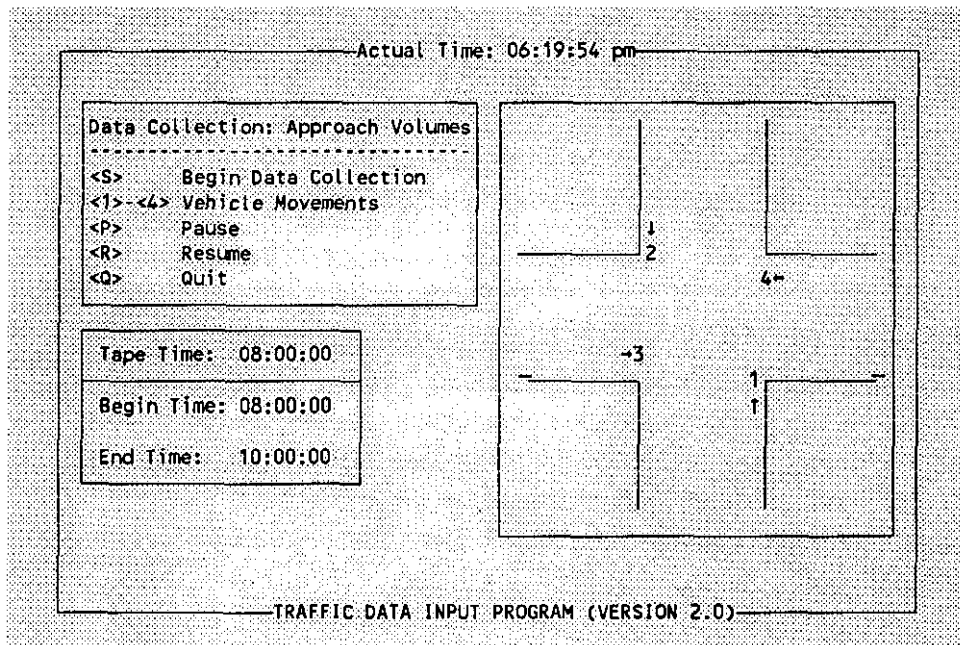
—TRAFFIC DATA INPUT PROGRAM (VERSION 2.0)—

OBSERVATION AND DATA ENTRY

Once you have set the beginning and ending times of the study period, select the kind of data that you want to collect. You have two choices: approach volumes or turning movements.

COLLECTING APPROACH VOLUME DATA

If you select this option, you can record the arrival or departure times of vehicles by approach. This will yield the total volumes for each approach summarized in 1-minute, 5-minute, and 15-minute increments.



When you begin playing the videotape, press **S** to start. This will synchronize the computer clock with the videotape. When a vehicle enters the intersection, press 1, 2, 3, or 4 to note its direction. You will see on the screen a running total of the volumes by approach. If you enter something other than 1, 2, 3, or 4, the computer will beep and you will have to re-enter the number. Proceed through the videotape until the study period is over.

TDIP provides a clock at the top of the screen that shows the current (actual) time. In the

Chapter 4. Collecting Traffic Flow Data

lower left corner of the screen, a box displays the Tape Time, the "current" time of the videotape. The Begin Time and End Time are the beginning and ending times that you entered previously.

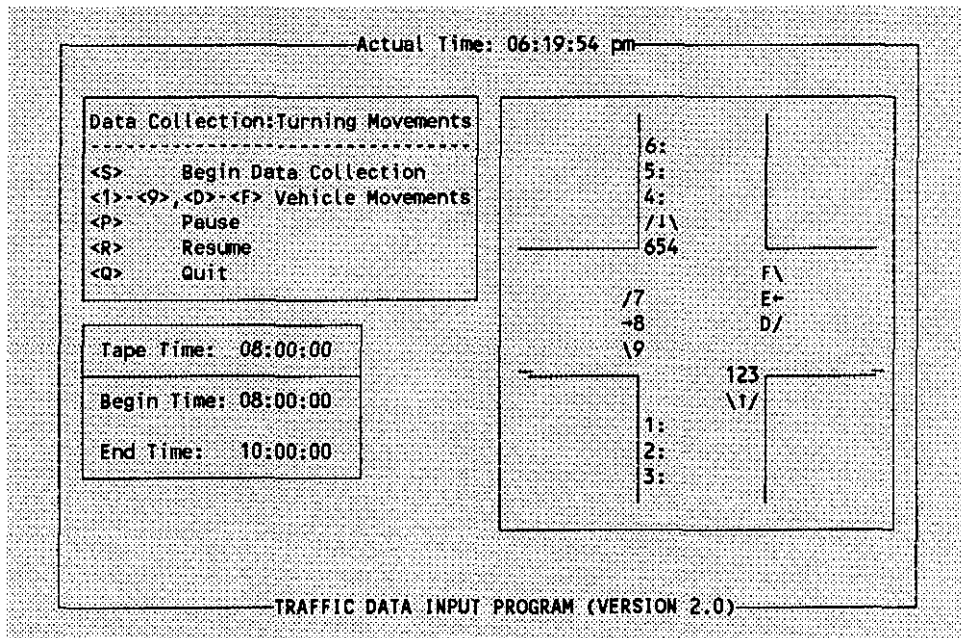
Traffic Data Input Program

If you need to stop the data entry process for any reason, stop the videotape machine and press P. The computer clock will pause during this time. Press R to re-start the data entry process.

