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ESTIMATION OF EQUIVALENT AXLELOADS: COMPUTER PROGRAM DOCUMENTATION

by

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16. Abstract

The estimation of equivalent axleloads (EAL) requires the correlation of several data bases. Described herein are three computer programs which summarize truckweight data and classification data, and combine the two data bases to estimate EAL's for each site where classification counts are available in a given year.

The programs also present the data in two matrices to characterize the effects that geographic area, federal-aid classification, coal-haul volume and total volume have on each of the traffic parameters necessary to compute EAL's.

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I. INTRODUCTION

For pavement evaluation and design, the destructive effects of traffic are expressed in terms of the equivalent number of repetitions of a reference 18,000-pound single axle. Often termed simply equivalent axleloads or EAL's, this number represents the cumulative destructive effects of traffic in the critical lane during the time period of interest.

Whether for purposes of pavement design or evaluation, primary data sources for estimating EAL's are (1) volume counts, (2) vehicle classification surveys, and (3) truck weight surveys. In Kentucky, these three types of surveys are being conducted almost continuously, and the data are available from computer accessible files.

A set of three computer programs to calculate the annual EAL accumulations (and other associated traffic parameters) at each vehicle classification station has been developed. Mean or average values also are computed within a cross classification matrix designed to isolate the effects of selected local conditions on EAL accumulations.

These programs are expected to be executed annually, immediately after the most recent classification and weight data are loaded onto tape and edited. The volume data base is not used since the classification data base contains the relevant volume parameter, the average annual daily traffic volume or AADT.

It is the purpose of this report to document the three computer programs, all written in FORTRAN IV programming language. The first program, LOADOMTR SUMMARY, processes vehicle weight data. The primary output is axleload distributions for each of several vehicle types that are representative of statewide average rural conditions (urban conditions may be included with some modification of the program). The second program, CLASS SUMMARY, processes vehicle classification data. The primary output is the annual average number of various vehicle types at each classification station. The third program, EAL CALC, processes the output of the first two programs and produces two primary types of output. The first is a listing, for each classification station, of the traffic parameters of interest in EAL calculations for the year of processing. The traffic parameters include:

- o AADT
- o Average fraction of trucks
- o Average fraction of trucks that carry coal
- o Average number of axles per truck for both coal-hauling and non-coal-hauling trucks
- o Average EAL's per truck axle for both coal-hauling trucks and non-coal-hauling trucks and busses
- o Annual two-directional accumulation of EAL's and the contributions thereto by coal-hauling trucks, non-coal-hauling trucks and busses, and four-tired vehicles.

The second type is a series of cross classification matrices, one for each traffic parameter, showing most recent average values as well as changes with time. These averages are presented as a function of selected local conditions.

The three programs are individually documented in this report as follows:

LOADOMTR SUMMARY	Section II
CLASS SUMMARY	Section III
EAL CALC	Section IV

II. LOADOMTR SUMMARY

A. Overview.

1. Objectives of Program. The objective of this computer program is to compute, on an annual or biannual basis, statewide average rural axleload distributions for each of 24 truck/commodity types and each of six axle configurations.

2. Program Narrative. The input data base contains weights of individual axles and spacings between axles for each vehicle that has been weighed. As input data is read sequentially, a few edit checks are performed and apparently erroneous data discarded. A conversion is made from Federal Highway Administration weight codes for various vehicle types to classification codes currently in use in Kentucky.

   Axleload distributions are computed for 12 coal-hauling vehicle types using data collected at all Kentucky rural locations: axleload distributions also are computed for each of 12 non-coal-hauling vehicle types. For these distributions, only data collected at permanent rural weigh stations are used. For each of the 24 truck/commodity types, six different types (configurations) of axles are recognized including steering axles, other single axles, tandem axles, tridem axles, quad axles, and a representation that considers all axles as singles.

   Data collected at urban weigh stations are not processed by this program.

3. Programming Language. The programming language is FORTRAN IV.

4. Operating Environment. The object deck of the program is located in the library file UKU.@KTR05.TRAF1 in the load module LOADOMTR at the University of Kentucky Computing Center. It is designed to be executed by the IBM 3083 at the University of Kentucky, Lexington, Kentucky.

B. Input (Logical Unit 5).

1. Internal Data and Parameter Specification. No internal data or parameters are specified and used within the program.

2. External Data. The external data consist only of vehicle weight data stored on the truck weight study tape. In the initial processing, input for the years 1969-1972 is restricted to the file TT.TRKWT--.CARD7. For 1973 and all subsequent years, the input consists of two files, TT.TRKWT--.CARD2 and TT.TRKWT--.CARD7. Further description of the input is found as follows:

Input Variable Names	Section II.G.1.a
Input Variable Codes	Section II.G.2.a
Input Format	Section II.G.3

C. Output (Logical Unit 14).

1. Files. Each execution of this program will add a file (FWT.YR--) to a magnetic tape, the Statewide Axleload Summary Tape. This tape contains not only current-year data but summaries for prior years as well. Further description of the output is found as follows:

Output Variable Names	Section II.G.1.b
Output Variable Codes	Section II.G.2.b
Output Format	Section II.G.4

2. Reports. Each execution will produce printed output, the primary components of which are the numbers of axles weighed for various vehicle/commodity types, axle types (configurations), and axleload intervals. Output for an example run (processing 1982 data) is shown in Figure 2.1.

D. Using the Program.

1. Preliminaries.

a. Codes used to identify various types of vehicles are different in the truck weight and vehicle classification data bases. More importantly, the codes are subject to frequent change through time. To avoid improper execution, the user must assure that codes in current use will be appropriately processed by this program (see Sections II.G.2.b.(3) and II.G.2.c for programming conventions).

b. Job control language records must be prepared for the processing of each new set of weight data. Example JCL, used in processing 1982 data, is shown in Figure 2.2. Note particularly that changes are necessary to reflect the location of the input and to specify new file names of the output.

2. Program Execution. The program, in object form, is stored in the library file UKU.@KTR05.TRAF1. Therefore, only JCL records are necessary for program execution. The source listing of the program is recorded on the Statewide Axleload Summary Tape as a backup.

3. Validity Check.

a. Rejected Vehicles. A limited number of edit checks are performed to identify possibly erroneous data. When such is identified, no data for the vehicle in question are added to the output files. The output report summarizes the numbers of vehicles rejected for various reasons. When these numbers are excessive, the user must locate and correct the cause and execute the program again. See Section II.E for further discussion of edit checks.

b. Compatibility with W-5 Tables. For years during which no special truck weight studies were performed, the numbers of each vehicle type processed by this program should roughly correspond to those reported for the main rural stations in the W-5 tables of the annual truck weight and vehicle classification study report.

4. Interpretation of Output. The output report is self-explanatory with the necessary symbols and codes identified at its beginning. Most tabular entries are the numbers of axles of specific types that were weighed. If necessary, these may be easily converted to fractions.

   A word of caution is warranted about data for Types 3 through 5. Type 3 vehicles are pickup trucks. Since pickups are not required to stop at weigh stations, reported data are not likely to be representative of average or typical vehicle loading. Type 4 and 5 vehicles are busses that also are not required to stop at weigh stations. During 1969-1982, no busses were weighed in Kentucky. With an important exception, output matrices contain entries for classification vehicle Types 3 through 14. The alternate axleload distributions, NWANC, NWAC, WANC, and WAC, contain data for vehicle Types 4 through 14. Note particularly that they exclude any weight data that may have been obtained from weighing pickup trucks.

E. Edit Checks. Since the raw truck weight data are used for other purposes and have been rather thoroughly edited before use herein, only minimal checking for possibly erroneous data have been incorporated into the program. Edit checks, which cause rejection of the vehicle from the output files, include the following:

1. The station code of an individual truck data record does not match the station code of the corresponding header record.

2. The gross weight of the vehicle falls outside a preselected range for each vehicle type. The rather liberal acceptable ranges are identified in Table 2.1. Excessive rejections for this cause are likely due to input errors such as shifting of the fields, although changes in legal weight limits may render the ranges of Table 2.1 inappropriate.

3. The wheelbase of the vehicle falls outside a preselected range for each vehicle type. The acceptable ranges are identified in Table 2.1. Like gross weight, excessive rejections for this cause are likely due to input errors such as shifting of fields or changes in legal wheelbase limits.

4. The vehicle type code as recorded in the truck weight input cannot be converted to a classification data code (Types 3-14). Excessive rejections are likely to have been caused by incorrect weight data coding or changes and/or additions in vehicle type codes.

5. The number of axles weighed on a single-unit vehicle (Types 6-8) is incompatible with that of the vehicle type code. Possible causes of

error include either coding errors or the selection of a single-unit vehicle towing a trailer, usually of the utility type. Vehicles towing utility trailers are rejected to avoid inserting an excessive number of axles in lower load categories.

F. Processing and Computations. The program processes 1969-1972 data slightly differently from data acquired after 1972. For sake of simplicity, the following description is limited to the more recently acquired data. Following initialization of variables, the major steps or phases in the program are as follows:

1. Read all header records (the entire contents of file TT.TRKWT--.CARD2) and temporarily store relevant information. This information for each station includes its number, the year of the data, the year the station was established, and the station location (rural or urban).

2. Sequentially read and process data for each individual vehicle weighed (from file TT.TRKWT--.CARD7).

   a. Decide whether to reject the data.
      (1) The vehicle is rejected if the station on the data record cannot be matched with a station in the header record file.
      (2) The vehicle is rejected if the station location is urban as determined by the rural-urban designation on the header record.
      (3) The vehicle is rejected if it is a non-coal-hauling vehicle and was weighed at a temporary weigh station. Temporary weigh stations are identified as those for which the year the station was established and the year the data were collected are the same.
      (4) The vehicle is rejected if it fails to meet each of three edit checks including (1) gross weight, (2) wheelbase, and (3) if the number of axles weighted is not compatible with the vehicle type code for single-unit vehicles.
   b. For each accepted vehicle, classify it by type of commodity carried and by vehicle type code (Type 3-14).
   c. Determine the numbers of axles of each of six axle types and the axle weights.
   d. Sum the number of axles in each load category.

3. After all individual vehicles have been processed, the output file (FWT.YR--) is written on the Statewide Axleload Summary Tape and the report is printed.

4. The program listing is included as Figure 2.3.

G. Appendix.

1. Listing of Major Variables and Sizes of Arrays.

a. Input Variables and Sizes of Arrays.
   (1) AXLE(15) - Axle spacing in tenths of foot
   (2) AXLEW(15) - Axle weights in hundreds of pounds
   (3) CARDC - Record code
   (4) CARDNO - Data record code
   (5) COMMOD - Commodity code
   (6) RCODE(100) - Rural-urban designation
   (7) STAT - Station identification
   (8) STATI - Station identification
   (9) VTYPE - Vehicle type code
   (10) YEAR - Year data were gathered
   (11) YEARC(100) - Year data were gathered
   (12) YEARE(100) - Year station was established

b. Output Variables and Sizes of Arrays.
   (1) C(14) - Number of coal-hauling vehicles weighed at all rural stations classified by vehicle type.
   (2) NWAC(6) - Number of axles weighed at all rural stations for coal-hauling vehicles of Types 4-14 classified by axle type.
   (3) NWANC(6) - Number of axles weighed at all permanent rural stations for non-coal-hauling vehicles of Types 4-14 classified by axle type.
   (4) NWC(14,6) - Number of axles weighed at all rural stations for coal-hauling vehicles classified by vehicle Type and axle type.
   (5) NWNC(14,6) - Number of axles weighed at all permanent rural stations for non-coal-hauling vehicles classified by vehicle type and axle type.
   (6) WAC(6,16) - Number of axles weighed at all rural stations for coal-hauling vehicles of Types 4-14 classified by axle type and load interval.
   (7) WANC(6,16) - Number of axles weighed at all permanent rural stations for non-coal-hauling vehicles of Types 4-14 classified by axle type and load interval.
   (8) WC(14,6,16) - Number of axles weighed at all rural stations for coal-hauling vehicles classified by vehicle type, axle type, and load interval.
   (9) WNC(14,6,16) - Number of axles weighed at all permanent rural stations for non-coal-hauling vehicles classified by vehicle type, axle type, and load interval.

2. Identification of Variable Codes.

a. Input Variable Codes.
   (1) Header Records (Card Type 2).
      (a) Data Record Codes.
         1 - Characteristics data record
         2 - Descriptive comments record
         3 - Station shift record

(b) Rural-Urban Designation.
Rural = 10
Urban ≠ 10

(2) Individual Data Record (Card Type 7).

(a) Data Record Codes.
0 - This is the only record
1 - One record follows

(b) Vehicle Type Codes. The vehicle-type codes are the six-digit codes specified by the Federal Highway Administration in "The Guide for Truck Weight Manual."

(c) Commodity Codes.
110-112 = Coal-hauling vehicle
Other = Non-coal-hauling vehicle

b. Output Variable Codes.

(1) Axle-Type Codes.
1 - Steering axles
2 - Other single axles
3 - Tandem axles (5-ft maximum span)
4 - Tridem axles (10-ft maximum span)
5 - Quad axles (15-ft maximum span)
6 - All axles treated as singles

(2) Axleload Intervals. See Table 2.2.

(3) Vehicle-Type Codes.
1 - Motorcycles
2 - Passenger cars
3 - Other 2-axle, 4-tire vehicles
4 - School busses
5 - Other busses
6 - 2-axle, 6-tire, single unit
7 - 3-axle single unit
8 - 4- or more axle single unit
9 - 4- or less axle single trailer
10 - 5-axle single trailer
11 - 6- or more axle single trailer
12 - 5- or less axle multiple trailer
13 - 6-axle multiple trailer
14 - 7- or more axle multiple trailer

c. Correlation of Input and Output Vehicle-Type Codes.

Input Vehicle-Type Code (Weight Format)	Number of Axles Weighed	Output Vehicle-Type Code (Classification Format)
010000-039999	N/A	1
040000-089999	N/A	2
200000-219999	N/A	3
160000-169999	N/A	4
110000-159999	N/A	5
170000-189999	N/A	5
220000-229999	2	6
230000-239999	3	7
240000-289999	4 or more	8
300000-499999	4 or less	9

Input Vehicle-Type Code (Weight Format)	Number of Axles Weighed	Output Vehicle-Type Code (Classification Format)
300000-499999	5	10
300000-499999	6 or more	11
500000-899999	5 or less	12
500000-899999	6	13
500000-899999	7 or more	14

3. Input Format.

a. Ordering. Two files are read as input to LOADOMTR SUMMARY. The first, TT.TRKWT--.CARD2 contains header records for each station for which weight data are available. Three types of header records are available -- 1) Characteristics data record, 2) descriptive comments record, 3) and station shift records. Therefore, each record must be read and only information from the characteristics data record will be stored. After the file has been exhausted, the second file, TT.TRKWT--.CARD7, will be read. Each individual record will be read, stored, and processed. The format of the header and individual vehicle records is as follows:

b. Formatting.

(1) Header Records (Card Type 2).

Columns	Description	Format
6-8	Station	A3
10-11	Year data were recorded	I2
18-19	Rural-urban designation	I2
47-48	Year station were established	I2
80	Data record code	I1

(2) Data Record (Card Type 7)

(a) First Record in pair.

Columns	Description	Format
1	Individual vehicle data code	I1
6-8	Station	A3
10-11	Year data was gathered	I2
18-23	Vehicle type	I6
36-38	Commodity code	I3
46-48	A-axle weight (hundreds of pounds)	I3
49-51	B-axle weight (hundreds of pounds)	I3
52-54	C-axle weight (hundreds of pounds)	I3
55-57	D-axle weight (hundreds of pounds)	I3
58-60	E-axle weight (hundreds of pounds)	I3
61-63	A-B axle spacing (feet & tenths)	I3
64-66	B-C axle spacing (feet & tenths)	I3
67-69	C-D axle spacing (feet & tenths)	I3
70-72	D-E axle spacing (feet & tenths)	I3
80	Data record code	I1

(b) Second record in pair.

Columns	Description	Format
1	Individual vehicle data code	I1
6-8	Station	I3
29-31	F-axle weight (hundreds of pounds)	I3

Columns	Description	Format
32-34	G-axle weight (hundreds of pounds)	I3
35-37	H-axle weight (hundreds of pounds)	I3
38-40	I-axle weight (hundreds of pounds)	I3
41-43	J-axle weight (hundreds of pounds)	I3
44-46	K-axle weight (hundreds of pounds)	I3
47-49	L-axle weight (hundreds of pounds)	I3
50-52	M-axle weight (hundreds of pounds)	I3
53-55	E-F axle spacing (feet & tenths)	I3
56-58	F-G axle spacing (feet & tenths)	I3
59-61	G-H axle spacing (feet & tenths)	I3
62-64	H-I axle spacing (feet & tenths)	I3
65-67	I-J axle spacing (feet & tenths)	I3
68-70	J-K axle spacing (feet & tenths)	I3
71-73	K-L axle spacing (feet & tenths)	I3
74-76	L-M axle spacing (feet & tenths)	I3
80	Data record code	I1

4. Output Format.

a. Recorded on Tape.

(1) Ordering.

The records to be stored on tape will be loaded as follows:

(a) The NWNC records will be loaded first. There are 12 records, one for each vehicle type, which contain six entries, one for each axle type.

(b) The NWANC record is loaded second. There is one record, which contains six entries, one for each axle type.

(c) The NWC records are loaded third. There are 12 records, one for each vehicle type, which contain six entries, one for each axle type.

(d) The NWAC record is loaded fourth. There is one record, which contains six entries, one for each axle type.

(e) The WNC records are loaded fifth. There are 144 records arranged in pairs for each combination of vehicle type and axle type. The first record of the pair contains eight entries for the load intervals one through eight and the second record contains eight entries for each of the load intervals nine through 16.

(f) The WANC records are loaded sixth. There are 12 records arranged in pairs for each of the axle types. The first record of the pair contains eight entries for each of the load intervals one through eight and the second record contains eight entries for each of the load intervals 9 through 16.

(g) The WC records are loaded seventh. There are 144 records arranged in pairs for each combination of vehicle type and axle type. The first record of the pair contains eight entries for the load intervals one through eight and the second record

contains eight entries for the load intervals 9 through 16.

(h) The WAC records are loaded eighth. There are 12 records arranged in pairs for each of the axle types. The first record of the pair contains eight entries for each of the load intervals one through eight and the second record contains eight entries for each of the load intervals 9 through 16.

(i) The C records are loaded ninth. There are two records. The 1 contains 11 entries for vehicle types 1 through 11. The second record contains three entries for vehicle types 12 through 14.

(2) Formatting.

(a) NWNC and NWC records.

Columns	Description	Format
1-2	Year	I2
3-6	Variable name	A4
7-12	Blank	6X
13-14	Vehicle type (3-14)	I2
15-20	Number of type 1 axles	I6
21-26	Number of type 2 axles	I6
27-32	Number of type 3 axles	I6
33-38	Number of type 4 axles	I6
39-44	Number of type 5 axles	I6
45-50	Number of type 6 axles	I6

(b) NWANC and NWAC records.

Columns	Description	Format
1-2	Year	I2
3-10	Variable name (left justified)	A4
11-14	Blank	4X
15-20	Number of Type 1 axles without regard to vehicle type	I6
21-26	Number of Type 2 axles without regard to vehicle type	I6
27-32	Number of Type 3 axles without regard to vehicle type	I6
33-38	Number of Type 4 axles without regard to vehicle type	I6
39-44	Number of Type 5 axles without regard to vehicle type	I6
45-50	Number of Type 6 axles without regard to vehicle type	I6

(c) WNC and WC records.

aa. First record.

Columns	Description	Format
1-2	Year	I2
3-6	Variable name	A4
7-10	Blank	4X
11-12	Vehicle type	I2
13-14	Axle type	I2
15-20	Number of axles in load category 1	I6
21-26	Number of axles in load	

Columns	Description	Format
	category 2	I6
27-32	Number of axles in load category 3	I6
33-38	Number of axles in load category 4	I6
39-44	Number of axles in load category 5	I6
45-50	Number of axles in load category 6	I6
51-56	Number of axles in load category 7	I6
57-62	Number of axles in load category 8	I6

bb. Second record.

Columns	Description	Format
1-2	Year	I2
3-6	Variable name	A4
7-10	Blank	4X
11-12	Vehicle type	I2
13-14	Axle type	I2
15-20	Number of axles in load category 9	I6
21-26	Number of axles in load category 10	I6
27-32	Number of axles in load category 11	I6
33-38	Number of axles in load category 12	I6
39-44	Number of axles in load category 13	I6
45-50	Number of axles in load category 14	I6
51-56	Number of axles in load category 15	I6
57-62	Number of axles in load category 16	I6

(d) WANC and WAC Records.

aa. First record.

Columns	Description	Format
1-2	Year	I2
3-6	Variable name	A4
7-12	Blank	6X
13-14	Axle type	I2
15-20	Number of axles in load category 1 without regard to vehicle type	I6
21-26	Number of axles in load category 2 without regard to vehicle type	I6
27-32	Number of axles in load category 3 without regard to vehicle type	I6

Columns	Description	Format
33-38	Number of axles in load category 4 without regard to vehicle type	I6
39-44	Number of axles in load category 5 without regard to vehicle type	I6
45-50	Number of axles in load category 6 without regard to vehicle type	I6
51-56	Number of axles in load category 7 without regard to vehicle type	I6
57-62	Number of axles in load category 8 without regard to vehicle type	I6

bb. Second record.

Columns	Description	Format
1-2	Year	I2
3-6	Variable name	A4
7-12	Blank	6X
13-14	Axle type	I2
15-20	Number of axles in load category 9 without regard to vehicle type	I6
21-26	Number of axles in load category 10 without regard to vehicle type	I6
Columns	Description	Format
27-32	Number of axles in load category 11 without regard to vehicle type	I6
33-38	Number of axles in load category 12 without regard to vehicle type	I6
39-44	Number of axles in load category 13 without regard to vehicle type	I6
45-50	Number of axles in load category 14 without regard to vehicle type	I6
51-56	Number of axles in load category 15 without regard to vehicle type	I6
57-62	Number of axles in load category 16 without regard to vehicle type	I6

(e) C records.

aa. First record.

Columns	Description	Format
1-2	Year	I2
3-6	Variable name left justified	A4
7-14	Blank	8X
15-20	Number of type 1 coal-haul vehicles	I6
21-26	Number of type 2 coal-haul vehicles	I6
27-32	Number of type 3 coal-haul vehicles	I6
33-38	Number of type 4 coal-haul vehicles	I6
39-44	Number of type 5 coal-haul vehicles	I6
45-50	Number of type 6 coal-haul vehicles	I6
51-56	Number of type 7 coal-haul vehicles	I6
57-62	Number of type 8 coal-haul vehicles	I6
63-68	Number of type 9 coal-haul vehicles	I6
69-74	Number of type 10 coal-haul vehicles	I6
75-80	Number of type 11 coal-haul vehicles	I6

bb. Second record.

Columns	Description	Format
1-2	Year	I2
3-6	Variable name left justified	A4
7-14	Blank	8X
15-20	Number of type 12 coal-haul vehicles	I6
21-26	Number of type 13 coal-haul vehicles	I6
27-32	Number of type 14 coal-haul vehicles	I6

b. Printed Output. The format for printed output is the same as the format for output recorded on tape, but the output which requires two records are printed on one line.

VARIABLE NAMES AND CODES DEFINED

NWNC - NUMBER OF AXLES WEIGHED AT ALL MAIN RURAL STATIONS FOR NON-COAL-HAULING VEHICLES CLASSIFIED BY VEHICLE TYPE AND AXLE TYPE
NWANC - NUMBER OF AXLES WEIGHED AT ALL MAIN RURAL STATIONS FOR NON-COAL-HAULING VEHICLES OF TYPES 6-14 CLASSIFIED BY AXLE TYPE
NWC - NUMBER OF AXLES WEIGHED AT ALL RURAL STATIONS FOR COAL-HAULING VEHICLES CLASSIFIED BY VEHICLE TYPE AND AXLE TYPE
NWAC - NUMBER OF AXLES WEIGHED AT ALL RURAL STATIONS FOR COAL-HAULING VEHICLES OF TYPES 6-14 CLASSIFIED BY AXLE TYPE
WNC - NUMBER OF AXLES WEIGHED AT ALL MAIN RURAL STATIONS FOR NON-COAL-HAULING VEHICLES CLASSIFIED BY VEHICLE TYPE, AXLE TYPE AND LOAD INTERVAL
WANC - NUMBER OF AXLES WEIGHED AT ALL MAIN RURAL STATIONS FOR NON-COAL-HAULING VEHICLES OF TYPES 6-14 CLASSIFIED BY AXLE TYPE AND LOAD INTERVAL
WC - NUMBER OF AXLES WEIGHED AT ALL RURAL STATIONS FOR COAL-HAULING VEHICLES CLASSIFIED BY VEHICLE TYPE, AXLE TYPE AND LOAD INTERVAL
WAC - NUMBER OF AXLES WEIGHED AT ALL RURAL STATIONS FOR COAL-HAULING VEHICLES OF TYPES 6-14 CLASSIFIED BY AXLE TYPE AND LOAD INTERVAL
C - NUMBER OF COAL HAULING VEHICLES WEIGHED AT ALL RURAL STATIONS CLASSIFIED BY VEHICLE TYPE

VEHICLE CODES (VTYPE)

3 - 2 AXLE, 4-TIRE VEHICLES OTHER THAN PASSENGER CARS
4 - SCHOOL BUSSES
5 - ALL OTHER BUSSES
6 - 2 AXLE, 6-TIRE
7 - 3 AXLE SINGLE UNIT
8 - 4 OR MORE AXLE SINGLE UNIT
9 - 4 OR LESS AXLE SINGLE TRAILER
10 - 5 AXLE SINGLE TRAILER
11 - 6 OR MORE AXLE SINGLE TRAILER
12 - 5 OR LESS AXLE MULTI-TRAILER
13 - 6 AXLE MULTIPLE TRAILER
14 - 7 OR MORE AXLE MULTIPLE TRAILER

AXLE TYPE CODES (AXTYPE)

1 - STEERING AXLES
2 - OTHER SINGLE AXLES
3 - TANDEM AXLES (5 FT. MAXIMUM SPAN)
4 - TRIDEM AXLES (10 FT. MAXIMUM SPAN)
5 - QUAD AXLES (15 FT. MAXIMUM SPAN)
6 - ALL AXLES TREATED AS SINGLES

Figure 2.1 (cont.)