Press Q when you have completed data entry. TDIP will save a backup copy of the data in the default directory. This is done in case you do not remember to save the data file or if computer operation is terminated abnormally. The name of the backup file is VOLUME.BAK.

COLLECTING TURNING MOVEMENT DATA

If you select this option, you can enter the departure times by approach and turning movement. This will yield the turning movements by approach summarized in 1-minute, 5-minute, and 15-minute increments.



When you begin playing the videotape, press **S** to start. This will synchronize the computer clock with the videotape. When a vehicle enters the intersection, press 1 through 9 or D, E, or F to note its direction. You will see on the screen a running total of the volumes by turning movement.

If you enter something other than these 12 keystrokes, the computer will beep and you will have to re-enter the number or letter. Proceed through the videotape until the study period is over.

TDIP provides a clock at the top of the screen that shows the current (actual) time. In the

Traffic Data Input Program

lower left corner of the screen, a box displays the Tape Time, the "current" time of the videotape. The Begin Time and End Time are the beginning and ending times that you entered previously.

Chapter 4. Collecting Traffic Flow Data

If you need to stop the data entry process for any reason, stop the videotape machine and press P. The computer clock will pause during this time. Press R to re-start the data entry process.

Press Q when you have completed data entry. TDIP will save a backup copy of the data on the default directory. This is done in case you do not remember to save the data file or if computer operation is terminated abnormally. The name of the backup file is **TURNS.BAK**.

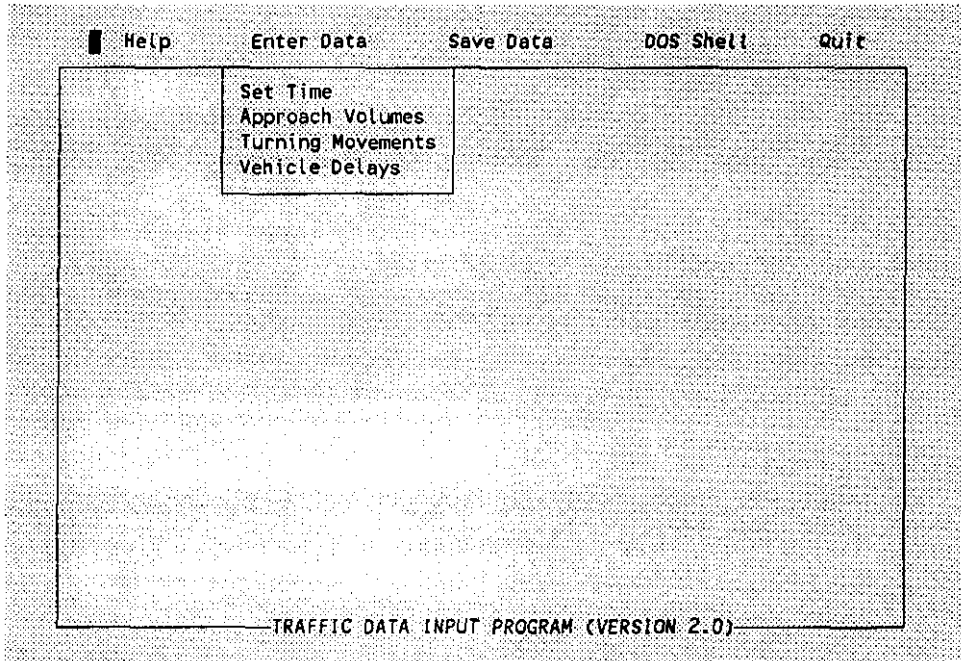
Traffic Data Input Program

SAVING THE DATA FILE

The data can be saved once it is collected. Saving data is discussed in Chapter 6 of this manual.

CHAPTER 5. COLLECTING VEHICLE DELAY DATA

You can collect vehicle delay data using TDIP. First, set the beginning and ending times of the observation period. Second, select Vehicle Delay from the menu. Procedures for collecting vehicle delay data are explained in this chapter.



SETTING THE BEGINNING AND ENDING TIMES

Move the cursor to Enter Data and highlight Set Time. Press Enter. You are now ready to set the beginning and ending times of the observation period. These times should correspond to the actual times that you observed intersection operation in the field.

Note: The program will not function properly if 12:00 midnight falls between the beginning and ending time.

Enter the beginning and ending times in a character string with one of the following formats: **hh:mm:ss**, **h:mm:ss**, **hh:mm** or **h:mm** using a 24-hour clock format. For example, enter **7:30** a.m. as **07:30:00**.

Press Enter to change the cursor location to the other box. Press Escape to exit the screen.