AXLE LOAD INTERVALS

(1000 POUNDS)

LOAD INTERVAL	STEERING	OTHER SINGLE	TANDEM	TRIDEM	QUAD	ALL SINGLE
1	0.0- 1.5	0.0- 2.5	0.0- 5.0	0.0- 7.5	0.0- 10.0	0.0- 2.5
2	1.6- 3.0	2.6- 5.0	5.1-10.0	7.6- 15.0	10.1- 20.0	2.6- 5.0
3	3.1- 4.5	5.1- 7.5	10.1-15.0	15.1- 22.5	20.1- 30.0	5.1- 7.5
4	4.6- 6.0	7.6-10.0	15.1-20.0	22.6- 30.0	30.1- 40.0	7.6-10.0
5	6.1- 7.5	10.1-12.5	20.1-25.0	30.1- 37.5	40.1- 50.0	10.1-12.5
6	7.6- 9.0	12.6-15.0	25.1-30.0	37.6- 45.0	50.1- 60.0	12.6-15.0
7	9.1-10.5	15.1-17.5	30.1-35.0	45.1- 52.5	60.1- 70.0	15.1-17.5
8	10.6-12.0	17.6-20.0	35.1-40.0	52.6- 60.0	70.1- 80.0	17.6-20.0
9	12.1-13.5	20.1-22.5	40.1-45.0	60.1- 67.5	80.1- 90.0	20.1-22.5
10	13.6-15.0	22.6-25.0	45.1-50.0	67.6- 75.0	90.1-100.0	22.6-25.0
11	15.1-16.5	25.1-27.5	50.1-55.0	75.1- 82.5	100.1-110.0	25.1-27.5
12	16.6-18.0	27.6-30.0	55.1-60.0	82.6- 90.0	110.1-120.0	27.6-30.0
13	18.1-19.5	30.1-32.5	60.1-65.0	90.1- 97.5	120.1-130.0	30.1-32.5
14	19.6-21.0	32.6-35.0	65.1-70.0	97.6-105.0	130.1-140.0	32.6-35.0
15	21.1-22.5	35.1-37.5	70.1-75.0	105.1-112.5	140.1-150.0	35.1-37.5
16	OVER 22.5	OVER 37.5	OVER 75.0	OVER 112.5	OVER 150.0	OVER 37.5

NUMBER OF VEHICLES REJECTED DUE TO INABILITY TO MATCH STATION WITH STATION ON THE HEADER CARD	0
NUMBER OF VEHICLES REJECTED DUE TO UNACCEPTABLE GROSS WEIGHT	0
NUMBER OF VEHICLES REJECTED DUE TO UNACCEPTABLE WHEEL BASE	6
NUMBER OF VEHICLES REJECTED DUE TO UNINTERPRETABLE VEHICLE TYPE	0
NUMBER SINGLE UNIT OF VEHICLES REJECTED DUE TO INAPPROPRIATE NUMBER OF AXLES	3
NUMBER OF TYPE 3-14 VEHICLES PROCESSED	2304

		AXLE TYPE					
	VTYPE	1	2	3	4	5	6
NWNC	3	62	62	0	0	0	124
NWNC	4	0	0	0	0	0	0
NWNC	5	0	0	0	0	0	0
NWNC	6	322	322	0	0	0	644
NWNC	7	49	0	49	0	0	147
NWNC	8	30	3	0	29	0	120
NWNC	9	217	242	192	0	0	843
NWNC	10	1558	95	3064	3	0	7790
NWNC	11	48	6	46	47	2	295
NWNC	12	5	20	0	0	0	25
NWNC	13	1	3	1	0	0	6
NWNC	14	0	0	0	0	0	0

Figure 2.1 (cont.)

	AXLE TYPE					
	1	2	3	4	5	6
NWANC	2230	691	3352	79	2	9870

	VTYPE	AXLE TYPE					
		1	2	3	4	5	6
NWC	3	0	0	0	0	0	0
NWC	4	0	0	0	0	0	0
NWC	5	0	0	0	0	0	0
NWC	6	0	0	0	0	0	0
NWC	7	0	0	0	0	0	0
NWC	8	0	0	0	0	0	0
NWC	9	0	0	0	0	0	0
NWC	10	6	0	12	0	0	30
NWC	11	6	0	6	6	0	36
NWC	12	0	0	0	0	0	0
NWC	13	0	0	0	0	0	0
NWC	14	0	0	0	0	0	0

	AXLE TYPE					
	1	2	3	4	5	6
NWAC	12	0	18	6	0	66

	VTYPE	AXTYP	LOAD CATEGORY														
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
WNC	3	1	0	53	9	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	3	2	36	24	2	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	3	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	3	6	68	54	2	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	4	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	4	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	5	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	5	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Figure 2.1 (cont.)

VTYPE	AXTYP	LOAD CATEGORY 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
WNC	6 1	0	41	86	67	66	45	14	3	0	0	0	0	0	0	0	0
WNC	6 2	2	61	82	64	40	38	19	11	2	2	1	0	0	0	0	0
WNC	6 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	6 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	6 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	6 6	14	200	191	121	45	38	19	11	2	2	1	0	0	0	0	0
WNC	7 1	0	0	0	1	6	8	14	9	4	2	2	0	1	1	1	0
WNC	7 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	7 3	0	8	10	14	4	4	5	3	1	0	0	0	0	0	0	0
WNC	7 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	7 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	7 6	0	18	21	51	23	10	13	8	2	1	0	0	0	0	0	0
WNC	8 1	0	0	0	0	0	3	1	7	5	3	1	4	4	1	1	0
WNC	8 2	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	8 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	8 4	0	4	2	1	2	4	13	2	1	0	0	0	0	0	0	0
WNC	8 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	8 6	9	2	16	16	16	9	8	24	18	2	0	0	0	0	0	0
WNC	9 1	0	0	1	9	20	82	101	3	1	0	0	0	0	0	0	0
WNC	9 2	1	1	10	77	49	62	31	10	1	0	0	0	0	0	0	0
WNC	9 3	0	33	71	45	32	7	4	0	0	0	0	0	0	0	0	0
WNC	9 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	9 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	9 6	4	72	172	331	137	79	35	11	1	1	0	0	0	0	0	0
WNC	10 1	0	0	2	40	26	538	759	174	19	0	0	0	0	0	0	0
WNC	10 2	0	18	16	7	4	12	20	17	1	0	0	0	0	0	0	0
WNC	10 3	1	327	649	376	385	571	632	119	4	0	0	0	0	0	0	0
WNC	10 4	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
WNC	10 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	10 6	55	674	1333	1872	1198	1083	1234	323	17	1	0	0	0	0	0	0
WNC	11 1	0	0	0	0	1	16	21	8	2	0	0	0	0	0	0	0
WNC	11 2	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	11 3	0	1	11	6	6	9	9	2	2	0	0	0	0	0	0	0
WNC	11 4	0	6	8	2	5	14	8	1	1	2	0	0	0	0	0	0
WNC	11 5	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
WNC	11 6	5	27	40	60	48	44	47	9	12	0	2	1	0	0	0	0
WNC	12 1	0	0	0	0	0	1	4	0	0	0	0	0	0	0	0	0
WNC	12 2	0	0	4	3	1	7	5	0	0	0	0	0	0	0	0	0
WNC	12 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	12 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	12 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	12 6	0	0	4	6	3	7	5	0	0	0	0	0	0	0	0	0
WNC	13 1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
WNC	13 2	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	13 3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	13 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	13 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	13 6	0	4	1	1	0	0	0	0	0	0	0	0	0	0	0	0
WNC	14 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	14 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	14 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	14 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	14 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WNC	14 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Figure 2.1 (cont.)

		LOAD CATEGORY															
	AXTYPE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
WANC	1	0	41	89	117	119	694	914	204	31	5	3	4	5	2	2	0
WANC	2	5	87	115	151	94	119	75	38	4	2	1	0	0	0	0	0
WANC	3	1	370	741	441	427	591	650	124	7	0	0	0	0	0	0	0
WANC	4	1	10	10	3	7	19	22	3	2	2	0	0	0	0	0	0
WANC	5	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
WANC	6	87	997	1778	2458	1470	1270	1361	386	52	7	3	1	0	0	0	0

	VTYPE	AXTYP	LOAD CATEGORY														
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
WC	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	3	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	3	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	4	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	4	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	5	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	5	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	6	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	6	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	6	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	6	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	6	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	7	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	7	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	7	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	7	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	7	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	7	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	8	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	8	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	8	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	8	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	8	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	8	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	9	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	9	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	9	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	9	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	9	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	9	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Figure 2.1 (cont.)

VTYPE	AXTYP	LOAD CATEGORY 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
WC	10 1	0	0	0	0	0	4	1	1	0	0	0	0	0	0	0	0
WC	10 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	10 3	0	0	0	0	0	3	7	1	0	1	0	0	0	0	0	0
WC	10 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	10 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	10 6	0	0	0	4	4	4	13	3	0	2	0	0	0	0	0	0
WC	11 1	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0
WC	11 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	11 3	0	0	0	0	1	3	2	0	0	0	0	0	0	0	0	0
WC	11 4	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0
WC	11 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	11 6	0	0	2	9	4	13	8	0	0	0	0	0	0	0	0	0
WC	12 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	12 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	12 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	12 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	12 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	12 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	13 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	13 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	13 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	13 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	13 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	13 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	14 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	14 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	14 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	14 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	14 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WC	14 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	AXTYPE	LOAD CATEGORY 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
WAC	1	0	0	0	0	0	7	4	1	0	0	0	0	0	0	0	0
WAC	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WAC	3	0	0	0	0	1	6	9	1	0	1	0	0	0	0	0	0
WAC	4	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0
WAC	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WAC	6	0	0	2	13	8	17	21	3	0	2	0	0	0	0	0	0

	VTYPE 1	2	3	4	5	6	7	8	9	10	11	12	13	14
C	0	0	0	0	0	0	0	0	0	6	6	0	0	0(

Figure 2.2 LOADOMTR SUMMARY Job Control Language

```
//AXLE82   JOB 5035-51219,' SALSMAN ',MSGLEVEL=(1,1),
// TIME=(1,00),REGION=268K
/*JOBPARM  W,P=R,L=4
/*SETUP TAPE=(23033)
/*SETUP TAPE=(23194,RINGIN)
..INCLUDE PASSWORD JOB
//S EXEC PGM=LOADOMTR
//STEPLIB  DD DSN=UKU.@KTR05.TRAF1,DISP=SHR
//FT06F001 DD SYSOUT=A
//FT07F001 DD SYSOUT=B
/*
//GO.FT05F001 DD DSN=TT.TRKWT82.CARD2,UNIT=3400-6,VOL=SER=23033,
//  DCB=(LRECL=80,BLKSIZE=16000,RECFM=FB,DEN=4),DISP=(OLD,KEEP),
//  LABEL=(37,SL,,IN)
//GO.FT05F002 DD DSN=TT.TRKWT82.CARD7,UNIT=3400-6,VOL=SER=23033,
//  DCB=(LRECL=80,BLKSIZE=16000,RECFM=FB,DEN=4),DISP=(OLD,KEEP),
//  LABEL=(35,SL,,IN)
//GO.FT14F001 DD DSN=FWT.YR82,UNIT=3400-6,VOL=SER=23194,
//  DCB=(LRECL=80,BLKSIZE=16000,RECFM=FB,DEN=4),DISP=(OLD,KEEP),
//  LABEL=(13,SL,,IN)
/*
```

Figure 2.3 LOADOMTR SUMMARY Program Listing

```
C                                                                       1
C  ***********************************************************************  2
C  *  THIS PROGRAM WAS DEVELOPED TO SUMMARIZE LOADOMETER DATA IN ORDER *  3
C  *  TO COMBINE THE LOADOMETER AND CLASSIFICATION FILES TO FACILITATE *  4
C  *  THE PREDICTION OF TRAFFIC PARAMETERS.                            *  5
C  ***********************************************************************  6
C                                                                       7
C                                                                       8
      INTEGER YEAR,CARDC,VTYPE,AXLEW(15),AXLE(15),CARDNO,COMMOD,I,A(15),  9
     +AW(15,6),STAT,RCODE(100),YEARE(100),YEARC(100),NWEIGH,NCLASS,N,    10
     +AL(15),NS,WA(18),Q,Q2,Q3,Q4,Q5,NC,M,STAT1(100),Q6,CT,U2,U6,NCLAS1, 11
     +NWNC(14,6),NWANC(6),NATNC(6,16),NCT(14),NWC(14,6),NWAC(6),CLASS,   12
     +WNC(14,6,16),WANC(6,16),WC(14,6,16),WAC(6,16),NATC(6,16),C(14),    13
     +BADSP,BADWT,NOMTCH,NCV                                            14
      REAL D(18),WHLBAS,GRWT,ULIMWT,LLIMWT,ULIMSP,LLIMSP                15
C                                                                       16
C  ************************************************                     17
C  *  STATEMENTS 21 THRU 62 INITIALIZE VARIABLES     *                  18
C  ************************************************                     19
C                                                                       20
      NOMTCH=0                                                          21
      NWEIGH=0                                                          22
      NCLAS1=0                                                          23
      NCLASS=0                                                          24
      CT=0                                                              25
      I=0                                                               26
      NCV=0.                                                            27
      NC=0                                                              28
      BADSP=0                                                           29
      BADWT=0                                                           30
      DATA U2,U6/'0U2','0U6'/                                           31
      DO 10 L=1,14                                                      32
      NCT(L)=0.                                                         33
      C(L)=0.                                                           34
   10 CONTINUE                                                          35
      DO 20 J=1,6                                                       36
      NWANC(J)=0.                                                       37
      NWAC(J)=0.                                                        38
   20 CONTINUE                                                          39
      DO 50 L=1,16                                                      40
      DO 40 K=1,6                                                       41
      DO 30 J=1,14                                                      42
      WNC(J,K,L)=0.                                                     43
      WC(J,K,L)=0.                                                      44
   30 CONTINUE                                                          45
   40 CONTINUE                                                          46
   50 CONTINUE                                                          47
      DO 70 K=1,6                                                       48
      DO 60 J=1,14                                                      49
      NWNC(J,K)=0.                                                      50
      NWC(J,K)=0.                                                       51
```

Figure 2.3 (cont.)

```
   60 CONTINUE                                                          52
   70 CONTINUE                                                          53
      DO 80 J=1,100                                                     54
      RCODE(J)=0                                                        55
   80 CONTINUE                                                          56
      DO 100 K=1,16                                                     57
      DO 90 J=1,6                                                       58
      WANC(J,K)=0.                                                      59
      WAC(J,K)=0.                                                       60
   90 CONTINUE                                                          61
  100 CONTINUE                                                          62
C                                                                       63
C  ********************************************************************* 64
C  *  STATEMENTS 71 THRU 94 ARE THE READ STATEMENTS THAT ARE FORMAT-   * 65
C  *  TED TO READ THE NECCESSARY INFORMATION FROM THE LOADOMETER FILE. * 66
C  *  IN ORDER TO PROCESS 1969 THRU 1972 DATA INCLUSIVE, STATEMENTS 72 * 67
C  *  THRU 80 ,128 THRU 130 AND 248 THRU 252 MUST BE READ AS COMMENTS. * 68
C  ********************************************************************* 69
C                                                                       70
      GO TO 11
  109 N=1                                                               71
      CALL REREED                                                       72
  110 CONTINUE                                                          73
      READ(5,1000,END=120) CARDNO                                       74
 1000 FORMAT(T80,I1)                                                    75
      IF(CARDNO.NE.1) GO TO 110                                         76
      READ(99,1050) STAT1(N),YEARC(N),RCODE(N),YEARE(N),CARDNO          77
 1050 FORMAT(T6,A3,T10,I2,T18,I2,T47,I2,T80,I1)                         78
      N=N+1                                                             79
      GO TO 110                                                         80
   11 CONTINUE
  120 READ(5,1100,END=860) CARDC,STAT,YEAR,VTYPE,COMMOD,(AXLEW(L),      81
     +L=1,5),(AXLE(L),L=1,4),CARDNO                                     82
 1100 FORMAT(I1,T6,A3,T10,I2,T18,I6,T36,I3,T46,9I3,T80,I1)              83
      IF(CARDC.NE.7) GO TO 120                                          84
      DO 130 J=5,12                                                     85
      AXLE(J)=0                                                         86
  130 CONTINUE                                                          87
      DO 140 J=6,13                                                     88
      AXLEW(J)=0                                                        89
  140 CONTINUE                                                          90
      IF(CARDNO.EQ.1) READ (5,1150) CARDC,STAT,(AXLEW(L),L=6,13),       91
     +(AXLE(L),L=5,12),CARDNO                                           92
 1150 FORMAT(I1,T6,A3,T29,16I3,T80,I1)                                  93
      IF(CARDC.NE.7) GO TO 120                                          94
C                                                                       95
C  ********************************************************************* 96
C  *  STATEMENTS 101 THRU 119 INITIALIZE VARIABLES WHICH MUST BE      * 97
C  *  INITIIALIZED EACH TIME A NEW CARD IS READ.                      * 98
C  ********************************************************************* 99
C                                                                      100
      WHLBAS=0                                                         101
      GRWT=0                                                           102
      DO 150 L=1,15                                                    103
```

Figure 2.3 (cont.)

```
      A(L)=0                                                              104
  150 CONTINUE                                                            105
      Q2=0                                                                106
      DO 160 J=1,18                                                       107
      D(J)=0                                                              108
  160 CONTINUE                                                            109
      D(1)=0                                                              110
      M=1                                                                 111
      NS=1                                                                112
      DO 180 K=1,12                                                       113
      DO 170 J=1,6                                                        114
      AW(K,J)=0                                                           115
  170 CONTINUE                                                            116
  180 CONTINUE                                                            117
      IA=0                                                                118
      IB=0                                                                119
C                                                                         120
C  ***************************************************************      121
C  *  STATEMENTS 126 THRU 131 WILL DETERMINE IF THE STATION IS RURAL*     122
C  *  OR URBAN.                                                    *     123
C  ***************************************************************      124
C                                                                         125
      IF (YEAR.GE.69.AND.YEAR.LE.72.AND.(STAT.EQ.U2.OR.STAT.EQ.U6))       126
     +GO TO 120                                                           127
      NM1=N-1                                                             128
      DO 190 J=1,NM1                                                      129
      IF (STAT.EQ.STAT1(J).AND.RCODE(J).NE.10) GO TO 120                  130
  190 CONTINUE                                                            131
C                                                                         132
C  ***************************************************************      133
C  *  STATEMENTS 138 THRU 146 CALCULATE THE DISTANCE FROM EACH AXLE  *    134
C  *  TO THE STEERING AXLE                                           *    135
C  ***************************************************************      136
C                                                                         137
      DO 210 K=2,12                                                       138
      D(K)=0                                                              139
      DO 200 J=1,M                                                        140
      IF (AXLE(J).EQ.0) GO TO 220                                         141
      D(K)=D(K)+FLOAT(AXLE(J))/10.                                        142
  200 CONTINUE                                                            143
      M=M+1                                                               144
  210 CONTINUE                                                            145
  220 CONTINUE                                                            146
C                                                                         147
C  ***************************************************************      148
C  *  STATEMENTS 153 THRU 155 CALCULATE THE NUMBER OF AXLES ON THE   *    149
C  *  VEHICLE.                                                       *    150
C  ***************************************************************      151
C                                                                         152
      DO 230 J=2,12                                                       153
      IF(D(J)-D(J-1).GT.0) NS=NS+1                                        154
  230 CONTINUE                                                            155
```

Figure 2.3 (cont.)

```
C                                                                       156
C  ***********************************************************************157
C  *  STATEMENTS 164 THRU 186 CONVERT THE VEHICLE TYPE IN THE LOADO-   *  158
C  *  METER DATA TO A VEHICLE TYPE COMPATIABLE WITH CLASSIFICATION DATA*  159
C  *  IF THE CONVERSION CANNOT BE MADE IT WILL BE ACCOUNTED FOR IN     *  160
C  *  "NCLASS" AND THE NEXT CARD WILL BE READ.                         *  161
C  ***********************************************************************162
C                                                                       163
      IA=VTYPE/100000                                                   164
      IB=VTYPE/10000-IA*10                                              165
      GO TO (240,250,260,260,270,270,270,270),IA                        166
      GO TO 280                                                         167
  240 IF(IB.EQ.6) I=4                                                   168
      IF(IB.NE.6) I=5                                                   169
      GO TO 290                                                         170
  250 IF(IB.LE.1) I=3                                                   171
      IF(IB.EQ.2) I=6                                                   172
      IF(IB.EQ.3) I=7                                                   173
      IF(IB.GE.4) I=8                                                   174
      GO TO 290                                                         175
  260 IF(NS.LE.4) I=9                                                   176
      IF(NS.EQ.5) I=10                                                  177
      IF(NS.GE.6) I=11                                                  178
      GO TO 290                                                         179
  270 IF(NS.LE.5) I=12                                                  180
      IF(NS.EQ.6) I=13                                                  181
      IF(NS.GE.7) I=14                                                  182
      GO TO 290                                                         183
  280 NCLASS=NCLASS+1                                                   184
      GO TO 120                                                         185
  290 CONTINUE                                                          186
C  ***********************************************************************187
C  *  STATEMENTS 191 THRU 209 CHECK THE WHEELBASEAND THE GROSS WEIGHT *  188
C  *  AGAINST PRESELECTED LIMITS                                       *  189
C  ***********************************************************************190
      ULIMWT=15.*(FLOAT(I)-5.)+80.                                      191
      LLIMWT=.5*(FLOAT(I)-5.)+2.                                        192
      IF(ULIMWT.GT.180.) ULIMWT=130.                                    193
      IF(LLIMWT.GT.26.) LLIMWT=26.                                      194
      DO 300 J=1,NS                                                     195
      GRWT=GRWT+FLOAT(AXLEW(J))/10.                                     196
  300 CONTINUE                                                          197
      IF(GRWT.LE.ULIMWT.AND.GRWT.GE.LLIMWT) GO TO 310                   198
      BADWT=BADWT+1                                                     199
      GO TO 120                                                         200
  310 CONTINUE                                                          201
      ULIMSP=6.*(FLOAT(I)-5.)+60.                                       202
      LLIMSP=1.1538*(FLOAT(I)-5)+2.                                     203
      IF(ULIMSP.GT.90.) ULIMSP=90.                                      204
      WHLBAS=D(NS)                                                      205
      IF(WHLBAS.LE.ULIMSP.AND.WHLBAS.GE.LLIMSP) GO TO 320               206
      BADSP=BADSP+1                                                     207
      GO TO 120                                                         208
  320 CONTINUE                                                          209
```

Figure 2.3 (cont.)

```
C                                                                       210
C  ***********************************************************************  211
C  *  STATEMENTS 218 THRU 223 WILL DETECT ERRORS WHEN A VEHICLE HAS    *  212
C  *  MORE OR LESS AXLES THAN SHOULD TYPICALLY BE ON THE VEHICLE TYPE. *  213
C  *  IF AN ERROR IS DETECTED IT WILL BE ACCOUNTED FOR IN "NCLAS1"     *  214
C  *  AND THE NEXT CARD WILL BE READ.                                  *  215
C  ***********************************************************************  216
C                                                                       217
      IF ((I.EQ.3.OR.I.EQ.6).AND.NS.NE.2) GO TO 330                     218
      IF (I.EQ.7.AND.NS.NE.3) GO TO 330                                 219
      IF (I.EQ.8.AND.NS.LT.4) GO TO 330                                 220
      GO TO 340                                                         221
  330 NCLAS1=NCLAS1+1                                                   222
      GO TO 120                                                         223
C                                                                       224
C  ***********************************************************************  225
C  *  STATEMENTS 230 THRU 233 CALCULATE THE LOAD CATEGORY FOR ALL AXLES*  226
C  *  TREATED AS SINGLE AXLES.                                         *  227
C  ***********************************************************************  228
C                                                                       229
  340 DO 350 J=1,NS                                                     230
      AW(J,6)=((AXLEW(J)/25.01)+1)                                      231
      IF (AW(J,6).GT.16) AW(J,6)=16                                     232
  350 CONTINUE                                                          233
C                                                                       234
C  ***********************************************************************  235
C  *  STATEMENTS 242 THRU 254 FIRST DETERMINE IF THE VEHICLE IS COAL-  *  236
C  *  HAULING OR NON-COAL-HAULING THEN FOR COAL-HAULING VEHICLES DATA  *  237
C  *  FROM ALL RURAL STATIONS WILL BE USED AND FOR NON-COAL-HAULING    *  238
C  *  VEHICLES ONLY DATA FROM MAIN RURAL STATIONS IS TO BE CONSIDERED. *  239
C  ***********************************************************************  240
C                                                                       241
      IF(YEAR.GE.69.AND.YEAR.LE.72.AND.(COMMOD.LT.110.OR.COMMOD.GT.112))  242
     +GO TO 370                                                         243
      IF(YEAR.GE.69.AND.YEAR.LE.72.AND.COMMOD.GE.110.AND.COMMOD.LE.112)  244
     +GO TO 440                                                         245
      IF(YEAR.GE.69.AND.YEAR.LE.72) GO TO 120                           246
      NM1=N-1                                                           247
      DO 360 J=1,NM1                                                    248
      IF(STAT.EQ.STAT1(J).AND.YEARC(J).NE.YEARE(J).                     249
     +AND.(COMMOD.LT.110.OR.COMMOD.GT.112)) GO TO 370                   250
      IF(COMMOD.GE.110.AND.COMMOD.LE.112) GO TO 440                     251
  360 CONTINUE                                                          252
      NOMTCH=NOMTCH+1                                                   253
      GO TO 120                                                         254
  370 DO 390 K=1,16                                                     255
      DO 380 J=1,NS                                                     256
      IF(AW(J,6).EQ.K) WNC(I,6,K)=WNC(I,6,K)+1                          257
  380 CONTINUE                                                          258
  390 CONTINUE                                                          259
      DO 400 L=1,NS                                                     260
      NWNC(I,6)=NWNC(I,6)+1                                             261
  400 CONTINUE                                                          262
      IF(I.EQ.3) GO TO 520                                              263
```

Figure 2.3 (cont.)

```
      DO 420 K=1,16                                                    264
      DO 410 L=1,NS                                                    265
      IF(AW(L,6).EQ.K) WANC(6,K)=WANC(6,K)+1                           266
  410 CONTINUE                                                         267
  420 CONTINUE                                                         268
      DO 430 L=1,NS                                                    269
      NWANC(6)=NWANC(6)+1                                              270
  430 CONTINUE                                                         271
      GO TO 520                                                        272
  440 DO 460 L=1,NS                                                    273
      DO 450 K=1,16                                                    274
      IF(AW(L,6).EQ.K) WC(I,6,K)=WC(I,6,K)+1                           275
  450 CONTINUE                                                         276
  460 CONTINUE                                                         277
      DO 470 L=1,NS                                                    278
      NWC(I,6)=NWC(I,6)+1                                              279
  470 CONTINUE                                                         280
      IF(I.EQ.3) GO TO 520                                             281
  480 DO 500 K=1,16                                                    282
      DO 490 L=1,NS                                                    283
      IF(AW(L,6).EQ.K) WAC(6,K)=WAC(6,K)+1                             284
  490 CONTINUE                                                         285
  500 CONTINUE                                                         286
      DO 510 L=1,NS                                                    287
      NWAC(6)=NWAC(6)+1                                                288
  510 CONTINUE                                                         289
C                                                                      290
C  ********************************************************************291
C  *  STATEMENTS 297 THRU 310 REASSIGN AXLELOADS AND CUMULATIVE DIST-  *292
C  *  ANCES (1 TO X) TO POSITIONS (4 TO X+3) IN ORDER TO AVOID NEGA-   *293
C  *  TIVE SUBSCRIPTS WHEN DETERMINING AXLE TYPES                      *294
C  ********************************************************************295
C                                                                      296
  520 DO 530 J=1,12                                                    297
      AXLEW(16-J)=AXLEW(13-J)                                          298
      AXLE(16-J)=AXLE(13-J)                                            299
      D(16-J)=D(13-J)                                                  300
  530 CONTINUE                                                         301
      DO 540 J=1,3                                                     302
      D(J)=-200                                                        303
      AXLEW(J)=0                                                       304
  540 CONTINUE                                                         305
      Q3=NS+4                                                          306
      DO 550 J=Q3,15                                                   307
      D(J)=200                                                         308
      AXLEW(J)=0                                                       309
  550 CONTINUE                                                         310
C                                                                      311
C  ********************************************************************312
C  *  STATEMENTS 317 THRU 327 ASSIGN AXLE TYPES (SINGLE, TANDEM, ETC.) *313
C  *  TO A VEHICLE IN ACCORDANCE WITH AXLE SPACINGS.                   *314
C  ********************************************************************315
C                                                                      316
      Q5=NS+3                                                          317
```