Chapter 5. Collecting Vehicle Delay Data

1. Enter Beginning and Ending Times For Study Period
Formats: hh:mm:ss, h:mm:ss, hh:mm, h:mm

2. Press <Enter> To Change Screen Location

3. Press <Escape> To Exit This Screen

Beginning Time:

Ending Time:

TRAFFIC DATA INPUT PROGRAM (VERSION 2.0)

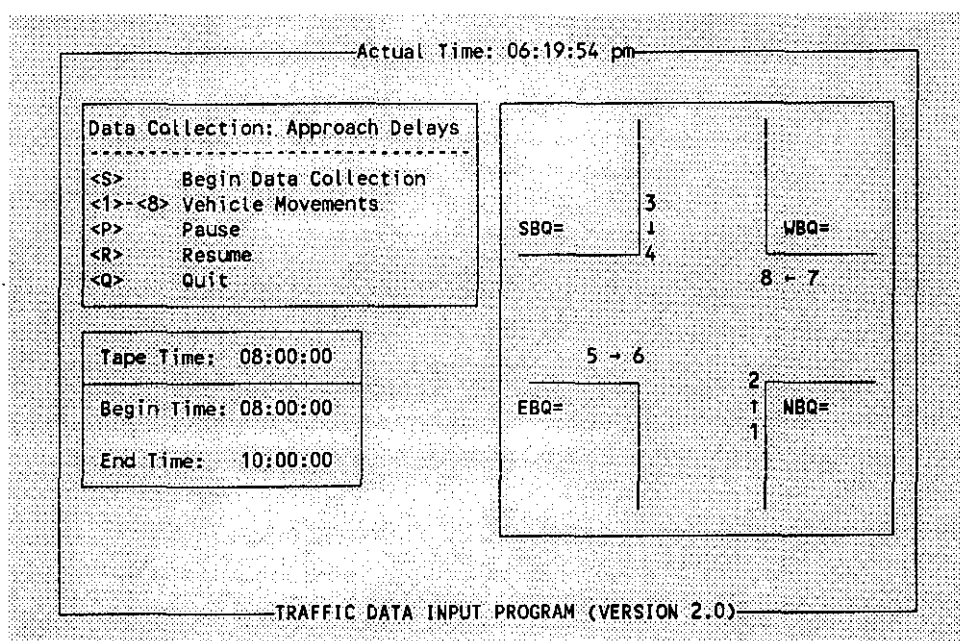
OBSERVATION AND DATA ENTRY

Once you have set the beginning and ending times of the study period, you are ready to begin observing the traffic flow at an intersection and collecting the delay data.

Traffic Data Input Program

COLLECTING VEHICLE DELAY DATA

Monitoring both the beginning and ending of the queue is a more difficult process than simply noting approach volumes or turning movements. It is sometimes easier to have two observers available to record the data: one for vehicles entering the queue and one for vehicles leaving the queue.



When you begin playing the videotape, press **S** to start. This will synchronize the computer clock with the videotape. When a vehicle enters the queue, press **1**, **3**, **5**, or **7** to note its direction. When a vehicle leaves the queue, press **2**, **4**, **6**, or **8**. For example, if you are observing a queue on the northbound approach of the intersection, press **1** when a vehicle enters the queue and **2** when the vehicle leaves the queue. If you enter something other than **1** through **8**, the computer will beep and you will have to re-enter the number. You will see on the screen a running total of the

volumes as well as the current number of vehicles in each queue. Note that the number of vehicles leaving the queue cannot exceed the number entering the queue.

Proceed through the videotape until the study period is over.

TDIP provides a clock that shows the current (actual) time at the top of the screen. In the lower left corner of the screen, a box displays the Tape Time, the **"current"** time of the videotape. The Begin Time and End Time are the beginning and ending times that you entered previously.

If you need to stop the data entry process for any reason, stop the videotape machine and press P. The computer clock will pause during this time. Press R to re-start the data entry process.

Press Q when you have completed data entry. TDIP will save a backup copy of the data on the default disk. This is done in case you do not remember to save the data file or if computer operation is terminated abnormally. The name of the backup file is DELAY.BAK.

Traffic Data Input Program

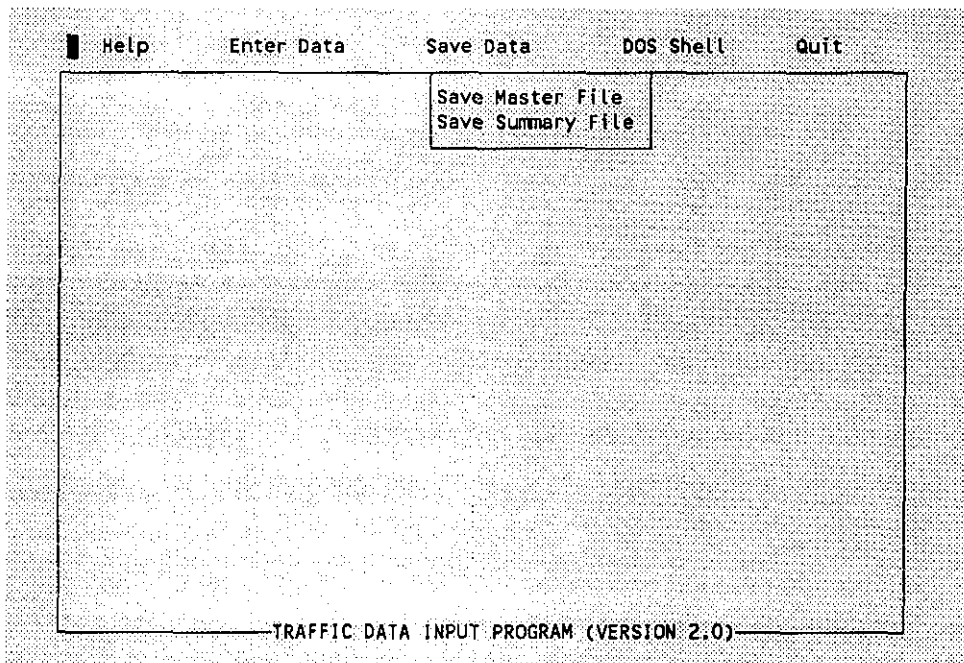
SAVING THE DATA FILES

The data can be saved once it is collected. Saving data is discussed in Chapter 6 of this manual.