Figure 2.3 (cont.)

```
      DO 560J=5,Q5                                                          318
      A(J)=2                                                                319
      IF(D(J)-D(J-1).LE.5.OR.D(J+1)-D(J).LE.5) A(J)=3                       320
      IF(D(J)-D(J-2).LE.10.OR.D(J+1)-D(J-1).LE.10.OR.D(J+2)-D(J).LE.        321
     +10) A(J)=4                                                            322
      IF(D(J)-D(J-3).LE.15.OR.D(J+1)-D(J-2).LE.15.OR.D(J+2)-D(J-1).LE.      323
     +15.OR.D(J+3)-D(J).LE.15) A(J)=5                                       324
  560 CONTINUE                                                              325
      NC=1                                                                  326
      A(4)=1                                                                327
C                                                                           328
C  ***********************************************************************  329
C  *  STATEMENTS 333 THRU 350 CALCULATE THE LOADS ON EACH AXLE TYPE.    *  330
C  ***********************************************************************  331
C                                                                           332
      WA(4)=AXLEW(4)                                                        333
      Q=5                                                                   334
      Q4=NS+4                                                               335
      DO 580 K=5,Q4                                                         336
      WA(K)=0                                                               337
      Q2=Q+A(Q)-2                                                           338
      DO 570 J=Q,Q2                                                         339
      WA(K)=WA(K)+AXLEW(J)                                                  340
  570 CONTINUE                                                              341
      A(K)=A(Q)                                                             342
      NC=NC+1                                                               343
      Q=Q+A(Q)-1                                                            344
      IF(D(Q)-D(Q-1).GT.60) GO TO 590                                       345
  580 CONTINUE                                                              346
  590 CONTINUE                                                              347
      DO 600 J=Q,15                                                         348
      WA(J)=0                                                               349
  600 CONTINUE                                                              350
C                                                                           351
C  ***********************************************************************  352
C  *  STATEMENTS 357 THRU 360 REASSIGN AXLELOADS AND AXLE TYPES TO POS-*  353
C  *  ITIONS (1 TO X) IN ORDER TO CONTINUE PROCCESSING.                  *  354
C  ***********************************************************************  355
C                                                                           356
      DO 610 J=1,NC                                                         357
      A(J)=A(J+3)                                                           358
      WA(J)=WA(J+3)                                                         359
  610 CONTINUE                                                              360
C                                                                           361
C  ***********************************************************************  362
C  *  STATEMENTS 366 THRU 377 ASSIGN LOAD CATEGORIES TO EACH AXLE TYPE.*  363
C  ***********************************************************************  364
C                                                                           365
      DO 620 J=1,NC                                                         366
      IF(A(J).EQ.1) AW(J,1)=((WA(J)/15.01)+1)                               367
      IF (AW(J,1).GT.16) AW(J,1)=16                                         368
      IF(A(J).EQ.2) AW(J,2)=((WA(J)/25.01)+1)                               369
      IF (AW(J,2).GT.16) AW(J,2)=16                                         370
      IF(A(J).EQ.3) AW(J,3)=((WA(J)/50.01)+1)                               371
```

Figure 2.3 (cont.)

```
      IF (AW(J,3).GT.16) AW(J,3)=16                                          372
      IF(A(J).EQ.4) AW(J,4)=((WA(J)/75.01)+1)                                373
      IF (AW(J,4).GT.16) AW(J,4)=16                                          374
      IF(A(J).EQ.5) AW(J,5)=((WA(J)/100.01)+1)                               375
      IF (AW(J,5).GT.16) AW(J,5)=16                                          376
  620 CONTINUE                                                               377
C                                                                            378
C  ************************************************************************  379
C  *  STATEMENTS 386 THRU 400 FIRST DETERMINE IF THE VEHICLE IS COAL-   *   380
C  *  HAULING OR NON-COAL-HAULING THEN FOR COAL-HAULING VEHICLES DATA   *   381
C  *  FROM ALL RURAL STATIONS WILL BE USED AND FOR NON-COAL-HAULING     *   382
C  *  VEHICLES ONLY DATA FROM MAIN RURAL STATIONS IS TO BE CONSIDERED.  *   383
C  ************************************************************************  384
C                                                                            385
      IF(YEAR.GE.69.AND.YEAR.LE.72.AND.                                      386
     +(COMMOD.LT.110.OR.COMMOD.GT.112)) GO TO 640                            387
      IF(YEAR.GE.69.AND.YEAR.LE.72.AND.                                      388
     +COMMOD.GE.110.AND.COMMOD.LE.112)GO TO 750                              389
      NM1=N-1                                                                390
      DO 630 J=1,NM1                                                         391
      IF(STAT.EQ.STAT1(J).AND.YEARC(J).NE.YEARE(J).                          392
     +AND.(COMMOD.LT.110.OR.COMMOD.GT.112))GO TO 640                         393
      IF(COMMOD.GE.110.AND.COMMOD.LE.112)GO TO 750                           394
  630 CONTINUE                                                               395
      NOMTCH=NOMTCH+1                                                        396
      GO TO 120                                                              397
  640 DO 670 L=1,NC                                                          398
      DO 660 K=1,16                                                          399
      DO 650 J=1,5                                                           400
      IF(A(L).EQ.J.AND.AW(L,J).EQ.K) WNC(I,J,K)=WNC(I,J,K)+1                 401
  650 CONTINUE                                                               402
  660 CONTINUE                                                               403
  670 CONTINUE                                                               404
      DO 690 J=1,5                                                           405
      DO 680 K=1,NC                                                          406
      IF(A(K).EQ.J) NWNC(I,J)=NWNC(I,J)+1                                    407
  680 CONTINUE                                                               408
  690 CONTINUE                                                               409
      IF(I.EQ.3) GO TO 120                                                   410
      DO 720 J=1,5                                                           411
      DO 710 K=1,16                                                          412
      DO 700 L=1,NC                                                          413
      IF(A(L).EQ.J.AND.AW(L,J).EQ.K) WANC(J,K)=WANC(J,K)+1                   414
  700 CONTINUE                                                               415
  710 CONTINUE                                                               416
  720 CONTINUE                                                               417
      DO 740 J=1,5                                                           418
      DO 730 L=1,NC                                                          419
      IF(A(L).EQ.J) NWANC(J)=NWANC(J)+1                                      420
  730 CONTINUE                                                               421
  740 CONTINUE                                                               422
      GO TO 120                                                              423
  750 DO 780 J=1,5                                                           424
      DO 770 K=1,16                                                          425
```

Figure 2.3 (cont.)

```
      DO 760 L=1,NC                                                    426
      IF(A(L).EQ.J.AND.AW(L,J).EQ.K) WC(I,J,K)=WC(I,J,K)+1             427
  760 CONTINUE                                                         428
  770 CONTINUE                                                         429
  780 CONTINUE                                                         430
      DO 800 J=1,5                                                     431
      DO 790 L=1,NC                                                    432
      IF(A(L).EQ.J) NWC(I,J)=NWC(I,J)+1                                433
  790 CONTINUE                                                         434
  800 CONTINUE                                                         435
      C(I)=C(I)+1                                                      436
      IF(I.EQ.3) GO TO 120                                             437
      DO 830 J=1,5                                                     438
      DO 820 K=1,16                                                    439
      DO 810 L=1,NS                                                    440
      IF(A(L).EQ.J.AND.AW(L,J).EQ.K) WAC(J,K)=WAC(J,K)+1.              441
  810 CONTINUE                                                         442
  820 CONTINUE                                                         443
  830 CONTINUE                                                         444
      DO 850 J=1,5                                                     445
      DO 840 L=1,NC                                                    446
      IF(A(L).EQ.J) NWAC(J)=NWAC(J)+1                                  447
  840 CONTINUE                                                         448
  850 CONTINUE                                                         449
      GO TO 120                                                        450
  860 CONTINUE                                                         451
C                                                                      452
C  ********************************************************************453
C  *  THE FOLLOWING STATEMENT CALCULATES THE NUMBER OF VEHICLES WHICH *454
C  *  WERE PROCCESSED.                                               *455
C  ********************************************************************456
C                                                                      457
      CLASS=NWANC(1)+NWNC(5,1)+NWNC(6,1)+NWAC(1)+NWC(5,1)+NWC(6,1)     458
C                                                                      459
C  ********************************************************************460
C  *  STATEMENTS 464 THRU 503 WRITE THE OUTPUT ON TAPE. *             461
C  ********************************************************************462
C                                                                      463
      DO 870 I=3,14                                                    464
      WRITE(14,1200) YEAR,I,(NWNC(I,J),J=1,6)                          465
 1200 FORMAT(I2,T3,'NWNC',T13,I2,T15,6I6)                              466
  870 CONTINUE                                                         467
      WRITE(14,1250) YEAR,(NWANC(J),J=1,6)                             468
 1250 FORMAT(I2,T3,'NWANC',T15,6I6)                                    469
      DO 880 I=3,14                                                    470
      WRITE(14,1300) YEAR,I,(NWC(I,J),J=1,6)                           471
 1300 FORMAT(I2,T3,'NWC',T13,I2,6I6)                                   472
  880 CONTINUE                                                         473
      WRITE(14,1350) YEAR,(NWAC(J),J=1,6)                              474
 1350 FORMAT(I2,T3,'NWAC',T15,6I6)                                     475
      DO 900 I=3,14                                                    476
      DO 890 J=1,6                                                     477
      WRITE(14,1400) YEAR,I,J,(WNC(I,J,K),K=1,8)                       478
 1400 FORMAT(I2,T3,'WNC',T11,2I2,8I6)                                  479
```

Figure 2.3 (cont.)

```
      WRITE(14,1400) YEAR,I,J,(WNC(I,J,K),K=9,16)                        480
  890 CONTINUE                                                           481
  900 CONTINUE                                                           482
      DO 910 J=1,6                                                       483
      WRITE(14,1450) YEAR,J,(WANC(J,K),K=1,8)                            484
 1450 FORMAT(I2,T3,'WANC',T13,I2,8I6)                                    485
      WRITE(14,1450) YEAR,J,(WANC(J,K),K=9,16)                           486
  910 CONTINUE                                                           487
      DO 930 I=3,14                                                      488
      DO 920 J=1,6                                                       489
      WRITE(14,1500) YEAR,I,J,(WC(I,J,K),K=1,8)                          490
 1500 FORMAT(I2,T3,'WC',T11,2I2,T15,8I6)                                 491
      WRITE(14,1500) YEAR,I,J,(WC(I,J,K),K=9,16)                         492
  920 CONTINUE                                                           493
  930 CONTINUE                                                           494
      DO 940 J=1,6                                                       495
      WRITE(14,1550) YEAR,J,(WAC(J,K),K=1,8)                             496
 1550 FORMAT(I2,T3,'WAC',T13,I2,8I6)                                     497
      WRITE(14,1550) YEAR,J,(WAC(J,K),K=9,16)                            498
  940 CONTINUE                                                           499
      WRITE(14,1600) YEAR,(C(I),I=1,11)                                  500
 1600 FORMAT(I2,T3,'C',T15,11I6)                                         501
      WRITE(14,1600) YEAR,(C(I),I=12,14)                                 502
C                                                                        503
C  ********************************************************************  504
C  *  STATEMENTS 510 THRU 772, OUTPUT WILL BE RECIEVED AND CHECKED FOR *  505
C  *  ANY GROSS ERRORS IN THE CALCULATIONS OR AN UNACCEPTABLE AMOUNT   *  506
C  *  OF VEHICLES WHICH WERE REJECTED.                                 *  507
C  ********************************************************************  508
C                                                                        509
      WRITE(6,1650) YEAR                                                 510
 1650 FORMAT('1',T41,'STATEWIDE AXLE AND AXLELOAD DISTRIBUTIONS FOR 19',  511
     +I2)                                                                512
      WRITE(6,4550)                                                      513
      WRITE(6,4550)                                                      514
      WRITE(6,1700)                                                      515
 1700 FORMAT(T50,'VARIABLE NAMES AND CODES DEFINED')                     516
      WRITE(6,4550)                                                      517
      WRITE(6,4550)                                                      518
      WRITE(6,1750)                                                      519
 1750 FORMAT(1X,'NWNC  - NUMBER OF AXLES WEIGHED AT ALL MAIN RURAL STATI  520
     +ONS FOR NON-COAL-HAULING VEHICLES CLASSIFIED BY VEHICLE TYPE AND A  521
     +XLE TYPE')                                                         522
      WRITE(6,1800)                                                      523
 1800 FORMAT(1X,'NWANC - NUMBER OF AXLES WEIGHED AT ALL MAIN RURAL STATI  524
     +ONS FOR NON-COAL-HAULING VEHICLES OF TYPES 6-14 CLASSIFIED BY AXLE  525
     + TYPE')                                                            526
      WRITE(6,1850)                                                      527
 1850 FORMAT(1X,'NWC   - NUMBER OF AXLES WEIGHED AT ALL RURAL STATIONS F  528
     +OR COAL-HAULING VEHICLES CLASSIFIED BY VEHICLE TYPE AND AXLE TYPE'  529
     +)                                                                  530
      WRITE(6,1900)                                                      531
 1900 FORMAT(1X,'NWAC  - NUMBER OF AXLES WEIGHED AT ALL RURAL STATIONS F  532
     +OR COAL-HAULING VEHICLES OF TYPES 6-14 CLASSIFIED BY AXLE TYPE')   533
```

Figure 2.3 (cont.)

```
      WRITE(6,1950)                                                    534
 1950 FORMAT(1X,'WNC   - NUMBER OF AXLES WEIGHED AT ALL MAIN RURAL STATI  535
     +ONS FOR NON-COAL-HAULING VEHICLES CLASSIFIED BY VEHICLE TYPE, AXLE  536
     + TYPE AND')                                                         537
      WRITE(6,2000)                                                       538
 2000 FORMAT(9X,'LOAD INTERVAL')                                          539
      WRITE(6,2050)                                                       540
 2050 FORMAT(1X,'WANC  - NUMBER OF AXLES WEIGHED AT ALL MAIN RURAL STATI  541
     +ONS FOR NON-COAL-HAULING VEHICLES OF TYPES 6-14 CLASSIFIED BY AXLE  542
     + TYPE AND')                                                         543
      WRITE(6,2000)                                                       544
      WRITE(6,2100)                                                       545
 2100 FORMAT(1X,'WC    - NUMBER OF AXLES WEIGHED AT ALL RURAL STATIONS F  546
     +OR COAL-HAULING VEHICLES CLASSIFIED BY VEHICLE TYPE, AXLE TYPE AND  547
     +')                                                                  548
      WRITE(6,2000)                                                       549
      WRITE(6,2150)                                                       550
 2150 FORMAT(' ','WAC   - NUMBER OF AXLES WEIGHED AT ALL RURAL STATIONS   551
     +FOR COAL-HAULING VEHICLES OF TYPES 6-14 CLASSIFIED BY AXLE TYPE AN  552
     +D')                                                                 553
      WRITE(6,2000)                                                       554
      WRITE(6,2200)                                                       555
 2200 FORMAT(1X,'C     - NUMBER OF COAL HAULING VEHICLES WEIGHED AT ALL   556
     +RURAL STATIONS CLASSIFIED BY VEHICLE TYPE')                         557
      WRITE(6,4550)                                                       558
      WRITE(6,4550)                                                       559
      WRITE(6,2250)                                                       560
 2250 FORMAT(T50,'VEHICLE CODES (VTYPE)')                                 561
      WRITE(6,4550)                                                       562
      WRITE(6,4550)                                                       563
      WRITE(6,2300)                                                       564
 2300 FORMAT(2X,'3 - 2 AXLE, 4-TIRE VEHICLES OTHER THAN PASSENGER CARS')  565
      WRITE(6,2350)                                                       566
 2350 FORMAT(2X,'4 - SCHOOL BUSSES')                                      567
      WRITE(6,2400)                                                       568
 2400 FORMAT(2X,'5 - ALL OTHER BUSSES')                                   569
      WRITE(6,2450)                                                       570
 2450 FORMAT(2X,'6 - 2 AXLE, 6-TIRE')                                     571
      WRITE(6,2500)                                                       572
 2500 FORMAT(2X,'7 - 3 AXLE SINGLE UNIT')                                 573
      WRITE(6,2550)                                                       574
 2550 FORMAT(2X,'8 - 4 OR MORE AXLE SINGLE UNIT')                         575
      WRITE(6,2600)                                                       576
 2600 FORMAT(2X,'9 - 4 OR LESS AXLE SINGLE TRAILER')                      577
      WRITE(6,2650)                                                       578
 2650 FORMAT(1X,'10 - 5 AXLE SINGLE TRAILER')                             579
      WRITE(6,2700)                                                       580
 2700 FORMAT(1X,'11 - 6 OR MORE AXLE SINGLE TRAILER')                     581
      WRITE(6,2750)                                                       582
 2750 FORMAT(1X,'12 - 5 OR LESS AXLE MULTI-TRAILER')                      583
      WRITE(6,2800)                                                       584
 2800 FORMAT(1X,'13 - 6 AXLE MULTIPLE TRAILER')                           585
      WRITE(6,2850)                                                       586
 2850 FORMAT(1X,'14 - 7 OR MORE AXLE MULTIPLE TRAILER')                   587
```

Figure 2.3 (cont.)

```
      WRITE(6,4550)                                                    588
      WRITE(6,4550)                                                    589
      WRITE(6,2900)                                                    590
 2900 FORMAT(T50,'AXLE TYPE CODES (AXTYPE)')                           591
      WRITE(6,4550)                                                    592
      WRITE(6,4550)                                                    593
      WRITE(6,2950)                                                    594
 2950 FORMAT(1X,'1 - STEERING AXLES')                                  595
      WRITE(6,3000)                                                    596
 3000 FORMAT(1X,'2 - OTHER SINGLE AXLES')                              597
      WRITE(6,3050)                                                    598
 3050 FORMAT(1X,'3 - TANDEM AXLES (5 FT. MAXIMUM SPAN)')               599
      WRITE(6,3100)                                                    600
 3100 FORMAT(1X,'4 - TRIDEM AXLES (10 FT. MAXIMUM SPAN)')              601
      WRITE(6,3150)                                                    602
 3150 FORMAT(1X,'5 - QUAD AXLES (15 FT. MAXIMUM SPAN)')                603
      WRITE(6,3200)                                                    604
 3200 FORMAT(1X,'6 - ALL AXLES TREATED AS SINGLES')                    605
      WRITE(6,4550)                                                    606
      WRITE(6,4550)                                                    607
      WRITE(6,3250)                                                    608
 3250 FORMAT('0',T36,'AXLE LOAD INTERVALS')                            609
      WRITE(6,3300)                                                    610
 3300 FORMAT('0',T39,'(1000 POUNDS)')                                  611
      WRITE(6,3350)                                                    612
 3350 FORMAT(T4,'LOAD',T24,'OTHER',T85,'ALL')                          613
      WRITE(6,3400)                                                    614
 3400 FORMAT(T2,'INTERVAL',T11,'STEERING',T23,'SINGLE',T36,'TANDEM',T50,  615
     +'TRIDEM',T70,'QUAD',T83,'SINGLE')                                616
      WRITE(6,3450)                                                    617
 3450 FORMAT('0',T5,'1',T11,'0.0- 1.5',T23,'0.0- 2.5',T35,'0.0- 5.0',  618
     +T49,'0.0-  7.5',T68,'0.0- 10.0',T83,'0.0- 2.5')                  619
      WRITE(6,3500)                                                    620
 3500 FORMAT(T5,'2',T11,'1.6- 3.0',T23,'2.6- 5.0',T35,'5.1-10.0',      621
     +T49,'7.6- 15.0',T67,'10.1- 20.0',T83,'2.6- 5.0')                 622
      WRITE(6,3550)                                                    623
 3550 FORMAT(T5,'3',T11,'3.1- 4.5',T23,'5.1- 7.5',T34,'10.1-15.0',     624
     +T48,'15.1- 22.5',T67,'20.1- 30.0',T83,'5.1- 7.5')                625
      WRITE(6,3600)                                                    626
 3600 FORMAT(T5,'4',T11,'4.6- 6.0',T23,'7.6-10.0',T34,'15.1-20.0',     627
     +T48,'22.6- 30.0',T67,'30.1- 40.0',T83,'7.6-10.0')                628
      WRITE(6,3650)                                                    629
 3650 FORMAT(T5,'5',T11,'6.1- 7.5',T22,'10.1-12.5',T34,'20.1-25.0',    630
     +T48,'30.1- 37.5',T67,'40.1- 50.0',T82,'10.1-12.5')               631
      WRITE(6,3700)                                                    632
 3700 FORMAT(T5,'6',T11,'7.6- 9.0',T22,'12.6-15.0',T34,'25.1-30.0',    633
     +T48,'37.6- 45.0',T67,'50.1- 60.0',T82,'12.6-15.0')               634
      WRITE(6,3750)                                                    635
 3750 FORMAT(T5,'7',T11,'9.1-10.5',T22,'15.1-17.5',T34,'30.1-35.0',    636
     +T48,'45.1- 52.5',T67,'60.1- 70.0',T82,'15.1-17.5')               637
      WRITE(6,3800)                                                    638
 3800 FORMAT(T5,'8',T10,'10.6-12.0',T22,'17.6-20.0',T34,'35.1-40.0',    639
     +T48,'52.6- 60.0',T67,'70.1- 80.0',T82,'17.6-20.0')               640
      WRITE(6,3850)                                                    641
```

Figure 2.3 (cont.)

```
 3850 FORMAT(T5,'9',T10,'12.1-13.5',T22,'20.1-22.5',T34,'40.1-45.0',          642
     +T48,'60.1- 67.5',T67,'80.1- 90.0',T82,'20.1-22.5')                      643
      WRITE(6,3900)                                                           644
 3900 FORMAT(T4,'10',T10,'13.6-15.0',T22,'22.6-25.0',T34,'45.1-50.0',         645
     +T48,'67.6- 75.0',T67,'90.1-100.0',T82,'22.6-25.0')                      646
      WRITE(6,3950)                                                           647
 3950 FORMAT(T4,'11',T10,'15.1-16.5',T22,'25.1-27.5',T34,'50.1-55.0',         648
     +T48,'75.1- 82.5',T66,'100.1-110.0',T82,'25.1-27.5')                     649
      WRITE(6,4000)                                                           650
 4000 FORMAT(T4,'12',T10,'16.6-18.0',T22,'27.6-30.0',T34,'55.1-60.0',         651
     +T48,'82.6- 90.0',T66,'110.1-120.0',T82,'27.6-30.0')                     652
      WRITE(6,4050)                                                           653
 4050 FORMAT(T4,'13',T10,'18.1-19.5',T22,'30.1-32.5',T34,'60.1-65.0',         654
     +T48,'90.1- 97.5',T66,'120.1-130.0',T82,'30.1-32.5')                     655
      WRITE(6,4100)                                                           656
 4100 FORMAT(T4,'14',T10,'19.6-21.0',T22,'32.6-35.0',T34,'65.1-70.0',         657
     +T48,'97.6-105.0',T66,'130.1-140.0',T82,'32.6-35.0')                     658
      WRITE(6,4150)                                                           659
 4150 FORMAT(T4,'15',T10,'21.1-22.5',T22,'35.1-37.5',T34,'70.1-75.0',         660
     +T47,'105.1-112.5',T66,'140.1-150.0',T82,'35.1-37.5')                    661
      WRITE(6,4200)                                                           662
 4200 FORMAT(T4,'16',T10,'OVER 22.5',T22,'OVER 37.5',T34,'OVER 75.0',         663
     +T48,'OVER 112.5',T67,'OVER 150.0',T82,'OVER 37.5')                      664
      WRITE(6,4550)                                                           665
      WRITE(6,4550)                                                           666
      WRITE(6,4250) NOMTCH                                                    667
 4250 FORMAT('0','NUMBER OF VEHICLES REJECTED DUE TO INABILITY TO MATCH       668
     +STATION WITH STATION ON THE HEADER CARD',I7)                            669
      WRITE(6,4300) BADWT                                                     670
 4300 FORMAT('0','NUMBER OF VEHICLES REJECTED DUE TO UNACCEPTABLE GROSS       671
     +WEIGHT',34X,I6)                                                         672
      WRITE(6,4350) BADSP                                                     673
 4350 FORMAT('0','NUMBER OF VEHICLES REJECTED DUE TO UNACCEPTABLE WHEEL       674
     +BASE',36X,I6)                                                           675
C                                                                             676
      WRITE(6,4400) NCLASS                                                    677
 4400 FORMAT('0','NUMBER OF VEHICLES REJECTED DUE TO UNINTERPRETABLE VEH      678
     +ICLE TYPE',30X,I7)                                                      679
      WRITE(6,4450) NCLAS1                                                    680
 4450 FORMAT('0','NUMBER SINGLE UNIT OF VEHICLES REJECTED DUE TO INAPPRO      681
     +PRIATE NUMBER OF AXLES',18X,I6)                                         682
      WRITE(6,4500) CLASS                                                     683
 4500 FORMAT('0','NUMBER OF TYPE 3-14 VEHICLES PROCESSED',T92,I6)             684
      WRITE(6,4550)                                                           685
 4550 FORMAT('0')                                                             686
      WRITE(6,4550)                                                           687
      WRITE(6,4600)                                                           688
 4600 FORMAT('0',T30,'AXLE TYPE')                                             689
      WRITE(6,4650)                                                           690
 4650 FORMAT(T10,'VTYPE',5X,'1',5X,'2',5X,'3',5X,'4',5X,'5',5X,'6')           691
      DO 950 I=3,14                                                           692
      WRITE(6,4700) I,(NWNC(I,J),J=1,6)                                       693
 4700 FORMAT(T3,'NWNC',T13,I2,T15,6I6)                                        694
  950 CONTINUE                                                                695
```

Figure 2.3 (cont.)

```
      WRITE(6,4625)                                                    696
 4625 FORMAT('1',T30,'AXLE TYPE')                                      697
      WRITE(6,4850)                                                    698
      WRITE(6,4750) (NWANC(J),J=1,6)                                   699
 4750 FORMAT(T3,'NWANC',T15,6I6)                                       700
      WRITE(6,4550)                                                    701
      WRITE(6,4600)                                                    702
      WRITE(6,4650)                                                    703
      DO 960 I=3,14                                                    704
      WRITE(6,4800) I,(NWC(I,J),J=1,6)                                 705
 4800 FORMAT(T3,'NWC',T13,I2,6I6)                                      706
  960 CONTINUE                                                         707
      WRITE(6,4550)                                                    708
      WRITE(6,4600)                                                    709
      WRITE(6,4850)                                                    710
 4850 FORMAT('0',T20,'1',5X,'2',5X,'3',5X,'4',5X,'5',5X,'6')           711
      WRITE(6,4900) (NWAC(J),J=1,6)                                    712
 4900 FORMAT(T3,'NWAC',T15,6I6)                                        713
      WRITE(6,4550)                                                    714
      WRITE(6,4950)                                                    715
 4950 FORMAT('0',T12,'V',1X,'A')                                       716
      WRITE(6,5000)                                                    717
 5000 FORMAT(T12,'T',1X,'X')                                           718
      WRITE(6,5050)                                                    719
 5050 FORMAT(T12,'Y',1X,'T')                                           720
      WRITE(6,5100)                                                    721
 5100 FORMAT(T12,'P',1X,'Y',T60,'LOAD CATEGORY')                       722
      WRITE(6,5150)                                                    723
 5150 FORMAT(T12,'E',1X,'P',5X,'1',5X,'2',5X,'3',5X,'4',5X,'5',5X,     724
     +'6',5X,'7',5X,'8',5X,'9',4X,'10',4X,'11',4X,'12',4X,'13',4X,'14',  725
     +4X,'15',4X,'16')                                                 726
      DO 980 I=3,14                                                    727
      DO 970 J=1,6                                                     728
      WRITE(6,5200) I,J,(WNC(I,J,K),K=1,16)                            729
 5200 FORMAT(T3,'WNC',T11,2I2,16I6)                                    730
  970 CONTINUE                                                         731
  980 CONTINUE                                                         732
      WRITE(6,4550)                                                    733
      WRITE(6,5250)                                                    734
 5250 FORMAT(T60,'LOAD CATEGORY')                                      735
      WRITE(6,5300)                                                    736
 5300 FORMAT('0',T9,'AXTYPE',5X,'1',5X,'2',5X,'3',5X,'4',5X,'5',5X,'6'  737
     +,5X,'7',5X,'8',5X,'9',4X,'10',4X,'11',4X,'12',4X,'13',4X,'14',    738
     +4X,'15',4X,'16')                                                 739
      DO 990 J=1,6                                                     740
      WRITE(6,5350) J,(WANC(J,K),K=1,16)                               741
 5350 FORMAT(T3,'WANC',T13,I2,16I6)                                    742
  990 CONTINUE                                                         743
      WRITE(6,4550)                                                    744
      WRITE(6,4950)                                                    745
      WRITE(6,5000)                                                    746
      WRITE(6,5050)                                                    747
      WRITE(6,5100)                                                    748
      WRITE(6,5150)                                                    749
```

Figure 2.3 (cont.)

```
      DO 1020 I=3,14                                                    750
      DO 1010 J=1,6                                                     751
      WRITE(6,5400) I,J,(WC(I,J,K),K=1,16)                              752
 5400 FORMAT(T3,'WC',T11,2I2,T15,16I6)                                  753
 1010 CONTINUE                                                          754
 1020 CONTINUE                                                          755
      WRITE(6,4550)                                                     756
      WRITE(6,5250)                                                     757
      WRITE(6,5300)                                                     758
      DO 1030 J=1,6                                                     759
      WRITE(6,5450) J,(WAC(J,K),K=1,16)                                 760
 5450 FORMAT(T3,'WAC',T13,I2,16I6)                                      761
 1030 CONTINUE                                                          762
      WRITE(6,4550)                                                     763
      WRITE(6,5500)                                                     764
      WRITE(6,5600)                                                     765
      WRITE(6,5550) (C(I),I=1,14)                                       766
 5500 FORMAT('0',T60,'VTYPE')                                           767
 5550 FORMAT(T3,'C',T15,19I6)                                           768
 5600 FORMAT('0',T20,'1',5X,'2',5X,'3',5X,'4',5X,'5',5X,'6'             769
     +,5X,'7',5X,'8',5X,'9',4X,'10',4X,'11',4X,'12',4X,'13',4X,'14')   770
      WRITE(6,5650)                                                     771
 5650 FORMAT('1')                                                       772
      STOP                                                              773
      END                                                               774
```

TABLE 2.1 ACCEPTABLE GROSS WEIGHT AND WHEELBASE RANGES

VEHICLE TYPE	GROSS WEIGHT (KIPS) LOWER	GROSS WEIGHT (KIPS) UPPER	(WHEELBASE FEET) LOWER	(WHEELBASE FEET) UPPER
Other 2-Axle, 4 tire vehicles	1.0	50	-	48
School busses	1.5	65	-	54
Other busses	2.0	80	2.0	60
2-axle, 6-tire, single unit	2.5	95	3.2	66
3-axle single unit	3.0	110	4.3	72
4- or more axle single unit	3.5	125	5.5	78
4- or less axle single trailer	4.0	140	6.6	84
5-axle single trailer	4.5	155	7.8	90
6- or more axle single trailer	5.0	170	8.9	96
5- or less axle multiple trailer	5.5	185	10.1	102
6-axle multiple trailer	6.0	200	11.2	112
7- or more axle multiple trailer	6.5	215	12.4	114

TABLE 2.2 AXLELOAD INTERVALS (KIPS)

LOAD INTERVAL CODE	AXLE TYPE: STEERING AXLE	OTHER SINGLE AXLE	TANDEM AXLE (5′ max span)	TRIDEM AXLE (10′ max span)	QUAD AXLE (15′ max span)
1	0.0- 1.5	0.0- 2.5	0.0- 5.0	0.0- 7.5	0.0- 10.0
2	1.6- 3.0	2.6- 5.0	5.1-10.0	7.6- 15.0	10.1- 20.0
3	3.1- 4.5	5.1- 7.5	10.1-15.0	15.1- 22.5	20.1- 30.0
4	4.6- 6.0	7.6-10.0	15.1-20.0	22.6- 30.0	30.1- 40.0
5	6.1- 7.5	10.1-12.5	20.1-25.0	30.1- 37.5	40.1- 50.0
6	7.6- 9.0	12.6-15.0	25.1-30.0	37.6- 45.0	50.1- 60.0
7	9.1-10.5	15.1-17.5	30.1-35.0	45.1- 52.5	60.1- 70.0
8	10.6-12.0	17.6-20.0	35.1-40.0	52.6- 60.0	70.1- 80.0
9	12.1-13.5	20.1-22.5	40.1-45.0	60.1- 67.5	80.1- 90.0
10	13.6-15.0	22.6-25.0	45.1-50.0	67.6- 75.0	90.1-100.0
11	15.1-16.5	25.1-27.5	50.1-55.0	75.1- 82.5	101.1-110.0
12	16.6-18.0	27.6-30.0	55.1-60.0	82.6- 90.0	110.1-120.0
13	18.1-19.5	30.1-32.5	60.1-65.0	90.1- 97.5	120.1-130.0
14	19.6-21.0	32.6-35.0	65.1-70.0	97.6-105.0	130.1-140.0
15	21.1-22.5	35.1-37.5	70.1-75.0	105.1-112.5	140.1-150.0
16	22.6 or more	37.6 or more	75.1 or more	112.6 or more	150.1 or more

III. CLASS SUMMARY

A. Overview.

1. Objectives of Program. The objective of this program is to compute, on an annual basis, the average annual daily volume of each vehicle type for each site at which a vehicle classification count was taken.

2. Program Narrative. The input data base consists for vehicle classification counts for each site at which a classification count was taken during the year. After the data are read, relationships between hours with data for sites of similar characteristics are computed. Data are read a second time, and hourly ratios are used to determine reasonable hourly volumes of each vehicle type for which no data are available. Hourly volumes are summed into 24-hour counts and seasonal ratios are calculated. Daily volumes of each vehicle type are then calculated for those seasons for which no data are available. Four seasonal counts are then averaged to obtain the annual average daily volumes of each vehicle type for each site.

3. Programming Language. The programming language is FORTRAN IV.

4. Operating Environment. The object deck of the program is located in the library file UKU.@KTR05.TRAF1 in the load module CLASSUM at the University of Kentucky Computing Center. It is designed to be executed by the IBM 3083 at the University of Kentucky, Lexington, Kentucky.

B. INPUT (Logical Unit 12).

1. Internal Data and Parameter Specifications. No internal data or parameters are specified and used within the program.

2. External Data. The external data consist only of vehicle classification count data stored on the vehicle classification study tape. The file name is VCR.YR19--. Further description of the input is found as follows:

Input Variable Names	Section III.G.1.a
Input Variable Codes	Section III.G.2.a
Input Format	Section III.G.3

C. Output (Logical Unit 6).

1. Files. Each execution of this program will produce three files.

   a. Two data files will be produced. The first, CLASS.YR19--, will contain hourly volumes of each vehicle type. The second, CLASSUM.YR19--, will contain daily volumes of each vehicle type for the four seasons and an annual average daily volume of each vehicle type. These are recorded on magnetic tape.

b. A file also will be sent to the reader file of the user's account. It will contain a listing of errors to be evaluated and corrected or deleted by execution of a second program.

Further description of output is found as follows:

Output Variable Names	Section III.G.1.b
Output Variable Codes	Section III.G.2.b
Output Format	Section III.G.4

2. Reports. Each execution will produce printed output that will consist of the four seasonal daily volumes and the annual average daily volumes of each vehicle type for locations where a vehicle classification count was taken. Output for an example run (processing 1982 data) is shown in Figure 3.1.

D. Using the Program.

1. Preliminaries.

a. Codes are used to identify various types of vehicles and are subject to frequent change through time. To avoid improper execution, the user must assure that codes in current use will be appropriately processed by the program. (See Section III.G.2 for programming conventions).
b. Job control language records must be prepared for the processing of each new set of data. Example JCL, used in processing 1983 data is shown in Figure 3.2. Note particularly that changes are necessary to reflect the location of the input and specify new file names of the output.

2. Program Execution. The program, in object form, is stored in the library file UKU.@KTR05.TRAF1 in the load module CLASSUM. Therefore, only JCL records are necessary for program execution. The source listing is recorded on the Classification Summary Tape as a backup.

3. Validity Check.

a. Error file. An error file is produced with each execution (Figure 3.3). The user will be responsible for evaluation and correction of errors. If corrections cannot be made, deletion of the data is possible by replacing the data with a line of asterisks. After the error file has been corrected it will be necessary to execute a second program which will correct the data filed on magnetic tape. Example JCL and the program listing are in Figure 3.3 and Figure 3.4.
b. In addition to correction of erroneous data, it will be necessary to evaluate the overall content of the report. If errors are detected, such as a count where all vehicles are 5-axle combinations, the data may be deleted from the file CLASSUM.YR19-- by adding the station to the error file.

4. Interpretation of Output. The output includes a station description listing and a listing of daily volumes by vehicle type. The listing of daily volumes includes total volumes for each of the four seasons and the annual average daily traffic and the hours in each season which classification counts were actually taken. To determine the location of a particular site, the county and station number are referenced in the station description listing. All results (1969-1983) are tabulated for the 14 vehicle types and coal trucks as adopted by the Kentucky Department of Highways in 1983.

E. Edit Checks. To avoid complications in station identification or erroneous data being included in EAL calculations data are deleted from the output or included in the error file for six reasons.

1. The county code is not within the range 001 to 120.

2. The station number is blank.

3. The federal-aid code is not within the range 1 to 4 or equal to 8.

4. The AADT recorded on the classification file differs from the projected AADT by more than double or less than half.

5. The percent of the volume that is trucks exceeds 50.

6. The coal-truck volume exceeds the truck volume.

F. Processing and Computations. The program processes classification data on a yearly basis.

1. Data records are read and edited. Data are rejected for two reasons.

   a. The hour is not in the range 00 to 24.
   b. The month is not in the range 01 to 12.

2. With available data, hourly factors are computed that will be used to calculate a best estimate of hourly volumes for hours in which data are not available. The factors are grouped according to the following three classifications.

   a. Road type
      (1) Interstate and US routes
      (2) All other routes
   b. Season of the year
   c. Vehicle type

3. Data records are read a second time.

4. To expand each vehicle classification count to a 24-hour count, hourly factors will be used to supply volumes for those hours when no data were collected.

5. Hourly volumes are entered on magnetic tape for those seasons for which data are available.

6. Using the 24-hour counts at stations for which data are available for more than one season, seasonal relationships are computed.

7. Seasonal relationships are then used to estimate volumes for seasons for which no classification data are available.

8. Annual average daily volumes are then computed by averaging the four seasonal volumes.

9. Computed values and station-related information are evaluated to determine if they are in reasonable ranges.

10. Seasonal volumes along with the annual average daily traffic are printed.

11. The file of errors is sent to the user's reader file.

12. The error file will be evaluated, corrected by the user, and the edit routine will then be executed.

13. The program listing is included as Figure 3.5.

G. Appendix.

1. Listings of Major Variables and Sizes of Arrays.

a. Input Variables and Sizes of Arrays.
   1. AADT(500) - Annual average daily traffic
   2. CN(500) - County
   3. DAY - Day of month
   4. DIR - Direction of traffic flow
   5. DISC(76) - Verbal description of count location
   6. FED(500) - Federal-aid classification
   7. HR - Time of day of count
   8. ICSN - Serial number of card
   9. MONTH - Month of count
   10. MP(500) - Milepoint
   11. OVC - Vehicle classification count using pre 1984 format for one hour
   12. ROUTE(500) - Route designator
   13. SN(500) - Station number
   14. TROUT - Temporary route designator
   15. VC - Vehicle classification count using 1984 format
   16. YR(800) - Year of count

b. Output Variables and Sizes of Arrays.
   1. AADT(500) - Annual average daily traffic
   2. CN(500) - County
   3. DISC(76) - Verbal descriptions of count location
   4. DMI - Time of day of count
   5. DOR(4,24) - Day of count
   6. ERRLY - Number of errors

7. FED(500) - Federal-aid classification
8. HRLY - Number of unusable hours of data
9. IMP - Milepoint
10 IREC - Record type
11. MONCT - Number of unusable months of data
12. MOR(4,24) - Month of count
13. MP(500) - Milepoint
14. OWTW(500) - One way versus two way
15. PERCOL - Percentage of trucks that carry coal
16. PERTRK - Percentage of trucks
17. PRNT(16) - Number of vehicles counted (or estimated)
18. ROUTE(500) - Route designation
19. SF(500,4,16) - Seasonal volumes for each station for each vehicle type.
20. SFY(16) - Annual average daily volume for each vehicle type
21. SN(500) - Station number
22. YR(500) - Year of count

2. Identification of Variable Codes.

a. Input Variable codes.

(1) Direction of Traffic Flow

1 - North
2 - Northeast
3 - East
4 - Southeast
5 - South
6 - Southwest
7 - West
8 - Northwest
9 - Bi-Directional

(2) Pre-1984 Vehicle-Type Codes

1 - In-state standard and compact cars
2 - In-state sub-compact cars
3 - Out-of-state standard and compact cars
4 - Out-of-state sub-compact cars
5 - Pickup trucks
6 - Single unit 2-axle 4-tires greater than 1 ton
7 - Single unit 2-axle 6-tire
8 - Single unit 3-axle
9 - Single unit 4-axle
10 - 3-axle single trailer
11 - 4-axle single trailer
12 - 5-axle single trailer
13 - 6-axle single trailer
14 - 7-axle single trailer
15 - 8-axle single trailer
16 - 5-axle multiple trailer
17 - 6-axle multiple trailer
18 - 4-axle multiple trailer
19 - 5-axle multiple trailer
20 - Commercial busses
21 - School and other busses

22 - Motorcycles
23 - Bicycles (coal trucks beginning in 1979)

(3) Post-1984 Vehicle Type Codes (see Section II.G.2.b.(3).

(4) Federal-Aid Classification.
1 - Interstate
2 - Federal-aid primary
3 - Federal-aid urban
4 - Federal-aid secondary
8 - Non-federal-aid

(5) Serial Number of Record.
1 through 97 - Data
98 - Description record
99 - Header record

b. Output Variable Codes.

(1) Record Type.
1 - Header record
2 - Seasonal average record
3 - Yearly average record
4 - Hourly average record

(2) One Way versus Two Way.
1 - One way
2 - Two way

3. Input format.

a. Ordering. The vehicle classification tape is the only input file necessary for the execution of this program. The normal order of the vehicle classification tape is hourly data (card Serial Number 1-98), in any order, followed by one or more header records (Serial Number 98) that contains a verbal description of the location, then one or more header records (Serial Number 99) that contains information in Section III.3.B.4 below.

b. Formatting.

(1) Pre-1984 Data Records.

Columns	Description	Format
1-3	County	I3
4-6	Station number	A3
7	Direction of traffic flow	I1
8-9	Year of count	I2
10-11	Month of count	I2
12-13	Day of count	I2
14-15	Time of day of count	I2
16-19	Number of Type 1 vehicles	I4
20-23	Number of Type 2 vehicles	I4
24-27	Number of Type 3 vehicles	I4
28-31	Number of Type 4 vehicles	I4
32-34	Number of Type 5 vehicles	I3
35-37	Number of Type 6 vehicles	I3
38-40	Number of Type 7 vehicles	I3
41-43	Number of Type 8 vehicles	I3
44-46	Number of Type 9 vehicles	I3
47-49	Number of Type 10 vehicles	I3
50-52	Number of Type 11 vehicles	I3

Columns	Description	Format
53-55	Number of Type 12 vehicles	I3
56-57	Number of Type 13 vehicles	I2
58-59	Number of Type 14 vehicles	I2
60-61	Number of Type 15 vehicles	I2
62-63	Number of Type 16 vehicles	I2
64-65	Number of Type 17 vehicles	I2
66-67	Number of Type 18 vehicles	I2
68-69	Number of Type 19 vehicles	I2
70-71	Number of Type 20 vehicles	I2
72-73	Number of Type 21 vehicles	I2
74-75	Number of Type 22 vehicles	I2
76-77	Number of Type 23 vehicles	I2
78-79	Record serial number	I2

(2) Post-1984 Data Records.

Columns	Description	Format
1-3	County number	I3
4-6	Station number	A3
7	Direction of traffic flow	I1
8-9	Year of count	I2
10-11	Month of count	I2
12-13	Day of count	I2
14-15	Time of day of count	I2
16-18	Number of Type 1 vehicles	I4
20-24	Number of Type 2 vehicles	I5
26-29	Number of Type 3 vehicles	I4
31-33	Number of Type 4 vehicles	I3
35-36	Number of Type 5 vehicles	I2
38-41	Number of Type 6 vehicles	I4
42-44	Number of Type 7 vehicles	I3
45-47	Number of Type 8 vehicles	I3
49-51	Number of Type 9 vehicles	I3
52-55	Number of Type 10 vehicles	I4
56-58	Number of Type 11 vehicles	I3
60-62	Number of Type 12 vehicles	I3
63-65	Number of Type 13 vehicles	I3
66-68	Number of Type 14 vehicles	I3
70-72	Number of Type 15 vehicles	I3
78-79	Record serial number	I2

(3) Header Record (Serial Number = 98).

Columns	Description	Format
1-3	County	I3
4-6	Station number	A3
7	Direction of traffic flow	I1
8-9	Year	I2
10-76	Verbal location description	A67
78-79	Card serial number	I2

(4) Header Cards (Serial Number = 99).

Columns	Description	Format
1-3	County	I3
4-6	Station number	A3
7	Direction of traffic flow	I1
8-9	Year	I2
20-21	Federal-aid classification	I2

Columns	Description	Format
32-37	Annual average daily traffic	I6
50-55	Milepoint	F6.3
78-79	Card serial number	I2

4. Output Format.

a. Tape Output.

(1) Ordering. Two files are produced on the tape. The first and larger file contains a verbal description of each location, a header record for each location, and 24-hourly volumes for each season during which a classification count was obtained. Verbal descriptions are located at the beginning of the file followed by a header record and data records for each location. The second file contains a similar header record and four records with seasonal volumes for each vehicle type and one record with annual average volumes for each location.

(2) Formatting.

(a) Verbal Description Card.

Columns	Description	Format
1	Code number	I1
2-3	"CO"	A2
4-6	County	I3
7-9	"STA"	A3
10-12	Station number	A3
13-15	"RTE"	A3
16-23	Route	A8
24-25	"MP"	A2
26-31	Milepoint	I6
32-33	"YR"	A2
34-35	Year of count	I2

(b) Annual, Seasonal, and Hourly Data Records.

Columns	Description	Format
1	Code number	I1
2-3	Month of count	I2
4-5	Day of count	I2
6-7	Time of day of count	I2
8-11	Number of Type 1 vehicles	I4
12-17	Number of Type 2 vehicles	I6
18-22	Number of Type 3 vehicles	I5
23-26	Number of Type 4 vehicles	I4
27-30	Number of Type 5 vehicles	I4
31-35	Number of Type 6 vehicles	I5
36-37	Number of Type 7 vehicles	I4
40-43	Number of Type 8 vehicles	I4
44-47	Number of Type 9 vehicles	I4
48-52	Number of Type 10 vehicles	I5
53-56	Number of Type 11 vehicles	I4
57-60	Number of Type 12 vehicles	I4
61-64	Number of Type 13 vehicles	I4
65-68	Number of Type 14 vehicles	I4

Columns	Description	Format
69-72	Number of coal trucks	I4
73-79	Total vehicles	I7

b. Printed Output. The verbal descriptions will be found at the beginning of the printout followed by the header information and seasonal daily and annual average daily volumes for each vehicle type.

c. Error File (Logical Unit 17). The error file is received by the reader file associated with the user's identification. This file will contain data that have exceeded preselected limits for several variables. The error message along with the value of the variable will be listed. To correct the data, it is only necessary to change the value. To delete the information from the file on tape, replace the value with a line of asterisks. After all corrections have been made, it is necessary to execute the program CLASSUM EDIT. The object deck of CLASSUM EDIT is found in the library file UKU @ KTR05.TRAFI in the load module CLASEDIT.

STATION DESCRIPTION LISTING

```
CO  1STAA07 83  KY  55  CAMPBELLSVILLE RD. IN COLUMBIA BETWEEN STANFORD RD(KY 206)&OAK ST.
CO  1STAP34 83  KY  80  2.0 MILES WEST OF THE ADAIR -1RUSSELL COUNTY LINE
CO  1STA515 83  KY 768  JUST EAST OF KY 80, SOUTH OF CUMBERLAND PKWY.
CO  2STAA72 83  US  31E IN SCOTTSVILLE JUST NORTH OF JOHN KELLY ROAD
CO  2STA558 83  KY 100  JUST EAST OF KY 265 AT CHAPEL HILL
CO  3STAA49 83  KY  44  WOODFORD ST. IN LAWRENCEBURG 0.1 MI. WEST OF WEST ALLEY
CO  3STA044 83  KY 151  0.4 MI. NORTH OF US 127(0.2 MI. SOUTH ENT. TO FLORIDA TILE)
CO  4STA501 83  KY 121  JUST NORTH OF WICKLIFFE-BLANDVILLE ROAD
CO  5STAA31 83  US  31E GLASGOW BY-PASS IN GLASGOW JUST SOUTH OF HAPPY VALLEY RD.(KY 90)
CO  5STA017 83  US  68  1 MILE EAST OF LECTA-KINO ROAD
CO  7STAA11 83          AVONDALE AVE. IN MIDDLESBORO JUST WEST OF 7TH ST.
CO  7STAA58 83  KY2401  PETERSBOROUGH AVE. IN MIDDLESBORO JUST SOUTH OF CHESTER AVE.
CO  7STAA70 83  KY2079  38TH ST. IN MIDDLESBORO BETWEEN EXETER AVE. AND WINCHESTER AVE.
CO  7STAB63 83  KY 441  BELT LINE RD. IN MIDDLESBORO JUST WEST OF POLLY HOLLOW ROAD
CO  7STAD53 83  US  25E PARK AVE. IN PINEVILLE JUST NORTH OF US 119
CO  7STAP31 83  US  25E 0.4 MILES SOUTH OF THE BELL -1KNOX COUNTY LINE
CO  7STA251 83  US 119  0.4 MILES EAST OF KY 1344
CO  7STA507 83  US  25E JUST NORTH OF THE KENTUCKY-VIRGINIA STATE LINE
CO  8STA252 83   I  75  BETWEEN KY 338 AND US 42-127, NORTH OF REST AREA
CO  8STA767 83   I 275  BETWEEN KY 20 CONNECTOR AND THE KENTUCKY-OHIO STATE LINE
CO  9STAA19 83          12TH ST. IN PARIS JUST NORTH OF HIGH ST.
CO  9STAA39 83          WILLIAMS ST.(ONE WAY)IN PARIS JUST NORTH OF WEST 8TH ST.
CO  9STAA42 83          CYPRESS ST. IN PARIS JUST EAST OF US 27 BYPASS
CO  9STAA48 83          ISGRIG LN. IN PARIS 0.3 MILES EAST OF PEACOCK RD.
CO  9STAA58 83          LILLESTON AVE. IN PARIS JUST SOUTH OF PEACOCK RD.
CO  9STAA62 83          CYPRESS ST. IN PARIS JUST SOUTH OF 7TH ST.
CO  9STAA67 83  KY 627  WINCHESTER RD. IN PARIS JUST NORTH OF VINE ST.
CO  9STAA73 83  KY1939  BETHLEHEM RD. IN PARIS 0.07 MILES SOUTH OF LEXINGTON RD.(US 27)
CO  9STAA74 83  KY1939  BEDFORD RD. IN PARIS JUST NORTH OF LEXINGTON RD.(US 27)
CO  9STAA86 83          PLEASANT ST. IN PARIS BETWEEN 8TH ST. AND 9TH ST.
CO  9STAP26 83  US  68  1.6 MILES EAST OF US 460-EAST IN PARIS
CO 10STAA18 83  KY 168  BLACKBURN ST. IN ASHLAND JUST SOUTH OF 13TH ST.(US 60)
CO 10STAA31 83  US  60X 13TH ST. IN ASHLAND BETWEEN CARTER ST. AND WINCHESTER AVE.
CO 10STAA80 83  KY  5   PRINCESS RD. IN MILLSEAT AT THE BOYD-GREENUP COUNTY LINE
CO 10STAA83 83          NEW BUCKLEY RD. IN ASHLAND JUST EAST OF STEPHENS DR.
CO 10STAB18 83          45TH ST. IN ASHLAND JUST WEST OF US 23
CO 10STAB50 83          BELMONT ST. IN ASHLAND JUST SOUTH OF CEMETARY ST.
CO 10STAB72 83          ROBERTS RD. IN ASHLAND JUST NORTH OF WINSLOW RD.(KY 1134)
CO 10STAD21 83  US  23T RACE ST. IN CATTLETSBURG BETWEEN 34TH ST. AND 35TH ST.
CO 10STAD22 83  KY2537  BROADWAY IN CATTLETSBURG JUST SOUTH OF 23RD ST.(KY 2535)
CO 10STAP42 83  US  23   0.1 MILES NORTH OF THE BOYD-LAWRENCE COUNTY LINE
CO 11STAA18 83          MAPLE ST. IN DANVILLE BETWEEN WALNUT ST. AND MAIN ST.(US 127)
CO 11STAA61 83          2ND ST. IN DANVILLE JUST NORTH OF TERRELL DR.
CO 11STAA68 83  US 150  STANFORD AVE. IN DANVILLE BETWEEN WALNUT ST. AND OTTER ST.
CO 11STAB12 83  US 127  4TH ST. IN DANVILLE BETWEEN GRANT ST. AND GREEN ST.
CO 11STAB21 83  KY  34  LEBANON RD. IN DANVILLE WEST OF ALDRIDGE LANE
CO 11STAB26 83          GOSE RD. IN DANVILLE JUST NORTH OF BOUGHMAN AVE.
CO 11STAB36 83  KY  34  LEBANON RD. IN DANVILLE WEST OF ENT. TO AMERICAN GREETING CARD CO.
CO 12STAA07 83  KY  10  MIAMI ST. IN BROOKSVILLE JUST WEST OF LINCOLN ST.
CO 12STA776 83  KY1019  JUST SOUTH OF JONESVILLE-ROSTER RD.(KY 1951)
CO 13STA784 83  KY  15  0.5 MILES NORTH OF MT. CARMEL ROAD
CO 16STAP37 83  US 231  4.6 MILES NORTH OF KY 403 NORTH IN MORGANTOWN
CO 17STAA02 83  KY 293  JEFFERSON ST. IN PRINCETON EAST OF SKYLINE DRIVE
CO 17STAA21 83          WASHINGTON ST. IN PRINCETON BETWEEN DARBY ST. AND PLUM ST.
CO 17STAA43 83          HAWTHORNE ST. IN PRINCETON BETWEEN MARKET ST. AND LOCUST ST.(1 WAY)
CO 17STAA68 83          PLUM ST. IN PRINCETON BETWEEN MARKET ST. AND LOCUST ST.
CO 17STAA97 83          HIGHLAND ST. IN PRINCETON HOPKINEVILLE ST. AND MAIN ST.
CO 17STAB04 83          SHORT ST. IN PRINCETON JUST NORTH OF MAIN ST.(US 62)
CO 17STAB08 83          BALDWIN ST. IN PRINCETON BETWEEN KENTUCKY AVE. AND TRAYLOR ST.
CO 17STAB23 83          CHERRY ST. IN PRINCETON BETWEEN W. MAPLE ST. AND E. MAPLE ST.
```

Figure 3.1 CLASS SUMMARY OUTPUT

Figure 3.1 (cont.)