CHAPTER 6. SAVING YOUR DATA

When you have completed observation and data entry, you can save the data in two different kinds files. The first file, the Master File, contains a complete listing of all data points (*i.e.*, times) that you have entered. The second file, the Summary File, contains a summary of vehicle volumes or delay data in three time increments (1-minute, 5-minutes, and 15-minutes)

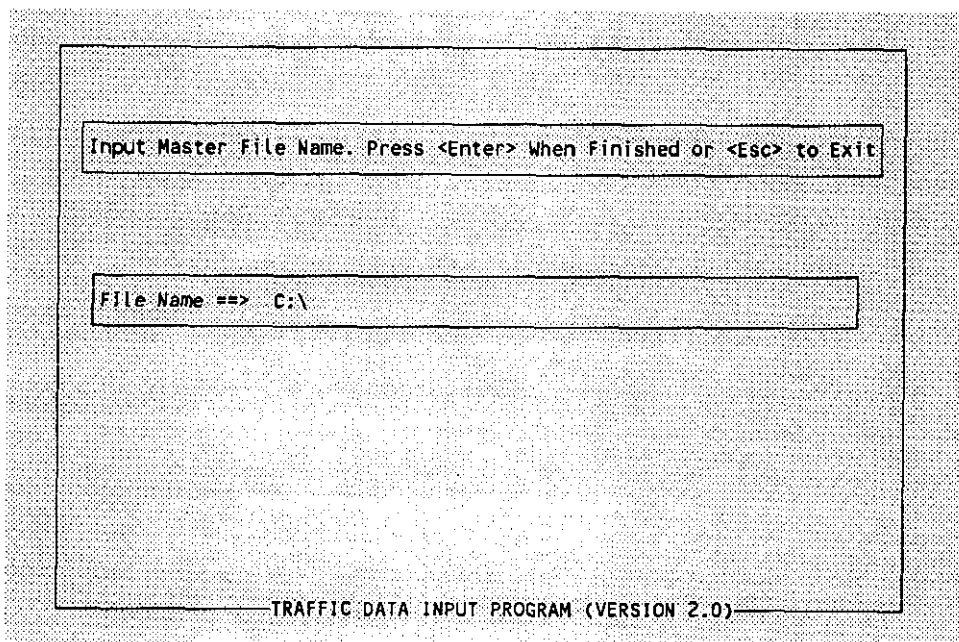
First, select Save Master File to save the Master File. Next, select Save Summary File to save the Summary File.



SAVING THE MASTER FILE

You are given a default drive and path for the Master File. Enter the file name or edit the drive and path as needed. Press Enter when you have finished entering the file name or Escape to exit the screen without saving the Master File.

The program scans all current files to see if the file name exists. If it does exist, the program gives you the opportunity to overwrite the file or select a new name. Append the extension .PRN to the file name to allow easy file importing to a spreadsheet.



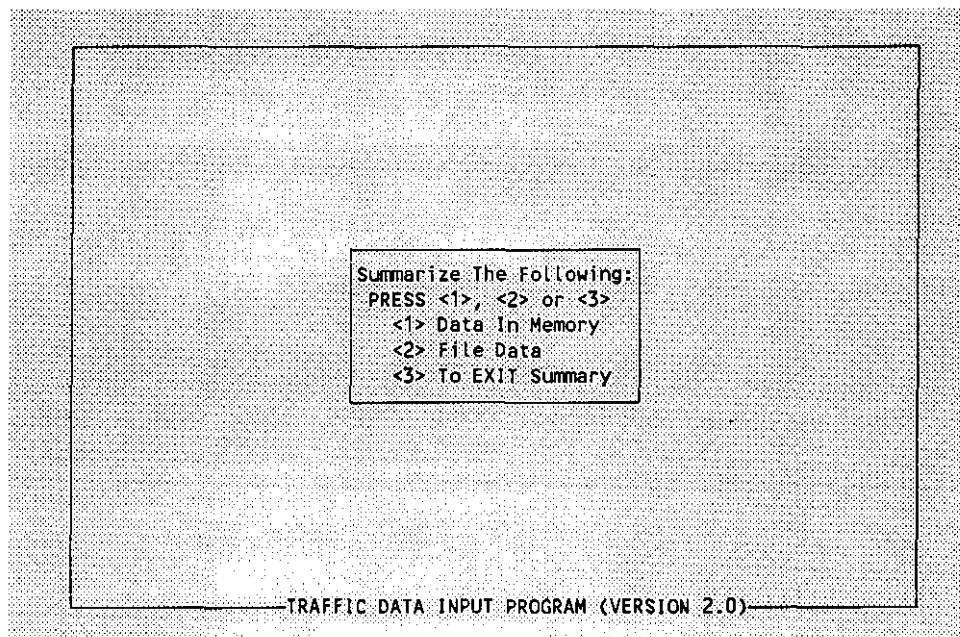
Chapter 6. Saving Your Data

Next, the program prompts you to enter a description of the intersection. This file identifier or header is recorded as part of the output file. Press Enter when finished.

The screenshot shows a terminal window with a dotted background. At the top, a small box contains the text "Enter File Identifier or Header". Below this is a large, empty rectangular input field. At the bottom of the window, the text "TRAFFIC DATA INPUT PROGRAM (VERSION 2.0)" is displayed.

SAVING THE SUMMARY FILE

When you select Save Summary File, the following screen appears.



Select Data in Memory to summarize the data that you have just entered. Select File Data if you want to summarize a Master File that you previously created. Each option is explained in detail on the following pages.

Select Exit Summary to exit without summarizing a data file.

Note: It may take up to several minutes for TDIP to prepare a Summary File. Please be patient!

DATA IN MEMORY

Enter the beginning and ending times for the period for which you want to summarize your data. The first and last times from the data are shown in boxes below the word **"File"**. Enter the summary period times in the boxes beneath the word **"Summary"**. Press Enter to change the screen location. Press Escape to exit the screen.

Remember that the maximum study period is 120 minutes.

1. Enter Range of SUMMARY TIMES
Formats: hh:mm:ss, hh:mm, h:mm, h:mm:ss
2. Press <Enter> To Change Screen Location
3. Press <Esc> To Exit This Screen

	File	Summary
Begin Time:	12:00:00	
End Time:	12:50:00	

TRAFFIC DATA INPUT PROGRAM (VERSION 2.0)

Traffic Data Input Program

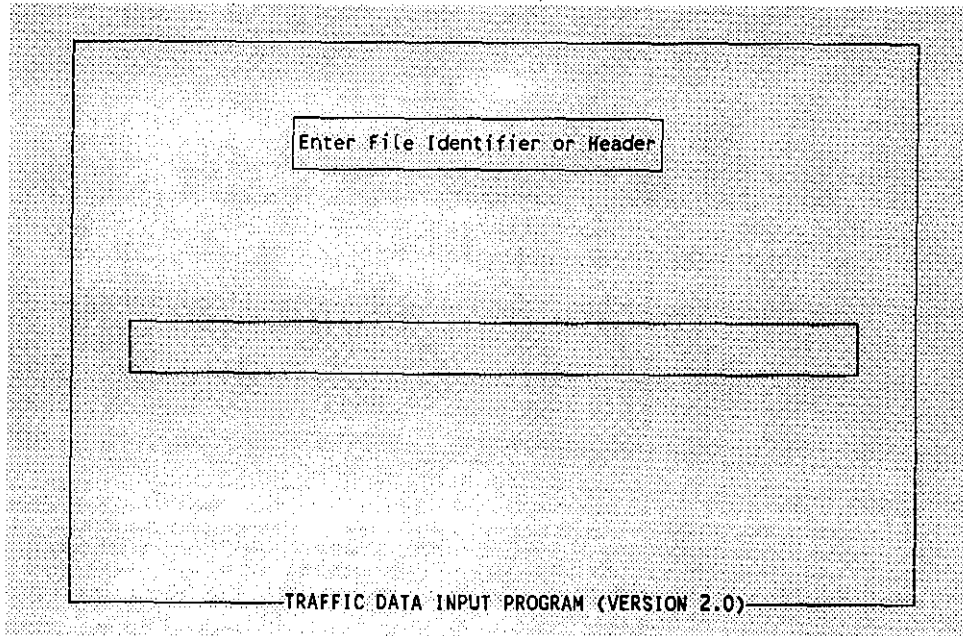
You are then given a default drive and path for the Summary File. Enter a file name or edit the drive and path as needed. Press Enter when you have finished entering the file name or Escape to exit the screen without saving the Summary File.

The program scans all current files to see if the file name exists. If it does exist, the program gives you the opportunity to overwrite the file or select a new name. Append the extension **.PRN** to the file name to allow easy file importing to a spreadsheet.

The screenshot shows a text-based interface for the Traffic Data Input Program. At the top, a box contains the instruction: "Input File Name then Press <Enter> or <Esc> to Exit Summary". Below this, a larger box displays the prompt "File Name ==> C:\". At the bottom of the interface, the text "TRAFFIC DATA INPUT PROGRAM (VERSION 2.0)" is visible.

Chapter 6. Saving Your Data

Next, the program prompts you to enter a description of the intersection. This file identifier or header is recorded as part of the output file. Press Enter when finished.



Traffic Data Input Program

FILE DATA

First, enter the name of a master or backup file that you have previously created that you now want to summarize.

Next, enter the beginning and ending times for the period for which you want to summarize your data. The first and last times from the data are shown in boxes below the word "File". Enter the summary period times in the boxes beneath the word "Summary". Press **Enter** to change the screen location. Press Escape to exit the screen.