DAILY VOLUMES BY VEHICLE TYPE FOR 1983

			MC OY TC OL RE S	PASNGR CARS	OTHER 2 AXLE 4 TIRE VEHCLS	SB CU HS OS OE LS	OB TU HS ES RE S	SINGLE UNIT 2AXLE 6 TIRES	SINGLE UNIT 3 AXLE	SINGLE UNIT 4 OR MORE AXLE	TRACTER TRUCK SINGLE TRAILER 4 OR LESS AXLE	TRACTER TRUCK SINGLE TRAILER 5 AXLE	TRACTER TRUCK MULTI-TRAILER 6 OR MORE AXLE	TRACTER TRUCK MULTI-TRAILER 5 OR LESS AXLE	TRACTER TRUCK MULTI-TRAILER 6 AXLE	TRACTER TRUCK MULTI-TRAILER 7 OR MORE AXLE	T CR OU AC LK S	TOTAL	# OF HOURS OF DATA PER SEASON
COUNTY	1	WINTER	3.	4749.	2706.	0.	25.	366.	16.	19.	50.	190.	0.	0.	0.	0.	0.	-8124.	0
STATION	A07																		
ROUTE	KY 55	SPRING	35.	5584.	3015.	0.	21.	457.	31.	23.	84.	232.	3.	0.	0.	0.	0.	-9486.	16
MILE PT.	11.000																		
FED AID	2	SUMMER	33.	5715.	2764.	0.	34.	437.	47.	25.	84.	263.	6.	0.	0.	0.	2.	-9408.	0
DIRS COUNTED	2																		
AADT	7716	FALL	18.	6116.	3524.	0.	51.	519.	25.	101.	74.	201.	2.	0.	0.	0.	0.	-10629.	0
% TRUCKS	9.0																		
% TRK W/C	0.0	ANNUAL AVERAGE	22.	5541.	3002.	0.	33.	445.	30.	42.	73.	221.	3.	0.	0.	0.	0.	-9412.	
COUNTY	1	WINTER	0.	1118.	532.	0.	2.	88.	27.	0.	14.	56.	0.	0.	0.	0.	0.	-1837.	16
STATION	P34																		
ROUTE	KY 80	SPRING	8.	1315.	593.	0.	2.	110.	51.	0.	24.	68.	2.	1.	0.	0.	0.	-2175.	0
MILE PT.	20.058																		
FED AID	2	SUMMER	17.	1391.	658.	0.	0.	95.	37.	2.	20.	45.	0.	0.	0.	0.	0.	-2264.	0
DIRS COUNTED	2																		
AADT	822000	FALL	4.	1440.	694.	0.	5.	125.	41.	4.	21.	59.	1.	0.	0.	0.	0.	-2394.	0
% TRUCKS	10.4																		
% TRK W/C	0.0	ANNUAL AVERAGE	7.	1316.	619.	0.	2.	105.	39.	1.	20.	57.	1.	0.	0.	0.	0.	-2168.	
COUNTY	1	WINTER	0.	97.	71.	0.	1.	20.	0.	1.	0.	2.	0.	0.	0.	0.	0.	-193.	0
STATION	515																		
ROUTE	KY 768	SPRING	1.	115.	79.	0.	1.	25.	1.	2.	1.	2.	0.	0.	0.	0.	0.	-227.	16
MILE PT.	12.500																		
FED AID	8	SUMMER	1.	117.	73.	0.	2.	24.	2.	2.	1.	3.	1.	0.	0.	0.	2.	-225.	0
DIRS COUNTED	2																		
AADT	134	FALL	0.	126.	93.	0.	4.	29.	1.	10.	1.	2.	0.	0.	0.	0.	0.	-264.	0
% TRUCKS	14.9																		
% TRK W/C	0.0	ANNUAL AVERAGE	0.	114.	79.	0.	2.	24.	1.	4.	1.	2.	0.	0.	0.	0.	0.	-227.	

Figure 3.2 CLASS SUMMARY Job Control Language

```
/*CLASS  Z
//ESTO83   JOB (5035-51219),'MARK',MSGLEVEL=(1,1),REGION=1024K
..INCLUDE PASS WORD
/*JOBPARM  W,P=S,L=20,T=(9,00)
/*SETUP  TAPE=(23033)
/*SETUP  TAPE=(23234,RINGIN)
//FILFOR EXEC PGM=CLASSUM
//STEPLIB  DD DSN=UKU.@KTR05.TRAF1,DISP=SHR
//FT06F001 DD SYSOUT=A
//FT07F001 DD SYSOUT=B
//FT05F001 DD *
//GO.FT12F001  DD  UNIT=3400-5,VOL=SER=23033,LABEL=(38,SL,,IN),
//    DISP=(OLD,KEEP),DCB=(RECFM=FB,LRECL=80,BLKSIZE=16000),
//    DSN=VCR.YR1983
//GO.FT12F002  DD  UNIT=3400-5,VOL=SER=23033,LABEL=(38,SL,,IN),
//    DISP=(OLD,KEEP),DCB=(RECFM=FB,LRECL=80,BLKSIZE=16000),
//    DSN=VCR.YR1983
//GO.FT16F001  DD  UNIT=3400-5,VOL=SER=23234,LABEL=(27,SL),
//    DISP=(NEW,PASS),DCB=(RECFM=FB,LRECL=80,BLKSIZE=16000),
//    DSN=CLASS.YR1983
//GO.FT16F002  DD  UNIT=3400-5,VOL=SER=23234,LABEL=(28,SL),
//    DISP=(NEW,PASS),DCB=(RECFM=FB,LRECL=80,BLKSIZE=16000),
//    DSN=CLASSUM.YR1983
/*
```

Figure 3.3 CLASS EDIT Job Control Language

```
//CLASEDIT JOB (5035-51219),'MARK',MSGLEVEL=(1,1),REGION=498K
..INCLUDE PASS WORD
/*JOBPARM  P=R,T=(1,00)
/*SETUP  TAPE=(23235,RINGIN)
//CLSEDT EXEC PGM=CLASEDIT
//STEPLIB  DD DSN=UKU.@KTR05.TRAF1,DISP=SHR
//FT06F001 DD SYSOUT=A
//FT07F001 DD SYSOUT=B
//FT05F001 DD DDNAME=SYSIN
//GO.FT08F001   DD  DSN=&&TEMP1,DISP=(NEW,DELETE),UNIT=SYSDA,
//    SPACE=(TRK,(150,1),RLSE),DCB=(RECFM=FB,LRECL=80,BLKSIZE=8000)
//GO.FT15F001  DD  UNIT=3400-5,VOL=SER=23235,LABEL=(28,SL,,IN),
//    DISP=OLD,DCB=(RECFM=FB,LRECL=80,BLKSIZE=16000),
//    DSN=CLASSUM.YR1983
//GO.FT15F002  DD  UNIT=3400-5,VOL=SER=23235,LABEL=(28,SL),
//    DISP=(NEW,KEEP),DCB=(RECFM=FB,LRECL=80,BLKSIZE=16000),
//    DSN=CLASSUM.YR1983
//GO.SYSIN DD *
..INCLUDE ESTO83 DATA
/*
//TAPEMAP  EXEC TAPEMAP,TAPE=23235
/*
```

Figure 3.4 CLASS EDIT Program Listing

```
C                                                                       1
C  ***********************************************************************2
C  *                                                                    *  3
C  *  PROGRAM NAME : CLASSIFICATION EDIT                                *  4
C  *                                                                    *  5
C  *  PROGRAMMER : ISENHOUR                                             *  6
C  *                                                                    *  7
C  *  PROGRAM FUNCTION :  THIS PROGRAM  USES THE  CORRECTED ERROR       *  8
C  *       FILE PRODUCED  BY THE  CLASSIFICATION  SUMMARY PROGRAM       *  9
C  *       (LOGICAL  UNIT 5),  AND THE  LAST SUMMARY  FILE ON THE       *  10
C  *       TAPE (LOGICAL UNIT 15).   THE CORRECTIONS IN THE ERROR       *  11
C  *       FILE  ARE  PLACED  IN  THEIR PROPER  POSITIONS  IN THE       *  12
C  *       SUMMARY FILE, THEN THE  CORRECTED FILE IS WRITTEN BACK       *  13
C  *       TO THE SAME POSITION ON THE TAPE.                            *  14
C  *                                                                    *  15
C  ***********************************************************************16
C                                                                          17
      INTEGER  DAT(10),OC(3),OS(3),D,AST,ONE,TAPOUT(80),COP(80)           18
      INTEGER  C(3),S(3),ERNUM                                            19
C                                                                         20
C  ***********************************************************************21
C  *   STATEMENTS 25 THRU 29 INITIALIZE THE VARIABLES.                *  22
C  ***********************************************************************23
C                                                                         24
      DATA D/'D'/                                                         25
      DATA AST/'*'/                                                       26
      DATA ONE/'1'/                                                       27
      DATA OC/3* '*'/                                                     28
      DATA OS/3* '*'/                                                     29
C                                                                         30
C  ***********************************************************************31
C  *   STATEMENTS 37  THRU 39 READ  THE COUNTY,   STATION NUMBER,     *  32
C  *   TYPE OF  ERROR,  AND THE  ERROR CORRECTION FROM  THE ERROR     *  33
C  *   FILE.                                                          *  34
C  ***********************************************************************35
C                                                                         36
   50 READ(5,1000,END=950) C,S,ERNUM,DAT                                  37
      IF (ERNUM.LT.1.OR.ERNUM.GT.7) GOTO 50                               38
      GOTO 200                                                            39
  100 WRITE(8,5000) TAPOUT                                                40
C                                                                         41
C  ***********************************************************************42
C  *   STATEMENTS 48  THRU 53 READ THE  TAPE FILE CREATED  BY THE     *  43
C  *   CLASSIFICATION SUMMARY PROGRAM UNTIL  THE RIGHT COUNTY AND     *  44
C  *   STATION NUMBER ARE FOUND.                                      *  45
C  ***********************************************************************46
C                                                                         47
  200 READ(15,5000,END=960) TAPOUT                                        48
 5000 FORMAT(80A1)                                                        49
      IF (TAPOUT( 1).NE.ONE) GOTO 100                                     50
      IF (TAPOUT( 4).NE.C(1).OR.TAPOUT( 5).NE.C(2)) GOTO 100              51
```

Figure 3.4 (cont.)

```
      IF (TAPOUT( 6).NE.C(3).OR.TAPOUT(10).NE.S(1)) GOTO 100                52
      IF (TAPOUT(11).NE.S(2).OR.TAPOUT(12).NE.S(3)) GOTO 100                53
C                                                                           54
C  ***************************************************************          55
C  *   STATEMENTS 61 THRU  66 PLACE D'S  IN SPACIFIC SPOTS IN THE   *        56
C  *   DATA FIELD IF ASTERISKS ARE  FOUND IN THE ERROR CORRECTION   *        57
C  *   FIELD OF THE INPUT.                                          *        58
C  ***************************************************************          59
C                                                                           60
  300  IF (DAT(2).NE.AST) GOTO 400                                          61
         TAPOUT(2) = D                                                      62
         TAPOUT(3) = D                                                      63
         TAPOUT(7) = D                                                      64
         TAPOUT(8) = D                                                      65
         TAPOUT(9) = D                                                      66
         GOTO 900                                                           67
C                                                                           68
C  ***************************************************************          69
C  *   STATEMENTS 73 THRU 77 CORRECT THE COUNTY NUMBER.          *          70
C  ***************************************************************          71
C                                                                           72
  400  IF (ERNUM.NE.1) GOTO 500                                             73
         TAPOUT(4) = DAT(2)                                                 74
         TAPOUT(5) = DAT(3)                                                 75
         TAPOUT(6) = DAT(4)                                                 76
         GOTO 900                                                           77
C                                                                           78
C  ***************************************************************          79
C  *   STATEMENTS 83 THRU 87 CORRECT THE STATION NUMBER.         *          80
C  ***************************************************************          81
C                                                                           82
  500  IF (ERNUM.NE.2) GOTO 600                                             83
         TAPOUT(10) = DAT(2)                                                84
         TAPOUT(11) = DAT(3)                                                85
         TAPOUT(12) = DAT(4)                                                86
         GOTO 900                                                           87
C                                                                           88
C  ***************************************************************          89
C  *   STATEMENTS 93 THRU 100 CORRECT THE MILE POINT.            *          90
C  ***************************************************************          91
C                                                                           92
  600  IF (ERNUM.NE.4) GOTO 700                                             93
         TAPOUT(27) = DAT(3)                                                94
         TAPOUT(28) = DAT(4)                                                95
         TAPOUT(29) = DAT(5)                                                96
         TAPOUT(30) = DAT(7)                                                97
         TAPOUT(31) = DAT(8)                                                98
         TAPOUT(32) = DAT(9)                                                99
         GOTO 900                                                          100
C                                                                          101
C  ***************************************************************         102
C  *   STATEMENTS 106 THRU 108 CORRECT THE FEDERAL AID CODE.     *         103
C  ***************************************************************         104
C                                                                          105
```

Figure 3.4 (cont.)

```
  700  IF (ERNUM.NE.5) GOTO 800                                          106
          TAPOUT(55) = DAT(2)                                            107
          GOTO 900                                                       108
C                                                                        109
C  ***************************************************************     110
C  *   STATEMENTS 114 THRU 120 CORRECT THE AADT.                  *     111
C  ***************************************************************     112
C                                                                        113
  800  IF (ERNUM.NE.7) GOTO 900                                          114
          TAPOUT(41) = DAT(4)                                            115
          TAPOUT(42) = DAT(5)                                            116
          TAPOUT(43) = DAT(6)                                            117
          TAPOUT(44) = DAT(7)                                            118
          TAPOUT(45) = DAT(8)                                            119
          TAPOUT(46) = DAT(9)                                            120
C                                                                        121
C  ***************************************************************     122
C  *   STATEMENTS  127  THRU  132 SAVE  THE  COUNTY  AND  STATION  *     123
C  *   NUMBERS.                                                   *     124
C  ***************************************************************     125
C                                                                        126
  900  OC(1) = C(1)                                                      127
       OC(2) = C(2)                                                      128
       OC(3) = C(3)                                                      129
       OS(1) = S(1)                                                      130
       OS(2) = S(2)                                                      131
       OS(3) = S(3)                                                      132
C                                                                        133
C  ***************************************************************     134
C  *   STATEMENTS 140 THRU 145 READ THE TAPE FILE CREATED  BY THE  *     135
C  *   CLASSIFICATION SUMMARY PROGRAM UNTIL  THE RIGHT COUNTY AND  *     136
C  *   STATION NUMBER ARE FOUND.                                  *     137
C  ***************************************************************     138
C                                                                        139
  910  READ(5,1000,END=950) C,S,ERNUM,DAT                                140
 1000  FORMAT(1X,3A1,1X,3A1,1X,I1,2X,10A1)                               141
       IF (ERNUM.LT.1.OR.ERNUM.GT.7) GOTO 910                            142
       IF (OC(1).EQ.C(1).AND.OC(2).EQ.C(2).AND.OC(3).EQ.C(3).AND.        143
     *     OS(1).EQ.S(1).AND.OS(2).EQ.S(2).AND.OS(3).EQ.S(3)) GOTO 300   144
       GOTO 100                                                          145
C                                                                        146
C  ***************************************************************     147
C  *   IF  CONTROL  DROPS  TO  HERE,    THEN  ALL  OF  THE  ERROR  *     148
C  *   CORRECTIONS WERE FOUND.   STATEMENTS 153 THRU 157 READ AND  *     149
C  *   STORE THE REST OF THE FILE.                                *     150
C  ***************************************************************     151
C                                                                        152
  950  WRITE(6,1010)                                                     153
 1010  FORMAT(' PROPER TERMINATION')                                     154
  955  WRITE(8,5000) TAPOUT                                              155
       READ(15,5000,END=970) TAPOUT                                      156
       GOTO 955                                                          157
```

Figure 3.4 (cont.)

```
C                                                                       158
C  ***********************************************************************159
C  *   IF THE CLASSIFICATION SUMMARY FILE  FINISHES BEFORE ALL OF   *    160
C  *   THE ERRORS  ARE CORRECTED,   THEN AT  LEAST ONE  COUNTY OR   *    161
C  *   STATION NUMBER WASN'T FOUND.  THIS IS A CAUSE FOR IMPROPER   *    162
C  *   TERMINATION.                                                 *    163
C  ***********************************************************************164
C                                                                       165
  960  WRITE(6,1020) C,S                                                166
 1020  FORMAT('COUNTY ',3A1,'  STATION ',3A1,                           167
     *         ' NOT FOUND   -  IMPROPER TERMINATION')                  168
  970  REWIND 8                                                         169
C                                                                       170
C  ***********************************************************************171
C  *   STATEMENTS 176 THRU 179 RECALL  THE FILE AND WRITE IT BACK   *    172
C  *   TO THE SAME PLACE ON THE TAPE.                               *    173
C  ***********************************************************************174
C                                                                       175
  980  READ(8,5000,END=990) TAPOUT                                      176
       WRITE(15,5000) TAPOUT                                            177
       GOTO 980                                                         178
  990  CONTINUE                                                         179
       STOP                                                             180
       END                                                              181
```

Figure 3.5 CLASS SUMMARY Program Listing

```
C                                                                       1
C  ***********************************************************************2
C  *                                                                    *  3
C  *  PROGRAM NAME : CLASSIFICATION SUMMARY                             *  4
C  *                                                                    *  5
C  *  PROGRAMMER : ISENHOUR                                             *  6
C  *                                                                    *  7
C  *  PROGRAM FUNCTION : THIS PROGRAM USES THE  EXISTING  VEHICLE       *  8
C  *       CLASSIFICATION TAPE TO COMPUTE AN ANNUAL AVERAGE DAILY       *  9
C  *       TRAFFIC FLOW ESTIMATE FOR EACH TRAFFIC COUNT  LOCATION       *  10
C  *       ON THE TAPE.  THE OUTPUT CONSISTS OF FOUR UNITS.             *  11
C  *           1) A TAPE FILE HAVING ALL HOURLY  ESTIMATIONS  FOR       *  12
C  *              EACH OF THE FIFTEEN  VEHICLE  TYPES  FOR  EVERY       *  13
C  *              SEASON AND LOCATION THAT A COUNT WAS TAKEN.           *  14
C  *           2) A TAPE FILE WHICH HOLDS THE SEASONAL AND YEARLY       *  15
C  *              AVERAGES  FOR  EACH  LOCATION.  (THIS  FILE  IS       *  16
C  *              PRODUCED FOR THE CALCULATION OF EQUIVALENT AXLE       *  17
C  *              LOADS IN ANOTHER PROGRAM).                            *  18
C  *           3) A PRINTOUT OF SEASONAL AND YEARLY AVERAGES  FOR       *  19
C  *              EACH OF THE FIFTEEN VEHICLE TYPES.                    *  20
C  *           4) THE LAST FILE IS SENT BACK  TO  THE  INITIATING       *  21
C  *              TERMINAL.  IT CONTAINS NUMBERS THAT DIDN'T PASS       *  22
C  *              THE EDIT CHECKS (SEE PRINTED DOCUMENTATION).          *  23
C  *                                                                    *  24
C  ***********************************************************************25
C                                                                          26
      REAL*8 ROUTE(500),TROUT                                             27
      REAL*8 T1,T3,T4,T5,T6,T7,T8,T9,T10                                  28
      REAL*4 DENLOG,COMP1,COMP2                                           29
      INTEGER T2,RTN(500),CN(500),FED(500),DIRS(4,24),OWTW(500)           30
      REAL M(4,24,16),SN(500),MP(500),BLANK3,MULT                         31
      INTEGER SE(4),S,D,DP1,DM1,N,T,F,DIR,VC(15),OVC(23)                  32
      REAL HF(2,4,24,24,15),SF(500,4,16),SFY(16),PERCOL,PERTRK            33
      INTEGER RM(500),R,HR,YR(500),NL,NUM,AADT(500),DOR(4,24),MOR(4,24)   34
      INTEGER CHRU,CHRI,YF83,HRS(4),NUMHRS(500,4)                         35
      INTEGER BLANK,MONTH,DAY,HOUR,HRCT,MONCT                             36
      INTEGER DISC(76),ERRCT,PRNT(16),YEAR,COLHAL                         37
C                                                                         38
C  ***********************************************************************39
C  *   STATEMENTS 44  THRU 70 INITIALIZE  THE VARIABLES  FOR THIS   *    40
C  *   PROGRAM.                                                      *    41
C  ***********************************************************************42
C                                                                         43
      DATA M/1536* 0./                                                    44
      DATA SF/32000* 0./                                                  45
      DATA SE/4* 0/                                                       46
      DATA HRS/4* 0/                                                      47
      DATA FED/500* 0/                                                    48
      DATA OWTW/500* 1/                                                   49
      DATA DOR/96* 0/                                                     50
```

Figure 3.5 (cont.)

```
      DATA MOR/96* 0/                                                    51
      DATA DIRS/96* 0/                                                   52
      DATA CHRI/'I'/                                                     53
      DATA CHRU/'U'/                                                     54
      DATA BLANK/' '/                                                    55
      DATA BLANK3/'   '/                                                 56
      NL = 0                                                             57
      HRCT = 0                                                           58
      MONCT = 0                                                          59
      ERRCT = 0                                                          60
      YF83 = 0                                                           61
      F = 0                                                              62
      WRITE (6,5400)                                                     63
      DO 5 R = 1,2                                                       64
         DO 5 S = 1,4                                                    65
            DO 5 N = 1,24                                                66
               DO 5 D = 1,24                                             67
                  DO 5 T = 1,15                                          68
                     HF(R,S,N,D,T) = 0.                                  69
 5    CONTINUE                                                           70
C                                                                        71
C  ********************************************************************  72
C  *   STATEMENT   77   READS   THE   DATA   FROM   THE   VEHICLE   *    73
C  *   CLASSIFICATION TAPE.                                          *    74
C  ********************************************************************  75
C                                                                        76
10    CALL REREAD                                                        77
20    READ (12,5000,END=90) T1,T2,TROUT,T3,T4,T5,                        78
     *                      T6,T7,T8,T9,T10,ICSN                         79
      IF (T2.GT.83) YF83 = 1                                             80
      IF (ICSN-98) 25, 32, 35                                            81
25    IF (F.EQ.2) GOTO 59                                                82
      WRITE(99,5000) T1,T2,TROUT,T3,T4,T5,T6,T7,                         83
     *                      T8,T9,T10,ICSN                               84
         IF (YF83.EQ.1) GOTO 27                                          85
C                                                                        86
C  ********************************************************************  87
C  *   STATEMENTS  93  AND 110  READ THE  DATA  USING THE  PROPER   *    88
C  *   FORMAT, AND  IF NECESSARY  STATEMENTS 94  THRU 108 CONVERT   *    89
C  *   THE VEHICLE CODES 1 - 22 TO THE VEHICLE CODES 1 - 14.        *    90
C  ********************************************************************  91
C                                                                        92
         READ (99,2000) DIR,MONTH,DAY,HR,(OVC(I),I=1,23)                 93
         VC( 1)=OVC(22)                                                  94
         VC( 2)=OVC( 1) + OVC( 2) + OVC( 3)+ OVC( 4)                     95
         VC( 3)=OVC( 5) + OVC( 6)                                        96
         VC( 4)=OVC(20)                                                  97
         VC( 5)=OVC(21)                                                  98
         VC( 6)=OVC( 7)                                                  99
         VC( 7)=OVC( 8)                                                 100
         VC( 8)=OVC( 9)                                                 101
         VC( 9)=OVC(10) + OVC(11) + OVC(18)                             102
         VC(10)=OVC(12) + OVC(19)                                       103
         VC(11)=OVC(13) + OVC(14) + OVC(15)                             104
```

Figure 3.5 (cont.)

```
            VC(12)=OVC(16)                                                    105
            VC(13)=OVC(17)                                                    106
            VC(14)=0                                                          107
            VC(15)=OVC(23)                                                    108
            GOTO 28                                                           109
   27       READ(99,2010) DIR,MONTH,DAY,HR,(VC(I),I=1,15)                     110
   28       IF (HR.EQ.0) HR = 24                                              111
            IF (HR.LE.0.OR.HR.GT.24) GOTO 20                                  112
            IF (MONTH.LT.1.OR.MONTH.GT.12) GOTO 20                            113
            DO 29 T = 1,15                                                    114
               IF (VC(T).LT.0) VC(T) = 0                                      115
   29       CONTINUE                                                          116
C                                                                            117
C  ****************************************************************          118
C  *   STATEMENT  125   DETERMINES  THE  SEASON  OF   THE  COUNT.   *         119
C  *   STATEMENT  126  COMPUTES  THE NUMBER  OF  TRUCKS  COUNTED.   *         120
C  *   STATEMENT  127 REJECTS  THE  DATA IF  THE  NUMBER OF  COAL   *         121
C  *   TRUCKS EXCEEDS THE NUMBER OF TRUCKS.                         *         122
C  ****************************************************************          123
C                                                                            124
            ISEAS = (MONTH+2)/3                                              125
            NUMTRK = VC(7) + VC(8) + VC(9) + VC(10) + VC(11)                 126
            IF (VC(15).GT.NUMTRK) GOTO 20                                    127
            SE(ISEAS) = 1                                                    128
C                                                                            129
C  ****************************************************************          130
C  *   STATEMENTS 136 THRU 149 DETERMINE THE NUMBER OF DIRECTIONS   *         131
C  *   COUNTED,  AND AVERAGE  THE DATA IF MORE THAN  ONE COUNT IS   *         132
C  *   TAKEN FOR A PARTICULAR HOUR.                                 *         133
C  ****************************************************************          134
C                                                                            135
            DENOM = 1.                                                       136
            DIRS(ISEAS,HR) = DIRS(ISEAS,HR) * 10 + DIR                       137
            IF (DIRS(ISEAS,HR).GE.100) DENOM = .6666666                      138
            M(ISEAS,HR,16) = 0                                               139
            DO 30 I=1,14                                                     140
               M(ISEAS,HR,I)=(M(ISEAS,HR,I) + VC(I)) * DENOM                 141
               M(ISEAS,HR,16)=M(ISEAS,HR,16)+M(ISEAS,HR,I)                   142
   30       CONTINUE                                                         143
               M(ISEAS,HR,15)=(M(ISEAS,HR,15) + VC(15)) * DENOM              144
            F = 1                                                            145
            IF (DIRS(ISEAS,HR).LT.10) GOTO 10                                146
            IF (MOD(DIRS(ISEAS,HR),11).EQ.0) GOTO 20                         147
            OWTW(NL+1) = 2                                                   148
         GOTO 20                                                             149
C                                                                            150
C  ****************************************************************          151
C  *   STATEMENTS 158 THRU  165 ARE EXECUTED WHEN ALL  DATA FOR A   *         152
C  *   SPECIFIC  LOCATION HAS BEEN  READ.   STATEMENT  160 CLOSES   *         153
C  *   THE DATA SET, AND  STATEMENT 165 WRITES  A VERBAL LOCATION   *         154
C  *   DESCRIPTION TO THE FIRST TAPE FILE.                          *         155
C  ****************************************************************          156
C                                                                            157
   32    IF (F.EQ.2) GOTO 20                                                 158
```

Figure 3.5 (cont.)

```
      IF (F.EQ.0) GOTO 59                                                159
      F = 2                                                              160
      WRITE(99,5000) T1,T2,TROUT,T3,T4,T5,T6,T7,                         161
     *                      T8,T9,T10,ICSN                              162
      READ (99,5100) (DISC(I),I=1,76)                                    163
      WRITE(16,5200) (DISC(I),I=1,6),(DISC(I),I=10,76)                   164
      GOTO 20                                                            165
C                                                                        166
C  ******************************************************************    167
C  *   STATEMENT 176 PRINTS A VERBAL  LOCATION DESCRIPTION AT THE   *    168
C  *   BEGINNING OF THE PRINTOUT.  STATEMENTS 179 THRU 184 DECIDE   *    169
C  *   THE ROAD TYPE.                                               *    170
C  ******************************************************************    171
C                                                                        172
  35  IF (F.EQ.0) GOTO 20                                                173
        IF (F.EQ.1) GOTO 59                                              174
        NL = NL + 1                                                      175
        WRITE( 6,5300) (DISC(I),I=1,6),T2,TROUT,(DISC(I),I=10,76)        176
        WRITE(99,5000) T1,T2,TROUT                                       177
        READ (99,5100) (DISC(I),I=1,17)                                  178
        R = 2                                                            179
        DO 40 I = 10,14                                                  180
          IF (DISC(I).EQ.BLANK) GOTO 40                                  181
          IF (DISC(I).EQ.CHRU.OR.DISC(I).EQ.CHRI) R = 1                  182
          GOTO 45                                                        183
  40    CONTINUE                                                         184
C                                                                        185
C  ******************************************************************    186
C  *   STATEMENTS 191 THRU  202 DECIDE IF THE LOCATION  IS A COAL   *    187
C  *   ROAD OR NOT.                                                 *    188
C  ******************************************************************    189
C                                                                        190
  45    RM(NL) = R                                                       191
        NUMCOL = 0                                                       192
        NUMTRK = 0                                                       193
        DO 50 S = 1,4                                                    194
          DO 50 N = 1,24                                                 195
            NUMCOL = NUMCOL + M(S,N,15)                                  196
            DO 50 T = 4,14                                               197
              NUMTRK = NUMTRK + M(S,N,T)                                 198
  50    CONTINUE                                                         199
        NUMCOL = NUMCOL * 100                                            200
        COLHAL = 0                                                       201
        IF (NUMCOL.GE.NUMTRK) COLHAL = 1                                 202
C                                                                        203
C  ******************************************************************    204
C  *   STATEMENTS 210 THRU 235  COMPUTE HOURLY CONVERSION FACTORS   *    205
C  *   FOR EXISTING DATA.                                           *    206
C  ******************************************************************    207
C                                                                        208
        DO 58 S = 1,4                                                    209
          IF (SE(S).EQ.0) SF(NL,S,16) = -10                              210
          IF (SE(S).EQ.0) GOTO 58                                        211
          DO 57 D = 1,23                                                 212
```

Figure 3.5 (cont.)

```
                IF (M(S,D,16).EQ.0.) GOTO 57                                    213
                DP1 = D + 1                                                     214
                DO 55 N=DP1,24                                                  215
                   IF (M(S,N,16).EQ.0.) GOTO 55                                 216
                      DO 52 T=1,14                                              217
                         DENOM = M(S,N,T) + M(S,D,T) + 2                        218
                         DENLOG = ALOG10(DENOM)                                 219
                         HF(R,S,N,D,T) = (HF(R,S,N,D,T)*HF(R,S,D,N,T)+          220
     *                     (((M(S,N,T)-M(S,D,T))*DENLOG)/DENOM))/               221
     *                      (HF(R,S,D,N,T)+DENLOG)                              222
                         HF(R,S,D,N,T) = HF(R,S,D,N,T) + DENLOG                 223
   52                 CONTINUE                                                  224
                      IF (COLHAL.EQ.0) GOTO 55                                  225
                         DENOM = M(S,N,15) + M(S,D,15) + 2                      226
                         DENLOG = ALOG10(DENOM)                                 227
                         HF(R,S,N,D,15)=(HF(R,S,N,D,15)*HF(R,S,D,N,15)+         228
     *                     (((M(S,N,15)-M(S,D,15))*DENLOG)/DENOM))/             229
     *                      (HF(R,S,D,N,15)+DENLOG)                             230
                         HF(R,S,D,N,15) = HF(R,S,D,N,15) + DENLOG               231
   55             CONTINUE                                                      232
   57          CONTINUE                                                         233
   58    CONTINUE                                                               234
C                                                                               235
C  ***************************************************************              236
C  *   STATEMENTS 240 THRU 251 STORE AND RESET THE DATA SET.       *             237
C  ***************************************************************              238
C                                                                               239
   59    DO 70 S = 1,4                                                          240
            IF (NL.LT.1 ) WRITE (6,4100) NL,S                                   241
            DO 60 D = 1,24                                                      242
               DIRS(S,D) = 0                                                    243
               IF (NL.LT.1 ) WRITE (6,4000) D,(M(S,D,T),T=1,16)                 244
               DO 60 T = 1,16                                                   245
                  M(S,D,T) = 0.                                                 246
   60       CONTINUE                                                           247
            SE(S) = 0                                                           248
   70    CONTINUE                                                               249
         F = 0                                                                  250
         GOTO 20                                                                251
C                                                                               252
C  ***************************************************************              253
C  *   STATEMENTS  260 THRU  280 CALCULATE  RATIOS  FOR HOURS  IN   *           254
C  *   WHICH DIRECT RELATIONSHIPS ARE NOT AVAILABLE (I.E. IF HOUR   *           255
C  *   1 TO 3 IS NOT KNOWN BUT 1 TO 2 AND 2 TO 3 ARE,  1 TO 3 MAY   *           256
C  *   BE CALCULATED).                                              *           257
C  ***************************************************************              258
C                                                                               259
   90    NL = 0                                                                 260
         DO 98 R = 1,2                                                          261
            DO 98 S = 1,4                                                       262
               DO 98 D = 1,23                                                   263
                  DP1 = D + 1                                                   264
                  DO 98 N = DP1,24                                              265
                     DO 98 T = 1,15                                             266
```

Figure 3.5 (cont.)

```
                    IF (HF(R,S,D,N,T).NE.0.) GOTO 98                    267
                    DENOM = SGN(HF(R,1,D,N,T)) + SGN(HF(R,2,D,N,T))     268
     *                    + SGN(HF(R,3,D,N,T)) + SGN(HF(R,4,D,N,T))     269
                    IF (DENOM.EQ.0.) GOTO 95                            270
                    HF(R,S,N,D,T)=(HF(R,1,N,D,T) + HF(R,2,N,D,T)        271
     *                     + HF(R,3,N,D,T) + HF(R,4,N,D,T))/DENOM       272
                    HF(R,S,D,N,T)=(HF(R,1,D,N,T) + HF(R,2,D,N,T)        273
     *                     + HF(R,3,D,N,T) + HF(R,4,D,N,T))/DENOM       274
                    GOTO 98                                             275
  95                IR = 3 - R                                          276
                    HF(R,S,N,D,T) = HF(IR,S,N,D,T)                      277
                    HF(R,S,D,N,T) = HF(IR,S,D,N,T)                      278
  98    CONTINUE                                                        279
 100    CONTINUE                                                        280
C                                                                       281
C  ********************************************************************282
C  *   STATEMENTS  288 THRU  294 READ  THE  DATA OFF  THE TAPE  A   *   283
C  *   SECOND TIME,  DUE  TO THE FACT THAT THERE IS  TOO MUCH RAW   *   284
C  *   DATA TO BE STORED.                                           *   285
C  ********************************************************************286
C                                                                       287
 110    READ (12,5000,END=190) T1,T2,TROUT,T3,T4,T5,                    288
     *                         T6,T7,T8,T9,T10,ICSN                     289
        IF (ICSN-98) 120,134,135                                        290
 120    IF (F.EQ.2) GOTO 159                                            291
        WRITE(99,5000) T1,T2,TROUT,T3,T4,T5,T6,T7,                      292
     *                         T8,T9,T10,ICSN                           293
        IF (YF83.EQ.1) GOTO 125                                         294
C                                                                       295
C  ********************************************************************296
C  *   STATEMENTS 302  AND 321  READ THE  DATA  USING THE  PROPER   *   297
C  *   FORMAT, AND IF NECESSARY  STATEMENTS 303  THRU 318 CONVERT   *   298
C  *   THE VEHICLE CODES 1 - 22 TO THE VEHICLE CODES 1 - 14.        *   299
C  ********************************************************************300
C                                                                       301
          READ (99,2000) DIR,MONTH,DAY,HR,(OVC(I),I=1,23)               302
          VC( 1)=OVC(22)                                                303
          VC( 2)=OVC( 1) + OVC( 2) + OVC( 3)+ OVC( 4)                   304
          VC( 3)=OVC( 5) + OVC( 6)                                      305
          VC( 4)=OVC(20)                                                306
          VC( 5)=OVC(21)                                                307
          VC( 6)=OVC( 7)                                                308
          VC( 7)=OVC( 8)                                                309
          VC( 8)=OVC( 9)                                                310
          VC( 9)=OVC(10) + OVC(11) + OVC(18)                            311
          VC(10)=OVC(12) + OVC(19)                                      312
          VC(11)=OVC(13) + OVC(14) + OVC(15)                            313
          VC(12)=OVC(16)                                                314
          VC(13)=OVC(17)                                                315
          VC(14)=0                                                      316
          VC(15)=OVC(23)                                                317
          GOTO 126                                                      318
 125      READ(99,2010) DIR,MONTH,DAY,HR,(VC(I),I=1,15)                 319
 126      IF (HR.EQ.0) HR = 24                                          320
```

Figure 3.5 (cont.)

```
            IF (HR.GE.0.AND.HR.LE.24) GOTO 128                          321
               HRCT = HRCT + 1                                          322
               GOTO 110                                                 323
 128        IF (MONTH.GT.0.AND.MONTH.LE.12) GOTO 129                    324
               MONCT = MONCT + 1                                        325
               GOTO 110                                                 326
 129        DO 130 T = 1,15                                             327
               IF (VC(T).LT.0) VC(T) = 0                                328
 130        CONTINUE                                                    329
C                                                                       330
C  ***************************************************************      331
C  *   STATEMENTS 336  THRU 348 STORE  THE SEASON,   MONTH,  DAY,   *   332
C  *   HOUR, AND DIRECTION OF TRAFFIC FLOW FOR THE LOCATION.        *   333
C  ***************************************************************      334
C                                                                       335
            ISEAS = (MONTH+2)/3                                         336
            DOR(ISEAS,HR) = DAY                                         337
            MOR(ISEAS,HR) = MONTH                                       338
            DENOM = 1                                                   339
            DIRS(ISEAS,HR) = DIRS(ISEAS,HR) * 10 + DIR                  340
            IF (DIRS(ISEAS,HR).GE.100) DENOM = .666666                  341
            M(ISEAS,HR,16) = 0                                          342
            DO 133 I=1,14                                               343
               M(ISEAS,HR,I)=(M(ISEAS,HR,I) + VC(I))*DENOM              344
               M(ISEAS,HR,16) = M(ISEAS,HR,16) + M(ISEAS,HR,I)          345
 133        CONTINUE                                                    346
            M(ISEAS,HR,15)=(M(ISEAS,HR,15) + VC(15))*DENOM              347
            F = 1                                                       348
         GOTO 110                                                       349
C                                                                       350
C  ***************************************************************      351
C  *   STATEMENTS 357 THRU  359 ARE EXECUTED WHEN ALL  DATA FOR A   *   352
C  *   SPECIFIC  LOCATION HAS BEEN  READ.   STATEMENT  358 CLOSES   *   353
C  *   THE DATA SET.                                                *   354
C  ***************************************************************      355
C                                                                       356
 134    IF (F.EQ.0) GOTO 159                                            357
        F = 2                                                           358
        GOTO 110                                                        359
 135    IF (F.EQ.0) GOTO 110                                            360
            IF (F.EQ.1) GOTO 159                                        361
            NL = NL + 1                                                 362
            ROUTE(NL) = TROUT                                           363
            WRITE(99,5000) T1,T2,ROUTE(NL),T3,T4,T5,                    364
     *                        T6,T7,T8,T9,T10,ICSN                      365
            READ(99,3000) CN(NL),SN(NL),YR(NL),                         366
     *                  FED(NL),AADT(NL),MP(NL)                         367
C                                                                       368
C  ***************************************************************      369
C  *   STATEMENTS 375 THRU  430 USE  THE HOURLY  FACTORS COMPUTED   *   370
C  *   PREVIOUSLY TO SUPPLY INFORMATION FOR THOSE HOURS FOR WHICH   *   371
C  *   THERE IS NO COLLECTED DATA.                                  *   372
C  ***************************************************************      373
C                                                                       374
```

Figure 3.5 (cont.)

```
  143     R = RM(NL)                                                        375
          F = 0                                                             376
          DO 158 S = 1,4                                                    377
             IF (SF(NL,S,16).EQ.-10.) GOTO 158                              378
             DO 155 D = 1,24                                                379
                IF (DIRS(S,D).GT.0) HRS(S) = HRS(S) + 1                     380
                MULT = 1.                                                   381
                IF (OWTW(NL).EQ.1.AND.DIRS(S,D).GE.10) MULT = .5            382
                IF (OWTW(NL).EQ.2.AND.DIRS(S,D).LT.10) MULT = 2.            383
                DO 144 T = 1,16                                             384
                   M(S,D,T) = M(S,D,T) * MULT                               385
  144           CONTINUE                                                    386
                IF (M(S,D,16).NE.0.) GOTO 155                               387
                DO 152 T=1,15                                               388
                   DENOM = 0.                                               389
                   DM1 = D - 1                                              390
                   IF (D.EQ.1) DM1 = 1                                      391
                   DO 145 N=1,DM1                                           392
                      IF (N.GE.D.OR.M(S,N,16).EQ.0.) GOTO 145               393
                         M(S,D,T) = (M(S,N,T)+1)*(1+HF(R,S,D,N,T))/         394
     *                      (1-HF(R,S,D,N,T)) + M(S,D,T) - 1                395
                      DENOM = DENOM + 1.                                    396
  145              CONTINUE                                                 397
                   DP1 = D + 1                                              398
                   IF (D.EQ.24) DP1 = 24                                    399
                   DO 150 N=DP1,24                                          400
                      IF (N.LE.D.OR.M(S,N,16).EQ.0.) GOTO 150               401
                         M(S,D,T) = (M(S,N,T)+1)*(1-HF(R,S,N,D,T))/         402
     *                      (1+HF(R,S,N,D,T)) + M(S,D,T) - 1                403
                      DENOM = DENOM + 1.                                    404
  150              CONTINUE                                                 405
                   IF(M(S,D,T).LT.0.) M(S,D,T) = 0                          406
                   IF(DENOM.NE.0.) M(S,D,T) = M(S,D,T) / DENOM              407
  152           CONTINUE                                                    408
  155        CONTINUE                                                       409
        IMP = MP(NL) * 1000                                                 410
        WRITE (16,4150) CN(NL),SN(NL),ROUTE(NL),IMP,YR(NL)                  411
        SF(NL,S,16) = 0                                                     412
        DO 157 D=1,24                                                       413
           ID = D-1                                                         414
           IF (ID.EQ.0) ID = 24                                             415
           DO 156 T=1,14                                                    416
              IF (M(S,ID,16).LE.0.1) M(S,ID,16)=M(S,ID,16)-M(S,ID,T)        417
              PRNT(T) = INT(M(S,ID,T))                                      418
  156      CONTINUE                                                         419
           NUMTRK = M(S,ID,7)+M(S,ID,8)+M(S,ID,9)+M(S,ID,10)+M(S,ID,11)     420
           IF (M(S,ID,15).GT.FLOAT(NUMTRK)) M(S,ID,15) = NUMTRK             421
           PRNT(15) = INT(M(S,ID,15))                                       422
           PRNT(16) = INT(M(S,ID,16))                                       423
           IF (M(S,ID,16).LT.0.) SF(NL,S,16) = -1                           424
           IREC = 4                                                         425
           DM1 = D - 1                                                      426
           WRITE (16,4300) IREC,MOR(S,ID),DOR(S,ID),DM1,                    427
     *                     (PRNT(T),T=1,16)                               428
```

Figure 3.5 (cont.)

```
 157  CONTINUE                                                          429
 158  CONTINUE                                                          430
C                                                                       431
C  ***************************************************************      432
C  *   STATEMENTS 438 THRU  447 COMPUTE AND STORE  THE TOTALS FOR   *    433
C  *   THE DATA SET. STATEMENTS 448 THRU 463 RESET THE ARRAYS FOR   *    434
C  *   READING THE NEXT LOCATION.                                   *    435
C  ***************************************************************      436
C                                                                       437
 159  DO 170 S = 1,4                                                    438
        IF (NL.EQ.0) GOTO 163                                           439
            NUMHRS(NL,S) = HRS(S)                                       440
            HRS(S) = 0                                                  441
            DO 160 T = 1,15                                             442
               SF(NL,S,T) = 0                                           443
               DO 160 D = 1,24                                          444
                  SF(NL,S,T) = SF(NL,S,T) + M(S,D,T)                    445
                  M(S,D,T) = 0                                          446
 160        CONTINUE                                                    447
 163        SE(S) = 0                                                   448
            DO 165 D = 1,24                                             449
               M(S,D,16) = 0                                            450
               DOR(S,D) = 0                                             451
               MOR(S,D) = 0                                             452
               DIRS(S,D) = 0                                            453
 165        CONTINUE                                                    454
 170   CONTINUE                                                         455
       GOTO 110                                                         456
 190   NTOT = NL                                                        457
       DO 200 R = 1,2                                                   458
          DO 200 N = 1,4                                                459
             DO 200 D = 1,4                                             460
                DO 200 T = 1,15                                         461
                   HF(R,1,N,D,T) = 0                                    462
 200   CONTINUE                                                         463
       ENDFILE 16                                                       464
C                                                                       465
C  ***************************************************************      466
C  *   STATEMENTS 472  THRU 488  USE SEASONAL  TOTALS TO  COMPUTE   *    467
C  *   RELATIONSHIPS  BETWEEN SEASONS  FOR  EACH  OF THE  VEHICLE   *    468
C  *   TYPES.                                                       *    469
C  ***************************************************************      470
C                                                                       471
       DO 290 NL = 1,NTOT                                               472
          R = RM(NL)                                                    473
          DO 290 D = 1,3                                                474
             IF (SF(NL,D,16).EQ.-10.) GOTO 290                          475
             DP1 = D + 1                                                476
             DO 280 N = DP1,4                                           477
                IF (SF(NL,N,16).EQ.-10.) GOTO 280                       478
                DO 270 T = 1,15                                         479
                   DENOM = SF(NL,N,T) + SF(NL,D,T) + 2                  480
                   DENLOG = ALOG10(DENOM)                               481
                   HF(R,1,N,D,T) = (HF(R,1,N,D,T)*HF(R,1,D,N,T)+        482
```

Figure 3.5 (cont.)

```
     *                (((SF(NL,N,T)-SF(NL,D,T))*DENLOG)/DENOM))/          483
     *                (HF(R,1,D,N,T)+DENLOG)                              484
                   HF(R,1,D,N,T) = HF(R,1,D,N,T) + DENLOG                 485
 270             CONTINUE                                                 486
 280           CONTINUE                                                   487
 290    CONTINUE                                                          488
C                                                                        489
C  ***************************************************************       490
C  *   IF ANY RELATIONSHIPS CANNOT BE  COMPUTED,  (EG.  SUMMER TO   *     491
C  *   WINTER)  AND  TWO RELATIONSHIPS EXIST WHICH  CONTAIN THOSE   *     492
C  *   SEASONS AND RELATE THEM TO ANOTHER SEASON, (EG.  SUMMER TO   *     493
C  *   FALL AND FALL TO WINTER) STATEMENTS 498 THRU 601 USE THOSE   *     494
C  *   RELATIONS TO COMPUTE THE MISSING RELATIONSHIPS.              *     495
C  ***************************************************************       496
C                                                                        497
       DO 348 R = 1,2                                                    498
         IR = 3 - R                                                      499
         IF (HF(R,1,1,2,1).NE.0.) GOTO 300                               500
            DO 298 T = 1,15                                              501
               COMP2 = (HF(R,1,4,1,T) - HF(R,1,4,2,T)) /                 502
     *               (1. - HF(R,1,4,1,T) * HF(R,1,4,2,T))                503
               IF(HF(R,1,1,3,T).NE.0.0.AND.HF(R,1,2,3,T).NE.0.)GOTO 294  504
               IF(HF(R,1,1,4,T).NE.0.0.AND.HF(R,1,2,4,T).NE.0.)GOTO 292  505
                  HF(R,1,2,1,T) = HF(IR,1,2,1,T)                         506
               GOTO 298                                                  507
 292           HF(R,1,2,1,T) = COMP2                                     508
               GOTO 298                                                  509
 294           COMP1 = (HF(R,1,3,1,T) - HF(R,1,3,2,T)) /                 510
     *               (1. - HF(R,1,3,1,T) * HF(R,1,3,2,T))                511
               IF(HF(R,1,1,4,T).NE.0.0.AND.HF(R,1,2,4,T).NE.0.)GOTO 296  512
                  HF(R,1,2,1,T) = COMP1                                  513
               GOTO 298                                                  514
 296           HF(R,1,2,1,T) = (COMP1 + COMP2) / 2                       515
 298        CONTINUE                                                     516
 300     IF (HF(R,1,1,3,1).NE.0.) GOTO 310                               517
            DO 308 T = 1,15                                              518
               COMP2 = (HF(R,1,4,1,T) - HF(R,1,4,3,T)) /                 519
     *               (1. - HF(R,1,4,1,T) * HF(R,1,4,3,T))                520
               IF(HF(R,1,1,2,T).NE.0.0.AND.HF(R,1,2,3,T).NE.0.)GOTO 304  521
               IF(HF(R,1,1,4,T).NE.0.0.AND.HF(R,1,3,4,T).NE.0.)GOTO 302  522
                  HF(R,1,3,1,T) = HF(IR,1,3,1,T)                         523
               GOTO 308                                                  524
 302           HF(R,1,3,1,T) = COMP2                                     525
               GOTO 308                                                  526
 304           COMP1 = (HF(R,1,2,1,T) + HF(R,1,3,2,T)) /                 527
     *               (1. + HF(R,1,2,1,T) * HF(R,1,3,2,T))                528
               IF(HF(R,1,1,4,T).NE.0.0.AND.HF(R,1,3,4,T).NE.0.)GOTO 306  529
                  HF(R,1,3,1,T) = COMP1                                  530
               GOTO 308                                                  531
 306           HF(R,1,3,1,T) = (COMP1 + COMP2) / 2                       532
 308        CONTINUE                                                     533
 310     IF (HF(R,1,1,4,1).NE.0.) GOTO 320                               534
            DO 318 T = 1,15                                              535
               COMP2 = (HF(R,1,3,1,T) + HF(R,1,4,3,T)) /                 536
```

Figure 3.5 (cont.)

```
     *              (1. + HF(R,1,3,1,T) * HF(R,1,4,3,T))                    537
                 IF(HF(R,1,1,2,T).NE.0.0.AND.HF(R,1,2,4,T).NE.0.)GOTO 314    538
                 IF(HF(R,1,1,3,T).NE.0.0.AND.HF(R,1,3,4,T).NE.0.)GOTO 312    539
                    HF(R,1,4,1,T) = HF(IR,1,4,1,T)                           540
                 GOTO 318                                                    541
  312            HF(R,1,4,1,T) = COMP2                                       542
                 GOTO 318                                                    543
  314            COMP1 = (HF(R,1,2,1,T) + HF(R,1,4,2,T)) /                   544
     *              (1. + HF(R,1,2,1,T) * HF(R,1,4,2,T))                    545
                 IF(HF(R,1,1,3,T).NE.0.0.AND.HF(R,1,3,4,T).NE.0.)GOTO 316    546
                    HF(R,1,4,1,T) = COMP1                                    547
                 GOTO 318                                                    548
  316            HF(R,1,4,1,T) = (COMP1 + COMP2) / 2                         549
  318         CONTINUE                                                       550
  320      IF (HF(R,1,2,3,1).NE.0.) GOTO 330                                 551
              DO 328 T = 1,15                                                552
                 COMP2 = (HF(R,1,4,2,T) - HF(R,1,4,3,T)) /                   553
     *              (1. - HF(R,1,4,2,T) * HF(R,1,4,3,T))                    554
                 IF(HF(R,1,1,2,T).NE.0.0.AND.HF(R,1,1,3,T).NE.0.)GOTO 324    555
                 IF(HF(R,1,2,4,T).NE.0.0.AND.HF(R,1,3,4,T).NE.0.)GOTO 322    556
                    HF(R,1,3,2,T) = HF(IR,1,3,2,T)                           557
                 GOTO 328                                                    558
  322            HF(R,1,3,2,T) = COMP2                                       559
                 GOTO 328                                                    560
  324            COMP1 = (-HF(R,1,2,1,T) + HF(R,1,3,1,T)) /                  561
     *              (1. - HF(R,1,2,1,T) * HF(R,1,3,1,T))                    562
                 IF(HF(R,1,2,4,T).NE.0.0.AND.HF(R,1,3,4,T).NE.0.)GOTO 326    563
                    HF(R,1,3,2,T) = COMP1                                    564
                 GOTO 328                                                    565
  326            HF(R,1,3,2,T) = (COMP1 + COMP2) / 2                         566
  328         CONTINUE                                                       567
  330      IF (HF(R,1,2,4,1).NE.0.) GOTO 340                                 568
              DO 338 T = 1,15                                                569
                 COMP2 = (HF(R,1,3,2,T) + HF(R,1,4,3,T)) /                   570
     *              (1. + HF(R,1,3,2,T) * HF(R,1,4,3,T))                    571
                 IF(HF(R,1,1,2,T).NE.0.0.AND.HF(R,1,1,4,T).NE.0.)GOTO 334    572
                 IF(HF(R,1,2,3,T).NE.0.0.AND.HF(R,1,3,4,T).NE.0.)GOTO 332    573
                    HF(R,1,4,2,T) = HF(IR,1,4,2,T)                           574
                 GOTO 338                                                    575
  332            HF(R,1,4,2,T) = COMP2                                       576
                 GOTO 338                                                    577
  334            COMP1 = (-HF(R,1,2,1,T) + HF(R,1,4,1,T)) /                  578
     *              (1. - HF(R,1,2,1,T) * HF(R,1,4,1,T))                    579
                 IF(HF(R,1,2,3,T).NE.0.0.AND.HF(R,1,3,4,T).NE.0.)GOTO 336    580
                    HF(R,1,4,2,T) = COMP1                                    581
                 GOTO 338                                                    582
  336            HF(R,1,4,2,T) = (COMP1 + COMP2) / 2                         583
  338         CONTINUE                                                       584
  340      IF (HF(R,1,3,4,1).NE.0.) GOTO 350                                 585
              DO 348 T = 1,15                                                586
                 COMP2 = (-HF(R,1,3,2,T) + HF(R,1,4,2,T)) /                  587
     *              (1. - HF(R,1,3,2,T) * HF(R,1,4,2,T))                    588
                 IF(HF(R,1,1,3,T).NE.0.0.AND.HF(R,1,1,4,T).NE.0.)GOTO 344    589
                 IF(HF(R,1,2,3,T).NE.0.0.AND.HF(R,1,2,4,T).NE.0.)GOTO 342    590
```