Remember that the maximum study period is 120 minutes.

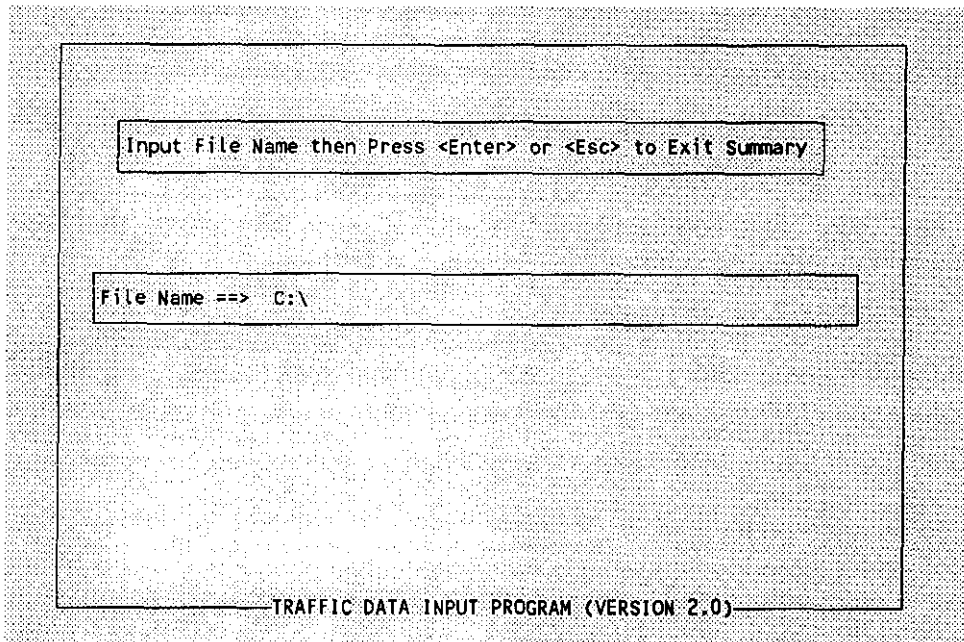
1. Enter Range of SUMMARY TIMES
Formats: hh:mm:ss, hh:mm, h:mm, h:mm:ss
2. Press <Enter> To Change Screen Location
3. Press <Esc> To Exit This Screen

	File	Summary
Begin Time:	<input type="text" value="12:00:00"/>	<input type="text"/>
End Time:	<input type="text" value="12:50:00"/>	<input type="text"/>

TRAFFIC DATA INPUT PROGRAM (VERSION 2.0)

Enter the file name or edit the drive and path as needed. Press Enter when you have finished entering the file name or Escape to exit the screen without saving the Summary File.

The program scans all current files to see if the file name exists. If it does exist, the program gives you the opportunity to overwrite the file or select a new name. Append the extension .PRN to the file name to allow easy file importing to a spreadsheet.



Traffic Data Input Program

Finally, the program prompts you to enter a description of the intersection. This file identifier or header is recorded as part of the output file. Press Enter when finished.

The screenshot shows a terminal window with a dark background and light text. At the top, a small box contains the text "Enter File Identifier or Header". Below this is a long, empty rectangular input field. At the bottom of the window, the text "TRAFFIC DATA INPUT PROGRAM (VERSION 2.0)" is displayed.

CHAPTER 7. HELP, DOS SHELL AND QUIT

TDIP includes three other functions in the Program Menu: Help, DOS Shell and **Quit**.

HELP

Help provides information on the operation of the program. The screen scrolls up or down with the Page Up or Page **Down** keys. To exit Help, press Escape.

Note: On some compatible PC's, holding down the **Shift** key and pressing **Home** or **End** will lock the Help screen. Pressing **Num Lock** should unlock system.

DOS SHELL

DOS Shell allows you to exit the program environment. This feature allows you run other programs, format a disk, or delete files on a disk to make room for the Summary and Master Files. TDIP uses over 400,000 bytes of memory so this may limit your actions when using the DOS Shell.

Make sure that you return to the default directory before exiting the DOS Shell.

QUIT

Quit allows you to exit TDIP.

Traffic Data Input Program

CHAPTER 8. SAMPLE OUTPUT FILES

TDIP produces two kinds of output files, a Master File and a Summary File. This chapter gives examples of each file.

EXAMPLE OF THE MASTER FILE DATA

The Master File includes the actual times entered during the data entry process in a special 24-hour clock format. This format ranges from zero as the beginning of the day (12:00 midnight) to 1.00 as the end of the day (12:00 midnight, 24 hours later).

An example of the Master File for sample turning movement data is shown below. The left (L), thru (T), and right (R) movements for the northbound, southbound, and eastbound directions are shown here. The westbound direction has been omitted from the figure below because of space limitations.