Figure 3.5 (cont.)

```
                  HF(R,1,4,3,T) = HF(IR,1,4,3,T)                                591
               GOTO 348                                                         592
 342           HF(R,1,4,3,T) = COMP2                                            593
               GOTO 348                                                         594
 344           COMP1 = (-HF(R,1,3,1,T) + HF(R,1,4,1,T)) /                       595
     *               (1. - HF(R,1,3,1,T) * HF(R,1,4,1,T))                       596
               IF(HF(R,1,2,3,T).NE.0.0.AND.HF(R,1,2,4,T).NE.0.)GOTO 346         597
                  HF(R,1,4,3,T) = COMP1                                         598
               GOTO 348                                                         599
 346           HF(R,1,4,3,T) = (COMP1 + COMP2) / 2                              600
 348        CONTINUE                                                            601
C                                                                               602
C  ***************************************************************              603
C  *   STATEMENTS 608 THRU 634 USE  THE SEASONAL RELATIONSHIPS TO   *           604
C  *   ESTIMATE MISSING SEASONAL COUNTS FROM EXISTING COUNTS.       *           605
C  ***************************************************************              606
C                                                                               607
 350   WRITE (7,6100)                                                           608
       DO 450 NL = 1,NTOT                                                       609
          R = RM(NL)                                                            610
          DO 380 D = 1,4                                                        611
             IF (SF(NL,D,16).NE.-10.) GOTO 380                                  612
                DO 370 T = 1,15                                                 613
                   DENOM = 0                                                    614
                   DM1 = D - 1                                                  615
                   IF (D.EQ.1) DM1 = 1                                          616
                   DO 355 N=1,DM1                                               617
                      IF (N.GE.D.OR.SF(NL,N,16).EQ.-10.) GOTO 355               618
                         SF(NL,D,T) =(SF(NL,N,T)+1)* (1+HF(R,1,D,N,T))/         619
     *                      (1-HF(R,1,D,N,T)) + SF(NL,D,T) - 1                  620
                         DENOM = DENOM + 1                                      621
 355                 CONTINUE                                                   622
                   DP1 = D + 1                                                  623
                   IF (D.EQ.4) DP1 = 4                                          624
                   DO 360 N=DP1,4                                               625
                      IF (N.LE.D.OR.SF(NL,N,16).EQ.-10.) GOTO 360               626
                         SF(NL,D,T) =(SF(NL,N,T)+1)* (1-HF(R,1,N,D,T))/         627
     *                      (1+HF(R,1,N,D,T)) + SF(NL,D,T) - 1                  628
                         DENOM = DENOM + 1                                      629
 360                 CONTINUE                                                   630
                   IF (SF(NL,D,T).LT.0.) SF(NL,D,T) = 0                         631
                   IF (DENOM.NE.0.) SF(NL,D,T) = SF(NL,D,T)/DENOM               632
 370            CONTINUE                                                       633
 380       CONTINUE                                                           634
C                                                                               635
C  ***************************************************************              636
C  *   IF THE ESTIMATED NUMBER OF COAL TRUCKS IS GREATER THAN THE   *           637
C  *   NUMBER OF  ESTIMATED TRUCKS  THAT ARE OF  A SIZE  TO CARRY   *           638
C  *   COAL THEN  STATEMENTS 646 THRU  649 REDUCE THE  COAL TRUCK   *           639
C  *   ESTIMATE TO THE NUMBER OF TRUCKS THAT CAN CARRY COAL.   IF   *           640
C  *   ANY PART OF A COUNT IS ESTIMATED,  STATEMENTS 650 THRU 656   *           641
C  *   MAKE THAT  TOTAL NEGATIVE TO  SIGNIFY THIS.                  *           642
C  ***************************************************************              643
C                                                                               644
```

Figure 3.5 (cont.)

```
           SFTOT = 0.                                                          645
           DO 385 S=1,4                                                        646
              NUMTRK = SF(NL,S,7) + SF(NL,S,8) + SF(NL,S,9) +                  647
     *                 SF(NL,S,10) + SF(NL,S,11)                             648
              IF (SF(NL,S,15).GT.FLOAT(NUMTRK)) SF(NL,S,15) = NUMTRK           649
              MINUS = 1                                                        650
              IF (SF(NL,S,16).LT.0.) MINUS = -1                                651
              SF(NL,S,16)=0                                                    652
              IF (YR(NL).LT.80) SF(NL,S,15)=0                                  653
              DO 385 T=1,14                                                    654
                 SF(NL,S,16)=SF(NL,S,16)+SF(NL,S,T)*MINUS                      655
 385       CONTINUE                                                           656
C                                                                             657
C  ***************************************************************            658
C  *   STATEMENTS  663  THRU  674   CALCULATE  TRUCK  INFORMATION   *         659
C  *   NECESSARY FOR THE PRINTOUT.                                  *         660
C  ***************************************************************            661
C                                                                             662
           SFTOT = (ABS(SF(NL,1,16))+ABS(SF(NL,2,16))+                        663
     *             ABS(SF(NL,3,16))+ABS(SF(NL,4,16)))/4                       664
           DO 390 T=1,16                                                      665
            SFY(T)=INT(SF(NL,1,T)+SF(NL,2,T)+SF(NL,3,T)+SF(NL,4,T)+2.)/4      666
 390       CONTINUE                                                           667
           IF (SFY(16).NE.SFTOT) SFY(16) = -SFTOT                             668
           NUMTRK = SFY(4)+SFY(5)+SFY(6)+SFY(7)+SFY(8)+                       669
     *              SFY(9)+SFY(10)+SFY(11)+SFY(12)+SFY(13)+SFY(14)            670
           PERTRK = (FLOAT(NUMTRK) / SFTOT) * 100                             671
           SFY(15) = INT(SFY(15))                                             672
           PERCOL = (SFY(15) / FLOAT(NUMTRK)) * 100                           673
           AADT(NL) = IABS(AADT(NL))                                          674
C                                                                             675
C  ***************************************************************            676
C  *   STATEMENTS 681 THRU  694 PRINT OUT THE DATA  IN AN ORDERLY   *         677
C  *   MANNER.                                                      *         678
C  ***************************************************************            679
C                                                                             680
           IF(MOD(NL,3).EQ.1) CALL HEADER(YR(1))                              681
           WRITE(6,1010)                                                      682
           WRITE(6,1100) CN(NL),(SF(NL,1,T),T=1,16),NUMHRS(NL,1)              683
           WRITE(6,1110) SN(NL)                                               684
           WRITE(6,1120) ROUTE(NL),(SF(NL,2,T),T=1,16),NUMHRS(NL,2)           685
           WRITE(6,1130) MP(NL)                                               686
           WRITE(6,1140) FED(NL),(SF(NL,3,T),T=1,16),NUMHRS(NL,3)             687
           WRITE(6,1150) OWTW(NL)                                             688
           WRITE(6,1160) AADT(NL),(SF(NL,4,T),T=1,16),NUMHRS(NL,4)            689
           WRITE(6,1170) PERTRK                                               690
           WRITE(6,1180) PERCOL,(SFY(T),T=1,16)                               691
           WRITE(6,1190)                                                      692
           WRITE(6,1010)                                                      693
           WRITE(6,1010)                                                      694
```

Figure 3.5 (cont.)

```
C                                                                       695
C  ***********************************************************************696
C  *    IF ANY ERRORS ARE FOUND,  STATEMENTS 701 THRU 754 SEND THE    *  697
C  *    ERROR AND A MESSAGE BACK TO THE INITIATING TERMINAL.          *  698
C  ***********************************************************************699
C                                                                       700
          IF (CN(NL).GT.0.AND.CN(NL).LE.120) GOTO 391                   701
             ERRCT = ERRCT + 1                                          702
             WRITE(7,6000) CN(NL),SN(NL),CN(NL),ROUTE(NL),MP(NL)        703
 391      IF (SN(NL).NE.BLANK3) GOTO 393                                704
             ERRCT = ERRCT + 1                                          705
             WRITE(7,6010) CN(NL),SN(NL),ROUTE(NL),MP(NL)               706
 393      IF (MP(NL).GE.0.) GOTO 395                                    707
             ERRCT = ERRCT + 1                                          708
             WRITE(7,6030) CN(NL),SN(NL),MP(NL),ROUTE(NL)               709
 395      IF ((FED(NL).GT.0.AND.FED(NL).LE.4).OR.FED(NL).EQ.8) GOTO 396 710
             ERRCT = ERRCT + 1                                          711
             WRITE(7,6040) CN(NL),SN(NL),FED(NL),ROUTE(NL),MP(NL)       712
 396      IF (ABS(AADT(NL)*2.).GE.ABS(SFY(16)).AND.                     713
     *        ABS(AADT(NL)*.5).LE.ABS(SFY(16))) GOTO 397               714
             IF (AADT(NL).EQ.0) AADT(NL) = ABS(SFY(16))                 715
             ERRCT = ERRCT + 1                                          716
             WRITE(7,6070) CN(NL),SN(NL),AADT(NL),ROUTE(NL),MP(NL)      717
 397      IF (PERTRK.LE.50.) GOTO 399                                   718
             ERRCT = ERRCT + 1                                          719
             WRITE(7,6080) CN(NL),SN(NL),NUMTRK,ROUTE(NL),MP(NL)        720
 399      IMP = MP(NL) * 1000                                           721
          WRITE (16,4200) CN(NL),SN(NL),ROUTE(NL),                      722
     *          IMP,YR(NL),AADT(NL),FED(NL)                           723
          IREC = 2                                                      724
          MONTH = 1                                                     725
          DAY = 0                                                       726
          HOUR = 99                                                     727
          DO 400 T=1,16                                                 728
             PRNT(T) = INT(SF(NL,1,T))                                  729
 400      CONTINUE                                                      730
          WRITE (16,4300) IREC,MONTH,DAY,HOUR,(PRNT(T),T=1,16)          731
          MONTH = 4                                                     732
          DO 405 T=1,16                                                 733
             PRNT(T) = INT(SF(NL,2,T))                                  734
 405      CONTINUE                                                      735
          WRITE (16,4300) IREC,MONTH,DAY,HOUR,(PRNT(T),T=1,16)          736
          MONTH = 7                                                     737
          DO 410 T=1,16                                                 738
             PRNT(T) = INT(SF(NL,3,T))                                  739
 410      CONTINUE                                                      740
          WRITE (16,4300) IREC,MONTH,DAY,HOUR,(PRNT(T),T=1,16)          741
          MONTH = 10                                                    742
          DO 415 T=1,16                                                 743
             PRNT(T) = INT(SF(NL,4,T))                                  744
 415      CONTINUE                                                      745
          WRITE (16,4300) IREC,MONTH,DAY,HOUR,(PRNT(T),T=1,16)          746
          IREC = 3                                                      747
          MONTH = 0                                                     748
```

Figure 3.5 (cont.)

```
          DO 420 T=1,16                                                    749
             PRNT(T) = INT(SFY(T))                                         750
 420      CONTINUE                                                         751
          WRITE (16,4300) IREC,MONTH,DAY,HOUR,(PRNT(T),T=1,16)             752
 450    CONTINUE                                                          753
        WRITE(6,8000)                                                     754
C                                                                         755
C  ***************************************************************        756
C  *   IF ANY  ERRORS CAME UP,  STATEMENTS  761 THRU 787  PRINT A   *      757
C  *   WARNING AT THE BOTTOM OF THE PRINTOUT.                       *      758
C  ***************************************************************        759
C                                                                         760
        IF (ERRCT.EQ.0) GOTO 500                                          761
           WRITE(6,8100)                                                  762
           WRITE(6,8200)                                                  763
           WRITE(6,8200)                                                  764
           WRITE(6,8200)                                                  765
           WRITE(6,8200)                                                  766
           WRITE(6,8200)                                                  767
           WRITE(6,8200)                                                  768
           WRITE(6,8200)                                                  769
           WRITE(6,8200)                                                  770
           WRITE(6,8300) ERRCT                                            771
           WRITE(6,8200)                                                  772
           WRITE(6,8200)                                                  773
           WRITE(6,8200)                                                  774
           WRITE(6,8400)                                                  775
           WRITE(6,8200)                                                  776
           WRITE(6,8200)                                                  777
           WRITE(6,8200)                                                  778
           WRITE(6,8200)                                                  779
           WRITE(6,8200)                                                  780
           WRITE(6,8200)                                                  781
           WRITE(6,8200)                                                  782
           WRITE(6,8200)                                                  783
           WRITE(6,8100)                                                  784
           WRITE(6,8100)                                                  785
 500    WRITE (7,7000) HRCT                                               786
        WRITE (7,7010) MONCT                                              787
C                                                                         788
C  ***************************************************************        789
C  *   STATEMENTS 793 THRU 847 ARE FORMAT STATEMENTS.               *      790
C  ***************************************************************        791
C                                                                         792
1010    FORMAT(25X)                                                       793
1100    FORMAT(' COUNTY        ',I3,1X,'WINTER ',                         794
     *        F5.0,2F7.0,2F4.0,F6.0,3F5.0,F6.0,5F5.0,F8.0,I7)             795
1110    FORMAT(' STATION       ',A3)                                      796
1120    FORMAT(' ROUTE    ',A8,' SPRING ',                                797
     *        F5.0,2F7.0,2F4.0,F6.0,3F5.0,F6.0,5F5.0,F8.0,I7)             798
1130    FORMAT(' MILE PT. ',F8.3)                                         799
1140    FORMAT(' FED AID  ',I8,1X,'SUMMER ',                              800
     *        F5.0,2F7.0,2F4.0,F6.0,3F5.0,F6.0,5F5.0,F8.0,I7)             801
1150    FORMAT(' DIRS COUNTED   ',I2)                                     802
```

Figure 3.5 (cont.)

```
1160   FORMAT(' AADT      ',I8,1X,'FALL    ',                          803
     *        F5.0,2F7.0,2F4.0,F6.0,3F5.0,F6.0,5F5.0,F8.0,I7)          804
1170   FORMAT(' % TRUCKS ',F8.1)                                       805
1180   FORMAT(' % TRK W/C',F8.1,1X,'ANNUAL ',                          806
     *        F5.0,2F7.0,2F4.0,F6.0,3F5.0,F6.0,5F5.0,F8.0)            807
1190   FORMAT('           ',9X,'AVERAGE')                              808
2000   FORMAT( 6X,I1,2X,3I2,4I4,8I3,11I2)                              809
2010   FORMAT( 6X,I1,2X,3I2,I3,1X,I5,1X,I4,1X,I3,1X,I2,1X,I4,2I3,1X,   810
     *          I3,I4,I3,1X,3I3,1X,I3,I2)                             811
3000   FORMAT(I3,A3,1X,I2,T20,I2,T32,I6,T50,F6.3,T78,I2)               812
4000   FORMAT(I3,16F7.0)                                               813
4100   FORMAT(' LOCATION NUMBER ',I3,' SEASON NUMBER ',I2)             814
4150   FORMAT('1CO',I3,'STA',A3,'RTE ',A8,'MP',I6,'YR',I2)             815
4200   FORMAT('1CO',I3,'STA',A3,'RTE ',A8,'MP',I6,'YR',I2,             816
     *    'AADT',I6,'FED. AID',I1)                                    817
4300   FORMAT(I1,3I2,I4,I6,I5,2I4,I5,3I4,I5,5I4,I7)                    818
5000   FORMAT(A7,I2,A8,A4,7A8,I2)                                      819
5100   FORMAT(76A1)                                                    820
5200   FORMAT('5CO',3A1,'STA',3A1,1X,67A1)                             821
5300   FORMAT(' CO',3A1,'STA',3A1,I3,1X,A8,1X,67A1)                    822
5400   FORMAT('1              STATION DESCRIPTION LISTING')            823
6000   FORMAT(1X,I3,1X,A3,' 1 :(',I3,')   ',A9,' AT MILEPOINT ',      824
     *        F8.3,' COUNTY EXCEEDS LIMITS')                          825
6010   FORMAT(1X,I3,4X,' 2 :(',A3,')   ',A9,' AT MILEPOINT ',         826
     *        F8.3,' STATION NUMBER BLANK')                           827
6030   FORMAT(1X,I3,1X,A3,' 4 :(',F8.3,')',A9,                        828
     *        ' MILE POINT NEGATIVE')                                 829
6040   FORMAT(1X,I3,1X,A3,' 5 :(',I1,')',A9,' AT MILEPOINT ',         830
     *        F8.3,' FEDERAL AID INCORRECT')                          831
6070   FORMAT(1X,I3,1X,A3,' 7 :(',I8,')',A9,' AT MILEPOINT ',         832
     *        F8.3,' AADT EXCEEDS LIMITS')                            833
6080   FORMAT(1X,I3,1X,A3,' 8 :(',I8,')',A9,' AT MILEPOINT ',         834
     *        F8.3,' TRUCKS OVER 50% OF VHCLS')                       835
6100   FORMAT(20X,'ERROR LISTING FOR CLASSIFICATION ESTIMATION')       836
7000   FORMAT(20X,I4,' PIECES OF DATA WITH UNUSABLE HOUR  NUMBERS')    837
7010   FORMAT(20X,I4,' PIECES OF DATA WITH UNUSABLE MONTH NUMBERS')    838
8000   FORMAT('1                ************************************',839
     *'************************************************************')  840
8100   FORMAT('                 ************************************',841
     *'************************************************************')  842
8200   FORMAT('                 ***',T114,'***')                        843
8300   FORMAT('                 ***',T45,'THERE HAVE BEEN ',I5,         844
     * ' WARNING(S) OR ERROR(S) PRODUCED',T114,'***')                   845
8400   FORMAT('                 ***',T45,'THE ERROR FILE HAS BEEN SENT',846
     * ' TO THE INITIATING TERMINAL',T114,'***')                        847
       STOP                                                            848
       END                                                             849
       SUBROUTINE HEADER(IYR)                                          850
C                                                                      851
C  ********************************************************************852
C  *                                                                  *853
C  *         THIS HEADER IS PRINTED AT THE TOP OF EACH PAGE.          *854
C  *                                                                  *855
C  ********************************************************************856
```

Figure 3.5 (cont.)

```
C                                                                       857
          WRITE (6,1000) IYR                                            858
          WRITE (6,1010)                                                859
          WRITE (6,1010)                                                860
          WRITE (6,1010)                                                861
          WRITE (6,1010)                                                862
          WRITE (6,1020)                                                863
          WRITE (6,1030)                                                864
          WRITE (6,1040)                                                865
          WRITE (6,1050)                                                866
          WRITE (6,1060)                                                867
          WRITE (6,1070)                                                868
          WRITE (6,1080)                                                869
          WRITE (6,1090)                                                870
          WRITE (6,1010)                                                871
          WRITE (6,1010)                                                872
          WRITE (6,1010)                                                873
1000    FORMAT('1',42X,'DAILY VOLUMES BY VEHICLE TYPE FOR 19',I2)       874
1010    FORMAT(25X)                                                     875
1020    FORMAT(25X,'+----+------+------+--+--+-------------+-------',   876
     *          '--------+-------------+----+------+--------+')        877
1030    FORMAT(25X,'| MC |      |      |SB |OB |    SINGLE     | TRACTE',  878
     *          'R TRUCK |TRACTER TRUCK |  T |       |  # OF  |')      879
1040    FORMAT(25X,'| OY |      |OTHER |CU |TU |     UNIT      |SINGLE ',  880
     *          'TRAILER |MULTI-TRAILER | CR |       |  HOURS |')      881
1050    FORMAT(25X,'| TC |PASNGR|2 AXLE|HS |HS +-----+----+----+----+--',  882
     *          '---+----+----+----+----+ OU | TOTAL |   OF   |')      883
1060    FORMAT(25X,'| OL | CARS |4 TIRE|OS |ES |2AXLE| 3  |4 OR|4 OR|  ',  884
     *          '5  |6 OR|5 OR| 6  |7 OR| AC |       |  DATA  |')      885
1070    FORMAT(25X,'| RE |      |VEHCLS|OE |RE |  6  |AXLE|MORE|LESS|AX',  886
     *          'LE |MORE|LESS|AXLE|MORE| LK |       |   PER  |')      887
1080    FORMAT(25X,'|  S |      |      |LS | S |TIRES|    |AXLE|AXLE|  ',  888
     *          '   |AXLE|AXLE|    |AXLE|  S |       | SEASON |')      889
1090    FORMAT(25X,'+----+------+------+---+---+-----+----+----+----+--',  890
     *          '---+----+----+----+----+---+-------+--------+')        891
        RETURN                                                          892
        END                                                             893
        FUNCTION SGN(R)                                                 894
C                                                                       895
C  ********************************************************************896
C  *                                                                  *  897
C  *  SIGN ROUTINE                                                    *  898
C  *                                                                  *  899
C  *  INPUT  : R - A REAL NUMBER                                      *  900
C  *                                                                  *  901
C  *  RETURNS: 1 - IF R IS POSITIVE                                   *  902
C  *           0 - IF R IS EQUAL TO 0                                 *  903
C  *          -1 - IF R IS NEGATIVE                                   *  904
C  *                                                                  *  905
C  ********************************************************************906
C                                                                       907
        REAL R                                                          908
        SGN = 0                                                         909
        IF (R.LT.0) SGN = -1                                            910
```

Figure 3.5 (cont.)

```
      IF (R.GT.0) SGN = 1                                          911
      RETURN                                                       912
      END                                                          913
```

IV. EAL CALC

A. Overview.

1. Objectives of Program. EAL CALC was developed to provide the design engineer with a concise tabulation of traffic parameters necessary to calculate accumulated and design EAL's. These parameters include AADT, fraction of trucks, fraction of trucks carrying coal, EAL's per non-coal-hauling axle, and EAL's per coal-hauling axle.

2. Program Narrative. Initially, data are read from the most current file produced by LOADOMTR SUMMARY. If an adequate sample size is not available, data from one or more prior years are read and combined with current year data. This process is continued until an adequate sample size is acquired or data are exhausted. The average number of axles per vehicle is then calculated based on current year data. If an adequate sample is not available, a default for each vehicle has been provided based on 1969-1982 data. Input is then read from the output file by the CLASS SUMMARY program. These data are processed by individual classification station. Traffic parameters are calculated for each station, output, and then assigned to a cell of one of two matrices for a cross-classification analysis. Each cell of each matrix represents a unique set of local roadway conditions. There are 40 cells in the matrix for non-coal-haul roads and six cells for coal-haul roads. After each station has been processed, means and standard deviations are calculated for each cell in the two matrices of each parameter. Means and standard deviations are filed on magnetic tape. From this tape, means of previous years are read and the mean and standard deviation for the current year are printed along with the means for the 14 previous years. The means are then used to determine increments of the traffic parameters through time based on actual data. Means and incremental values are then recalculated based on a 5-year moving average.

3. Programming Language. The programming language is FORTRAN IV.

4. Operating Environment. The object deck of the program is located in the library file UKU.@KTR05.TRAF1 in the load module EALCAL at the University of Kentucky Computing Center. It is designed to be executed by the IBM 3083 at the University of Kentucky, Lexington, Kentucky.

B. Input (Logical Units 14, 15, 16).

1. Internal Data and Parameter Specification.
   a. Damage factors (see Tables 2.1 and 4.1) used to calculate EAL's are input by data statements (1). This will allow the user to update these factors as they are changed or refined.
   b. Axleload distributions for busses (see Table 4.2) also are input by data statements. In the past, no busses have been weighed and recorded by the truck weight study, therefore, axle-load distributions were developed based on data from Iowa, Nevada, Florida, and Texas (2).

c. The average number of axles per vehicle type (see Table 4.3), which is based on the truck weight study data from 1969-1982, is incorporated to avoid complications that could arise from an inadequate sample size.
d. EAL's for passenger cars and other four-tired vehicles are input as 0.005 EAL's per vehicle.

2. External Data. There are three sources of external input data, each recorded on magnetic tape.

a. Output from LOADOMTR SUMMARY program is the first to be used. It consists of axle type and axleload distributions stored in the files FWT.YR-- (see Section II.G.4 for formatting details).
b. Output from the CLASS SUMMARY program will then be processed. It consists of annual average daily volumes of each vehicle type stored in the files CLASSUM.YR19--. (see Section III.G.4 for formatting details)
c. Output from previous executions of EAL CALC will be used to access mean values for each of the 46 cells for each traffic parameter for previous years. The information is stored in the files MEAN.STD.YR-- (see Section IV.G.4.a for formatting details).

Further description of input is as follows:

Input Variable Names	Section IV.G.1.a
Input Variable Codes	Section IV.G.2.a
Input Format	Section IV.G.3

C. Output (Logical Unit 16).

1. Files. Each execution of the program will add a file (MEAN.STD.YR--) to the Matrix Summary Tape. The file will be composed of the means and standard deviations for each of the traffic parameters in the two local condition matrices. Further description of the output is as follows:

Output Variable Names	Sections IV.G.1.b(2) and IV.G.1.b.(3)
Output Variable Codes	Section IV.G.2
Output Format	Section IV.G.4

2. Reports. The report produced will be composed of six sections. An example report containing 1983 data is shown in Figure 4.1.

a. The first section defines output variables and codes.
b. The second section contains a listing of traffic parameters for each classification station for which data were processed and identifies those for which complete information was not available.
c. The third section contains two matrices for each traffic parameter, a 40-cell matrix for non-coal-haul roads and a six-cell matrix for coal-haul roads. Each cell lists the standard

deviation and mean of the current year and means for 14 previous years.

d. The fourth section also is composed of two matrices for each parameter but each cell lists increments that represent the change through time for each parameter.
e. The fifth and sixth sections are similar to the third and fourth with the exception that all values are based on a five-year moving average.

D. Using the Program.

1. Preliminaries.

a. Before executing EAL CALC, it is necessary to have executed LOADOMTR SUMMARY and CLASS SUMMARY for the most current year's data. (Note: At present, the Truck Weight Summary tape is updated only in even years; therefore, LOADOMTR SUMMARY will be executed in even years only. It is envisioned that CLASS SUMMARY and EAL CALC will be executed annually).
b. Job control language records must be prepared for the processing of each year's data. Example JCL, used in processing 1983 data, is shown in Figure 4.2.

2. Program Execution. The program, in object form, is stored in the library UKU.@KTR05.TRAF1, in the load module EALCAL. Therefore, only JCL records are necessary for execution.

3. Validity Check. When printed output is received, it is imperative that a validity check be made. Data from individual classification stations, though represented on the printout, may be excluded from the matrices for a variety of reasons explained in the Section IV.E. Therefore, if the number of rejected stations exceeds an acceptable limit, it will be necessary to reevaluate the input data and execute EAL CALC once more. Further checks to determine if the run is valid include the following:

a. Compare the number of classification stations processed with the number for which data were input to verify their equality.
b. Search the output for each individual classification station for obviously erroneous data such as truck fractions in excess of 1.00.

4. Interpretation of Output. The output report is self explanatory with the necessary symbols and codes identified at its beginning. EAL's are always recorded in thousands and asterisks indicate no data were collected. In the increment matrices, asterisks are presented when data for either the base year or the prior year are missing.

E. Edit Checks. To minimize the incorporation of erroneous data in either of the matrix types, the following edit checks are used:

1. The federal-aid code must be with the range 1 to 5.

2. The annual average daily traffic must be greater than zero.

3. The county code must be in the range 001 to 120.

If any of these conditions are not met, a line of asterisks follows the station identification information on the printout, and the data are not incorporated into the matrices.

F. Processing and Computations.

1. Initially, data statements are read and damage factors, axleload distributions for busses, and axle types for busses are stored in memory.

2. Axleload distributions are read from file FWT.YR--.

3. The average number of axles per vehicle type is calculated if an adequate sample of the vehicle type is available. If not, a default is used.

4. If 200 of each axle type for each vehicle type were not weighed in the current year, the previous year's file is read and the axleload distributions are combined with the current year. This process is continued as necessary until 200 have been accumulated or until eight years have been considered. In such an unusual event that 200 are still unavailable, an alternate distribution that disregards vehicle type continues to backward seek until 200 axles in each type have been accumulated or 20 calendar years of data have been considered, or the data base is exhausted.

5. Axleload distributions are converted from numbers to fractions.

6. Annual average daily volumes output by CLASS SUMMARY are read.

7. Traffic parameters for each classification station are calculated.

8. Station characteristics along with the traffic parameters are output.

9. The station is assigned to one of the two matrices based on the percent of truck traffic that hauls coal and to a cell of the matrix based on volume and coal usage for coal-haul roads or geographic area, federal-aid category, and volume for non-coal-haul roads. (see Section IV.G.2)

10. The next station is read and processed.

11. After all data have been exhausted, means and standard deviations for cells are calculated and written on the Matrix Summary Tape.

12. From the Matrix Summary Tape, means from 15 previous years or all that is available are read.

13. The means and standard deviations for the current year along with the means for the previous 14 years are output for the 46 cells of each traffic parameter.

14. The means are then used to calculate the increment from each of the previous 15 years to the current year for each cell.

15. A 5-year moving average along with the increments associated with the five-year moving average are then calculated.

16. The program listing is included as Figure 4.3.

G. Appendix.

1. Listing of Major Variables and Sizes of Arrays.

a. Input Variables and Sizes of Arrays.

(1) Input variables from axleload distributions.

(a) NWAC(6) - Number of axles weighed at all rural stations for coal-hauling vehicles of Types 4-14 classified by axle type.

(b) NWANC(6) - Number of axles weighed at all main rural stations for non-coal-hauling vehicles Type 4-14 classified by axle type.

(c) NWC(14,6) - Number of axles weighed at all rural stations of coal-hauling vehicles classified by vehicle type and axle type.

(d) NWNC(14,6) - Number of axles weighed at all main rural stations for non-coal-hauling vehicles classified by vehicle type and axle type.