1st and State, Boise, Idaho								
NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR
.5029074	.5029176	.506667	.5035431	.5029303	.5029747	.5036271	.5028641	.5028076
.5030122	.5033556	.509698	.5037497	.5029691	.5030466	.504203	.5033073	.5032564
.5057865	.5037274	.5115499	.5041706	.5036899	.5044121	.5063453	.5034121	.5040605
.5059868	.5038438	.5151684	.5042627	.5038215	.5081202	.5078748	.5041502	.5050135
.506208	.503997	.5160094	.5045978	.5039156	.5105524	.5137736	.5042176	.5051941
.5067363	.5043117	.5184379	.5046563	.503964	.5128824	.5194409	.5043778	.5055456
.5070281	.504519	.5194753	.5051229	.5040936	.5190183	.5196095	.5048698	.5065385
.5087076	.5047478	.5200316	.5056887	.5042354	.5196419	.5197105	.5049493	.5066301
.5093745	.5048406	.5239736	.5058011	.5044502	.5197213	.5205083	.5053708	.5077121
.5094508	.5049162	.5262272	.5058628	.5046734	.5266989	.5222985	.5054502	.5077617

Traffic Data Input Program

An example of the Master File for sample vehicle delay data is shown below. In this example, delay data has been gathered on the northbound approach only, with the entry (E) and exit (X) times shown for each vehicle.

1st and State, Boise, Idaho							
NBE	NBX	SBE	SBX	EBE	EBX	WBE	WBX
.5236142	.5236937	0	0	0	0	0	0
.5236231	.5237026	0	0	0	0	0	0
.5236403	.5237305	0	0	0	0	0	0
.5236607	.5237751	0	0	0	0	0	0
.5236968	.5237928	0	0	0	0	0	0
.5237331	.5238088	0	0	0	0	0	0
.523908	.523927	0	0	0	0	0	0
.5239868	.5240077	0	0	0	0	0	0
.5240955	.5241247	0	0	0	0	0	0
.5242327	.5242544	0	0	0	0	0	0
.5242728	.5243644	0	0	0	0	0	0
.5244928	.524524	0	0	0	0	0	0
.524564	.5245957	0	0	0	0	0	0
.5248774	.5249257	0	0	0	0	0	0
.5249956	.5250414	0	0	0	0	0	0
.5250394	.5250993	0	0	0	0	0	0
.5250891	.5251457	0	0	0	0	0	0
.525323	.5253643	0	0	0	0	0	0
.5253485	.5253878	0	0	0	0	0	0
.525789	.5258558	0	0	0	0	0	0

EXAMPLE OF THE SUMMARY FILE DATA

The Summary File includes a summary of the vehicle volume or vehicle delay data in 1-minute, 5-minute, and 15-minute increments.

This is an example of the Summary File for the turning movement data shown earlier. The westbound direction has been omitted from the figure below because of space limitations.

1st and State, Boise									
1 Minute Volumes									
Time	NB			SB			EB		
.5027778	2	2	0	0	2	2	0	3	2
.5034722	0	3	0	2	5	0	1	1	1
.5041667	0	4	0	4	4	1	1	2	0
.5048611	0	6	0	1	5	0	0	4	3
.5055556	3	3	0	5	4	0	0	2	0
.50625	1	4	1	3	4	0	1	5	2
.5069445	1	1	0	0	5	0	0	5	0
.5076389	0	3	0	2	4	1	1	1	6
.5083334	1	1	0	5	3	0	0	3	2
.5090278	4	2	1	2	3	0	0	4	3
.5097223	0	2	0	3	6	0	0	2	2
.									
.									
.									
5 Minute Volumes									
.5027778	5	18	0	12	20	3	2	12	6
.50625	7	11	2	12	19	1	2	18	13
.5097222	3	9	1	12	18	2	0	6	12
.5131944	5	10	2	11	24	0	1	13	4
.5166666	7	9	3	22	20	3	3	11	14
.									
.									
.									
15 Minute Volumes									
.5027778	15	38	3	36	57	6	4	36	31
.5131944	19	29	5	45	58	3	7	34	30
.5236111	18	44	8	30	64	5	6	17	38
.5340278	22	59	3	60	53	4	4	21	37
.5444445	27	53	7	37	66	3	8	39	23

Traffic Data Input Program

This is an example of the Summary File for a sample of vehicle delay data. Note that the total vehicles entering and leaving the queue for each time period are given. Also shown is the mean delay for each time period summarized by both entering time and exiting time. The delay is given in the special 24-hour clock format (ranging from 0 to 1) described earlier. To convert delays given in this format to delay in seconds per vehicle, the data should be multiplied by 86,400, the number of seconds in a day.

1st and State, Boise

1 Minute Volumes

Time	EnterVol	Delay	ExitVol	Delay
.5236111	11	6.524541E-05	10	6.261468E-05
.5243056	4	3.926456E-05	4	5.069375E-05
.525	4	4.927814E-05	5	4.858971E-05
.5256945	10	8.807778E-05	9	7.800924E-05
.5263889	6	3.93192E-05	7	5.922999E-05
.5270834	4	6.361306E-05	4	6.361306E-05
.5277779	12	8.229911E-05	9	7.737345E-05
.5284723	5	7.603168E-05	7	8.60095E-05
.5291668	7	6.06605E-05	8	6.174296E-05
.5298612	3	4.661083E-05	3	4.661083E-05

5 Minute Volumes

.5236111	35	6.253038E-05	35	6.253038E-05
.5270833	31	7.053729E-05	31	7.053729E-05
.5305555	34	7.221979E-05	34	7.221979E-05
.5340278	34	1.045676E-04	33	1.052112E-04
.5375	48	1.274968E-04	47	1.232459E-04

15 Minute Volumes

.5236111	100	6.830692E-05	100	6.830692E-05
.5340278	118	1.241661E-04	118	1.241661E-04
.5444445	109	9.34918E-05	109	9.34918E-05
.5548612	75	7.191578E-05	75	7.191578E-05
.5652779	8	5.874783E-05	8	5.874783E-05

CHAPTER 9. PROGRAM MESSAGES

TDIP provides a number of messages designed to give you the information needed to properly operate the program and to avoid unnecessary problems or loss of data. This chapter lists each program message and an appropriate explanation for each.

Begin Time Starts After End Time, Press Any Key To Continue The beginning of the study period must start before the ending time.

Disk Drive Door Open, Press **Any** Key To Continue The disk drive door is open or the disk is write protected.

Disk Drive Door Open or Disk Write Protected, Press Any Key to Continue. There is no disk in the drive, disk drive door is open or the disk is write protected.

Do You Want To Overwrite File, Press Yes **<Y>** or No **<N>** If you answer yes, the program overwrites the file data with new data. If you answer no, you can enter a new name so that you will not overwrite the existing file.

Do You Want To Overwrite Previous Input Data **<Y>** YES (Data Will Be Lost) The data in memory will be lost, or **<N>** NO The data in memory will be saved.

Do You Want To Quit? Yes **<Y>** or NO **<N>** Answer yes to exit TDIP, or No to remain in TDIP.

Enter File Identifier or Header. Enter a description of the study site. This description will be entered as part of the file.

EXIT Cannot be Greater Than ENTERING The number of vehicles that have entered the queue must be greater than or equal to the number that have exited the queue.

Traffic Data Input Program

File Does Not Exist, Press Any Key To Reedit.

The file name requested for input does not exist, the path is incorrect or the drive is incorrect. Edit the name and try again; if you are again unsuccessful, use **DOS Shell** to determine if the file exists.

FILE INCOMPATIBLE WITH DATA INPUT, PRESS ANY KEY TO EXIT

The file you are trying to input is not compatible with the required TDIP format.

Help File is Not Present, Press Any Key to continue

The help file is not on the disk containing **TDIP.EXE**. You should copy **TDIP.HLP** to the directory that contains **TDIP.EXE**.

Incorrect Time Format, Press Any Key To Continue

The time entered is not in one of the four specified formats.

Input Master File Name. Press <Enter> When Finished or <Esc> to Exit

Type the file name, press <Enter> when finished. You may also press <Escape> to return to the Program Menu.

Input File Name then Press <Enter> or <Esc> to Exit summary Enter the file name and press **Enter**. Press **Escape** to return to the Program Menu without summarizing the file.

Invalid Drive, Edit Drive, Press Any Key To Continue.

The drive name used does not exist on your system. Enter a valid drive letter.

Invalid File Name, Press Any Key To Reedit

The file name is not in DOS format. Press any key and edit the file name.

NO Input File Available, Press Any Key to Exit

There is no data in memory; select another option.

Non-Existent File Path, Edit File Path, Press Any

Key To Continue.

The file path used does not exist on the drive specified. Edit path name or press **Escape** to return to the main menu. Use **DOS Shell** to check for correct file path.

Not Enough Room on Disk to Save File, Change Disk or Drive.

There is less than **100,000** bytes free on the disk. Either change disks, or re-specify the drive, or use **Dos Shell** to delete enough files so there is at least **100,000** bytes free on the disk.

Pause Activated

Pause mode activated. To resume, type R.

Press <Y> Yes to Overwrite Previously Input Data, Press <N> No to Exit Summary

A summary file of the name you have used will be overwritten on the disk if you answer yes. If you answer no, the program will exit the summary procedure.

Summarize The Following: PRESS <1>, <2> or <3>

<1> Data In Memory -To summarize data entered.
<2> File Data -To input a file of data to be summarized.
<3> To EXIT Summary -To exit the summary procedure.

The Default Drive C: Has Less Than 100,00 Bytes Free to Write Backup Files. Press Any Key To Exit.

There is not enough room to save backup files on the default directory. Delete any extra files not required on that directory to make room for the backup files.

There is less than 100,000 bytes free on disk to write backup file. Do You Want to DOS Shell, <Y> Yes or <N> No

There is less than **100,000** bytes free on the directory for backup files. Use **DOS Shell**, then delete extra files, or insert a formatted disk that has more than **100,000** bytes free in the default drive.

Traffic Data Input Program

Time is Greater than **Two** Hours, Press Any Key To Continue

The ending time minus the beginning is greater than two hours. Edit the times so that this two hour maximum is not exceeded.

Type Summary File Name, Then Press **<ENTER>** or **<ESC>** to Exit Summary

After entering the summary file name, press Enter. Press Escape to abort the summary and return Program Menu.

User Near **Maximum** Memory, Exit Now

The program is five entries or less from automatically exiting. You should terminate your data entry now.

User Exceeded Maximum Memory, Program Exited

You have exceeded the memory limitation of TDIP. TDIP automatically exits to prevent abnormal termination and a loss of data.