(e) WAC(6,16) - Number of axles weighed at all rural stations for coal-hauling vehicles of Types 4-14 classified by axle type and load interval.

(f) WANC(6,16) - Number of axles weighed at all main rural stations for non-coal-hauling vehicles of Types 4-14 classified by axle type and load interval.

(g) WC(14,6,16) - Number of axles weighed at all main rural stations for non-coal-hauling vehicles classified by vehicle type, axle type, and load interval.

(h) WNC(14,6,16) - Number of axles weighed at all main rural stations for non-coal-hauling vehicles classified by vehicle type, axle type, and load interval.

(2) Input variables from classification data.

(a) AADT - Annual average daily traffic
(b) COAL - Coal volume category
(c) COU - County
(d) FEDAID - Federal-aid classification
(e) MP - Milepoint
(f) NOSEAS - Number of seasons for which a classification count has been recorded
(g) RTE - Route
(h) STA - Station
(i) YR - Year

(3) Input variables from EAL CALC for earlier years.

(a) MEANCY(7,2,3,15) - Mean value of each of the seven traffic parameters for coal-haul roads.
(b) MEANY(7,5,2,4,15) - Mean value of each of the seven traffic parameters for non-coal-haul roads.
(c) NYR(15) - Year with which the traffic parameters are associated.

b. Output Variables and Sizes of Arrays.

(1) Output variables and sizes of arrays for individual classification stations.

(a) AADT - Annual average daily traffic
(b) COU - County
(c) EALC - Two-directional EAL contribution by 4-tired vehicles
(d) EALCT - Two-directional EAL contribution by coal-hauling trucks
(e) EALT - Two-directional EAL contribution by non-coal-hauling trucks
(f) EALCTA - Two-directional EAL contribution by 4-tired vehicles
(g) EALTAX - EAL per non-coal-hauling truck axle
(h) FCT - Fraction of the truck volume that carries coal
(i) FEDAID - Federal-aid classification
(j) FT - Fraction of volume that is trucks
(k) MP - Milepoint
(l) RNOAX - Average number of axles per non-coal-hauling truck
(m) RNOAXC - Average number of axles per coal-hauling truck
(n) RTE - Route description
(o) STA - Station number
(p) TEAL - Total two-directional EAL's

(2) Output variables and sizes of arrays for the non-coal-haul matrix of mean values.

(a) COUNT(5,2,4) - Number of non-coal-haul stations that meet cell requirements
(b) J - Federal-aid classification
(c) K - Volume category
(d) L - Geographic area
(e) MEAN(11,5,2,4) - The mean value and 5-year moving average for each of the 11 traffic parameters for the current year
(f) MEANY(11,5,2,4,15) - The mean value and 5-year moving average for each of the 11 traffic parameters for the 15 previous years
(g) STD(11,5,2,4) - The standard deviation for each of the 11 traffic parameters for the current year

(3) Output variables and sizes of arrays for the coal haul matrix of mean values.

(a) CCOUNT(2,3) - Number of stations
(b) J - Volume category
(c) K - Coal truck usage
(d) MEANC(11,2,3) - The mean value for each of the 11 traffic parameters for the current year

(e) MEANCY(11,2,3,15) - The mean value and 5-year moving average for each of the 11 traffic parameters for the 15 previous years

(f) STDC(11,2,3) - Standard deviation for each of the 11 parameters for the current year

(4) Output variables and sizes of arrays for the non-coal-haul matrix of increments.

(a) DIFF(11,5,2,4,15) - The increment value from each of 15 previous years to the current year for the 11 traffic parameters

(b) J - Federal-aid classification

(c) K - Volume category

(d) L - Geographic area

(5) Output variables and sizes of arrays for the coal-haul matrix of increments.

(a) DIFF(11,2,3,15) - The increment value for each of the 15 previous years to the current year for the 11 traffic parameters.

(b) J - Volume category

(c) K - Coal usage category

2. Identification of Variable Codes

a. FA - Federal-aid codes

1 - Interstate
2 - Federal-aid primary
3 - Federal-aid urban
4 - Federal-aid secondary
5 - Non-federal-aid

b. GA - Geographic area codes

1 - West (Highway Districts 1, 2)
2 - South-central (Highway Districts 3, 4, 8)
3 - North-central (Highway Districts 5, 6, 7)
4 - East (Highway Districts 9, 10, 11, 12)

c. VOL - Volume codes

1 - Less than 5,000 AADT
2 - 5,000 or more AADT

d. CT - Coal-hauling road codes

1 - Coal trucks comprise 0.2-0.99% of total volume
2 - Coal trucks comprise 1.0-5.0% of total volume
3 - Coal trucks comprise more than 5.0% of total volume

3. Input Format (see Sections II.G.3 and III.G.3).

4. Output Format.

a. Recorded on tape.

(1) Ordering. The records to be stored on tape will be loaded as follows:

(a) The records for the non-coal-haul matrix will be loaded first. There are 440 records, one for each combination of variable type, federal-aid classification, volume category, and geographic area.

(b) The records for the coal-haul matrix are loaded second. There are 66 records, one for each combination of variable type, volume category, and coal usage category.

(2) Formatting.

(a) Output for non-coal-haul matrix.

Columns	Description	Format
1-2	Year	I2
3	Variable type code	I1
4	Federal-aid classification code	I1
5	Volume code	I1
6	Geographic area code	I1
7-10	Number of stations in cell	F4.0
11-25	Mean value	F15.3
26-40	Standard deviation	F15.3

(b) Output for coal-haul matrix.

Columns	Description	Format
1-2	Year	I2
3	Variable type code	I1
4	Volume code	I1
5	Coal code	I1
6	Blank	1X
7-10	Number of stations in cell	F4.0
11-25	Mean value	F15.3
26-40	Standard deviation	F15.3

b. Printed Output.

(1) Ordering.

(a) A listing of variables and codes will be output first.

(b) Site specific station identification information and values of each of the traffic parameters associated with the site will be output second.

(c) The coal-haul and non-coal-haul matrices for each of the traffic parameters based on current year data is output next.

(d) The coal-haul and non-coal-haul matrices for each of the traffic parameters based on a 5-year moving average is output last.

(2) Formatting. Formatting of the output is self-explanatory.

REFERENCES

1. Southgate, H. F.; Deen, R. C.; Mayes, J. G.; "Strain Energy Analysis of Pavement Designs for Heavy Trucks," Kentucky Transportation Research Program, UKTRP-82-23, November 1982.

2. Unpublished information received from Perry Kent, FHWA, February 1984.

VARIABLES AND CODES DEFINED

NON-COAL-HAULING ROADS
COAL TRUCKS COMPRISE LESS THAN 1.0% OF THE TRUCK VOLUME

FA - FEDERAL AID CODES
1 - INTERSTATE
2 - FEDERAL AID PRIMARY
3 - FEDERAL AID URBAN
4 - FEDERAL AID SECONDARY
5 - NON-FEDERAL AID

GA - GEOGRAPHIC AREA CODES
1 - WEST (HIGHWAY DISTRICTS 1,2)
2 - SOUTH-CENTRAL (HIGHWAY DISTRICTS 3,4,8)
3 - NORTH-CENTRAL (HIGHWAY DISTRICTS 5,6,7)
4 - EAST (HIGHWAY DISTRICTS 9,10,11,12)

VOL - VOLUME CODES
1 - LESS THAN 5000 AADT
2 - 5000 OR MORE AADT

COAL-HAULING ROADS
COAL TRUCKS COMPRISE 1.0% OR MORE OF THE TRUCK VOLUME

CT - COAL-HAULING ROAD CODES
1 - COAL TRUCKS COMPRISE 1.0-4.99% OF THE TRUCK VOLUME
2 - COAL TRUCKS COMPRISE 5.0-14.99% OF THE TRUCK VOLUME
3 - COAL TRUCKS COMPRISE MORE THAN 15.0% OF THE TRUCK VOLUME

VOL - VOLUME CODES
1 - LESS THAN 5000 AADT
2 - 5000 OR MORE AADT

INDIVIDUAL CLASSIFICATION STATIONS

DIR
OPR -DIRECTIONAL OPERATION CODES
1 - ONE-WAY OPERATION
2 - TWO-WAY OPERATION

FED
AID - FEDERAL AID CODES
1 - INTERSTATE
2 - FEDERAL AID PRIMARY
3 - FEDERAL AID URBAN
4 - FEDERAL AID SECONDARY
5 - NON-FEDERAL AID

Figure 4.1 EAL CALC OUTPUT

EAL TRAFFIC PARAMETERS FOR INDIVIDUAL CLASSIFICATION STATIONS
1983

COU	STA	ROUTE	MILE POINT	FED AID	AADT	TRUCK FRACT	FRACT OF TRK WITH COAL	AXLES PER NON COAL TRUCK	AXLES PER COAL TRUCK	EAL'S/ NON COAL AXLE	EAL'S/ COAL TRUCK AXLE	2-DIRECTION EAL'S IN 1000'S 4-TIRE VEHICLES	NON-COAL TRUCKS	COAL TRUCKS	TOTAL
1	A07	KY 55	11.0	2	7716	0.090	0.0	3.119	0.0	0.141	0.0	13.	111.	0.	124.
1	P34	KY 80	20.1	2	3579	0.104	0.0	3.139	0.0	0.157	0.0	6.	67.	0.	73.
1	515	KY 768	12.5	5	134	0.150	0.0	2.529	0.0	0.136	0.0	0.	3.	0.	3.
2	A72	US 31	8.8	2	11415	0.055	0.002	3.592	5.000	0.147	0.361	20.	120.	1.	140.
2	558	KY 100	5.7	4	1312	0.114	0.0	3.095	0.0	0.148	0.0	2.	25.	0.	27.
3	A49	KY 44	13.6	4	3100	0.095	0.0	3.011	0.0	0.113	0.0	5.	37.	0.	42.
3	044	KY 151	0.4	4	9700	0.112	0.0	3.664	0.0	0.147	0.0	16.	213.	0.	229.
4	501	KY 121	7.5	2	1800	0.088	0.0	3.824	0.0	0.142	0.0	3.	32.	0.	35.
5	A31	US 31	14.8	2	15408	0.063	0.0	3.187	0.0	0.141	0.0	26.	158.	0.	185.
5	017	US 68	16.5	4	2424	0.037	0.0	2.643	0.0	0.154	0.0	4.	14.	0.	18.
7	A11		0.0	3	920	0.028	0.083	2.716	4.000	0.125	2.506	2.	3.	7.	12.
7	A58	KY2401	0.2	3	1607	0.033	0.046	2.841	4.000	0.143	2.506	3.	8.	7.	18.
7	A70	KY2079	0.1	3	2000	0.006	0.0	2.400	0.0	0.174	0.0	4.	2.	0.	5.
7	B63	KY 441	0.9	3	1953	0.052	0.174	2.287	2.875	0.187	3.483	3.	13.	58.	75.
7	D53	US 25	12.9	2	15173	0.091	0.093	3.474	4.339	0.142	1.437	25.	224.	291.	540.
7	P31	US 25	19.0	2	5929	0.185	0.113	3.635	4.364	0.145	1.417	9.	187.	275.	471.
7	251	US 119	5.5	2	4702	0.115	0.129	3.012	4.367	0.157	1.431	8.	81.	157.	246.
7	507	US 25	0.1	2	15890	0.115	0.248	3.855	4.346	0.134	1.439	26.	260.	1032.	1318.
8	252	I 75	178.0	1	42500	0.222	0.003	4.471	4.350	0.142	1.435	60.	2177.	66.	2302.
8	767	I 275	12.7	1	9615	0.157	0.011	4.164	4.267	0.140	1.450	15.	317.	34.	365.
9	A19		0.0	3	1495	0.022	0.0	2.565	0.0	0.150	0.0	3.	4.	0.	7.
9	A39		0.0	3	635	0.024	0.0	2.543	0.0	0.149	0.0	1.	2.	0.	3.
9	A42		0.0	3	1735	0.031	0.0	2.776	0.0	0.179	0.0	3.	10.	0.	13.
9	A48		0.0	3	205	0.025	0.0	2.140	0.0	0.170	0.0	0.	1.	0.	1.
9	A58		0.0	3	757	0.083	0.0	2.305	0.0	0.206	0.0	1.	11.	0.	12.
9	A62		0.0	3	3642	0.020	0.030	2.418	4.000	0.138	2.506	6.	8.	7.	22.
9	A67	KY 627	9.3	2	4132	0.070	0.0	2.677	0.0	0.151	0.0	7.	42.	0.	49.
9	A73	KY1939	7.6	3	1736	0.052	0.010	2.285	0.0	0.174	0.0	3.	13.	0.	16.
9	A74	KY1939	7.8	3	2835	0.025	0.0	2.335	0.0	0.186	0.0	5.	11.	0.	16.
9	A86		0.0	3	3560	0.033	0.0	2.390	0.0	0.161	0.0	6.	17.	0.	23.
9	P26	US 68	4.2	2	4924	0.105	0.0	2.935	0.0	0.150	0.0	8.	83.	0.	91.
10	A18	KY 168	5.7	3	5330	0.029	0.0	2.412	0.0	0.208	0.0	9.	29.	0.	38.
10	A31	US 60	0.5	2	5515	0.045	0.156	3.584	4.382	0.152	1.408	10.	42.	83.	135.
10	A80	KY 5	10.4	3	5700	0.063	0.144	2.735	3.460	0.189	2.868	10.	58.	181.	249.
10	B50		0.0	3	5470	0.015	0.0	2.375	0.0	0.191	0.0	10.	14.	0.	23.
10	B72		0.0	3	3995	0.040	0.060	2.628	4.000	0.175	1.624	7.	26.	17.	49.
10	D21	US 23	0.2	3	2998	0.045	0.025	2.555	4.333	0.153	1.681	5.	19.	8.	32.
10	D22	KY2537	0.2	3	2246	0.006	0.0	2.918	0.0	0.114	0.0	4.	2.	0.	6.
10	P42	US 23	0.1	2	5817	0.311	0.472	4.116	4.677	0.136	0.658	7.	195.	953.	1156.
11	A18		0.0	3	4395	0.030	0.0	2.461	0.0	0.155	0.0	8.	18.	0.	26.
11	A61		0.0	3	7012	0.014	0.0	2.328	0.0	0.190	0.0	13.	16.	0.	28.
11	A68	US 150	14.3	2	6195	0.069	0.0	2.808	0.0	0.164	0.0	10.	72.	0.	82.
11	B12	US 127	4.8	2	12310	0.031	0.0	2.601	0.0	0.165	0.0	22.	58.	0.	80.
11	B21	KY 34	11.7	2	4955	0.058	0.003	3.026	0.0	0.155	0.0	9.	49.	0.	58.
11	B26		0.0	3	2645	0.027	0.0	2.335	0.0	0.140	0.0	5.	9.	0.	13.
11	B36	KY 34	10.7	2	2500	0.036	0.0	2.384	0.0	0.146	0.0	4.	11.	0.	16.
12	A07	KY 10	14.1	4	2910	0.052	0.004	2.517	0.0	0.165	0.0	5.	23.	0.	28.
12	776	KY1019	3.3	5	282	0.073	0.0	2.696	0.0	0.181	0.0	0.	3.	0.	4.
13	784	KY 15	24.4	2	4735	0.149	0.411	3.476	4.655	0.135	0.653	7.	72.	316.	395.
16	P37	US 231	16.1	4	1820	0.246	0.519	4.155	4.738	0.143	0.509	2.	47.	203.	253.

Figure 4.1 (cont.)

EAL TRAFFIC PARAMETERS FOR INDIVIDUAL CLASSIFICATION STATIONS
1983

COU	STA	ROUTE	MILE POINT	FED AID	AADT	TRUCK FRACT	FRACT OF TRK WITH COAL	AXLES PER NON COAL	AXLES PER COAL TRUCK	EAL'S/ NON COAL AXLE	EAL'S/ COAL TRUCK AXLE	2-DIRECTION EAL'S IN 1000'S 4-TIRE VEHICLES	NON-COAL TRUCKS	COAL TRUCKS	TOTAL
17	A02	KY 293	6.5	3	2774	0.037	0.047	2.643	4.500	0.152	1.314	5.	15.	9.	28.
17	A21		0.0	3	4375	0.049	0.0	2.438	0.0	0.140	0.0	8.	27.	0.	34.
17	A43		0.0	3	902	0.014	0.0	2.108	0.0	0.172	0.0	2.	2.	0.	3.
17	A68		0.0	3	330	0.035	0.0	2.292	0.0	0.211	0.0	1.	2.	0.	3.
17	A97		0.0	3	286	0.016	0.0	2.467	0.0	0.251	0.0	1.	1.	0.	2.
17	B04		0.0	3	1785	0.023	0.156	2.576	4.200	0.167	1.995	3.	6.	15.	24.
17	B08		0.0	3	1431	0.021	0.095	2.427	4.000	0.158	2.506	3.	4.	7.	14.
17	B23		0.0	3	1911	0.012	0.0	2.218	0.0	0.190	0.0	3.	3.	0.	7.
19	A14		0.0	3	6053	0.015	0.0	2.179	0.0	0.167	0.0	11.	12.	0.	23.
19	A30	US 27	20.9	2	12000	0.027	0.0	2.259	0.0	0.190	0.0	21.	51.	0.	73.
19	A33	KY 9	15.1	3	4520	0.079	0.029	3.104	4.333	0.150	1.681	8.	59.	24.	91.
19	E21		0.0	3	1300	0.050	0.0	2.314	0.0	0.184	0.0	2.	10.	0.	12.
19	E45		0.0	3	4590	0.102	0.0	2.358	0.0	0.202	0.0	7.	81.	0.	89.
19	E64		0.0	3	1037	0.049	0.0	2.316	0.0	0.209	0.0	2.	9.	0.	11.
19	E79		0.0	3	3874	0.014	0.0	2.013	0.0	0.144	0.0	7.	6.	0.	13.
19	E80		0.0	3	989	0.027	0.028	2.278	0.0	0.176	0.0	2.	4.	0.	6.
19	G18		0.0	3	9373	0.031	0.003	2.356	0.0	0.165	0.0	17.	42.	0.	58.
20	A33	KY 123	7.4	4	694	0.030	0.0	2.067	0.0	0.159	0.0	1.	3.	0.	4.
20	001	KY1820	5.9	5	159	0.189	0.0	2.438	0.0	0.163	0.0	0.	5.	0.	5.
22	P13	US 60	20.0	4	1759	0.060	0.241	2.783	4.500	0.141	0.538	3.	12.	21.	36.
23	A51	US 127	13.5	2	3345	0.109	0.003	3.210	0.0	0.145	0.0	5.	62.	0.	68.
23	552	US 127	0.1	2	1110	0.175	0.0	3.564	0.0	0.140	0.0	2.	36.	0.	37.
24	B55		0.0	3	316	0.038	0.0	2.233	0.0	0.190	0.0	1.	2.	0.	2.
24	B66		0.0	3	2270	0.027	0.0	2.688	0.0	0.203	0.0	4.	12.	0.	16.
24	B68		0.0	3	1423	0.032	0.049	2.386	4.000	0.181	2.506	3.	7.	7.	17.
24	B69		0.0	3	893	0.034	0.125	2.508	4.333	0.178	1.681	2.	5.	8.	14.
24	B72		0.0	3	1300	0.016	0.0	2.693	0.0	0.209	0.0	2.	4.	0.	7.
24	B73		0.0	3	1020	0.024	0.0	2.196	0.0	0.182	0.0	2.	4.	0.	5.
24	B80		0.0	3	1204	0.024	0.037	2.832	0.0	0.173	0.0	2.	5.	0.	7.
24	B82		0.0	3	1293	0.026	0.047	2.361	5.000	0.171	0.361	2.	5.	1.	8.
24	C00	KY 164	9.4	3	1046	0.041	0.0	2.165	0.0	0.163	0.0	2.	6.	0.	7.
24	P09	US 41	24.4	4	2385	0.111	0.006	3.517	5.000	0.147	0.361	4.	50.	1.	54.
24	059	KY1348	9.9	5	385	0.016	0.0	2.233	0.0	0.190	0.0	1.	1.	0.	2.
25	A15	KY1927	6.9	3	2890	0.020	0.0	2.464	0.0	0.192	0.0	5.	10.	0.	15.
25	A21	US 60	6.1	2	19241	0.024	0.0	2.393	0.0	0.147	0.0	34.	59.	0.	93.
25	A51		0.0	3	1400	0.070	0.0	2.934	0.0	0.190	0.0	2.	20.	0.	22.
25	A75		0.0	3	850	0.026	0.0	3.136	0.0	0.122	0.0	2.	3.	0.	5.
25	A76	KY2343	0.1	3	1020	0.057	0.0	2.611	0.0	0.216	0.0	2.	12.	0.	14.
25	A87		0.0	3	2919	0.027	0.013	2.487	5.000	0.146	0.361	5.	10.	1.	16.
25	A97	KY 627	9.0	2	9680	0.107	0.0	3.069	0.0	0.179	0.0	16.	207.	0.	222.
25	B17		0.0	3	1710	0.035	0.0	2.446	0.0	0.184	0.0	3.	10.	0.	13.
25	B23		0.0	3	2284	0.012	0.0	2.660	0.0	0.183	0.0	4.	5.	0.	9.
25	B35		0.0	3	2267	0.054	0.010	2.756	5.000	0.200	0.361	4.	25.	1.	29.
26	A14	KY 687	14.2	5	1581	0.015	0.069	2.741	5.000	0.153	0.361	3.	4.	1.	7.
27	286	US 127	9.7	2	1800	0.115	0.0	3.319	0.0	0.147	0.0	3.	37.	0.	40.
29	A23	KY 61	12.9	2	6910	0.060	0.0	2.825	0.0	0.151	0.0	12.	65.	0.	77.
29	A24	KY 61	12.8	2	2119	0.095	0.0	2.998	0.0	0.179	0.0	3.	39.	0.	43.
29	257	KY 61	0.1	2	1030	0.091	0.0	3.134	0.0	0.136	0.0	2.	14.	0.	16.
30	A64		0.0	3	4856	0.034	0.008	2.703	5.000	0.158	0.361	9.	26.	1.	35.
30	A91		0.0	3	6040	0.035	0.005	2.453	0.0	0.160	0.0	11.	31.	0.	41.

Figure 4.1 (cont.)

EAL TRAFFIC PARAMETERS FOR INDIVIDUAL CLASSIFICATION STATIONS
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COU	STA	ROUTE	MILE POINT	FED AID	AADT	TRUCK FRACT	FRACT OF TRK WITH COAL	AXLES PER NON COAL TRUCK	AXLES PER COAL TRUCK	EAL'S/ NON COAL AXLE	EAL'S/ COAL TRUCK AXLE	2-DIRECTION EAL'S IN 1000'S 4-TIRE VEHICLES	NON-COAL TRUCKS	COAL TRUCKS	TOTAL
30	B14		0.0	3	10080	0.020	0.0	2.238	0.0	0.165	0.0	18.	28.	0.	46.
30	B24		0.0	3	9975	0.021	0.0	2.500	0.0	0.214	0.0	18.	41.	0.	59.
30	B25		0.0	3	5480	0.019	0.039	2.537	2.500	0.199	4.003	10.	19.	7.	36.
30	B30		0.0	3	2989	0.009	0.0	2.225	0.0	0.172	0.0	5.	4.	0.	9.
30	B33		0.0	3	11687	0.017	0.0	2.541	0.0	0.160	0.0	21.	30.	0.	51.
30	B35		0.0	3	2242	0.009	0.0	2.441	0.0	0.223	0.0	4.	4.	0.	8.
30	B60		0.0	3	5043	0.018	0.011	2.481	5.000	0.200	0.361	9.	16.	1.	26.
30	B61		0.0	3	4100	0.013	0.0	2.395	0.0	0.159	0.0	7.	7.	0.	14.
30	B66		0.0	3	2400	0.017	0.0	2.533	0.0	0.171	0.0	4.	7.	0.	11.
30	B74		0.0	3	1079	0.090	0.0	2.263	0.0	0.199	0.0	2.	16.	0.	18.
30	B81		0.0	3	2485	0.023	0.0	2.642	0.0	0.144	0.0	4.	8.	0.	12.
30	C32	KY2707	0.7	3	4010	0.012	0.0	2.428	0.0	0.140	0.0	7.	6.	0.	13.
30	C37	KY2700	0.2	3	2010	0.023	0.0	2.332	0.0	0.133	0.0	4.	5.	0.	9.
30	D05	KY 331	1.5	3	1500	0.501	0.479	3.720	4.655	0.131	0.534	1.	70.	324.	395.
30	D06	KY2118	0.5	3	1805	0.052	0.0	2.690	0.0	0.224	0.0	3.	20.	0.	23.
30	D31		0.0	3	1235	0.021	0.038	2.665	0.0	0.223	0.0	2.	6.	0.	8.
30	D60	KY2235	0.1	3	5205	0.069	0.0	3.089	0.0	0.169	0.0	9.	68.	0.	77.
30	D65		0.0	3	9005	0.031	0.0	2.540	0.0	0.209	0.0	16.	54.	0.	70.
30	D75		0.0	3	5735	0.012	0.0	2.122	0.0	0.167	0.0	10.	9.	0.	19.
30	008	US 60	6.1	2	16700	0.102	0.238	3.638	4.353	0.142	1.433	27.	245.	924.	1196.
30	008	KY 144	8.5	4	1705	0.171	0.376	2.904	3.101	0.195	3.414	3.	38.	417.	458.
30	023	KY 662	0.0	5	214	0.092	0.0	2.813	0.0	0.196	0.0	0.	4.	0.	4.
30	259	KY 764	6.4	5	564	0.155	0.0	2.610	0.0	0.256	0.0	1.	21.	0.	22.
30	583	KY 815	3.5	5	380	0.064	0.0	2.697	0.0	0.200	0.0	1.	5.	0.	5.
32	P41	KY 7	11.4	2	1971	0.126	0.250	3.555	4.505	0.160	1.055	3.	39.	104.	146.
33	P30	KY 52	19.1	4	1044	0.081	0.0	2.597	0.0	0.159	0.0	2.	13.	0.	15.
33	018	KY1571	4.9	4	1210	0.054	0.056	2.413	4.333	0.181	1.681	2.	10.	8.	20.
34	B08		0.0	3	3719	0.029	0.0	2.298	0.0	0.175	0.0	7.	16.	0.	23.
34	B46	KY1968	5.0	3	1460	0.044	0.0	2.694	0.0	0.206	0.0	2.	13.	0.	15.
34	B67	KY1681	6.6	3	6170	0.143	0.002	2.818	5.000	0.160	0.361	10.	145.	1.	156.
34	C35		0.0	3	12058	0.034	0.002	2.475	0.0	0.166	0.0	21.	61.	0.	82.
34	C98	KY1928	0.1	3	11000	0.082	0.0	2.534	0.0	0.189	0.0	18.	158.	0.	176.
34	D25		0.0	3	1867	0.021	0.0	2.369	0.0	0.200	0.0	3.	7.	0.	10.
34	D40		0.0	3	3185	0.013	0.0	2.621	0.0	0.198	0.0	6.	8.	0.	14.
34	E46	US 27	3.4	2	30495	0.019	0.0	2.344	0.0	0.162	0.0	54.	79.	0.	134.
34	E83		0.0	3	1731	0.019	0.0	2.533	0.0	0.175	0.0	3.	5.	0.	8.
34	E87		0.0	3	19002	0.034	0.0	2.192	0.0	0.187	0.0	33.	96.	0.	129.
34	F10	US 68	5.6	3	24385	0.033	0.0	2.313	0.0	0.160	0.0	43.	109.	0.	152.
34	F17	KY1267	1.2	3	2718	0.029	0.0	2.534	0.0	0.155	0.0	5.	11.	0.	16.
34	324	US 25	8.1	2	14981	0.057	0.0	2.964	0.0	0.153	0.0	26.	140.	0.	166.
35	P11	KY 11	13.1	2	4424	0.105	0.006	3.037	4.000	0.126	2.506	7.	65.	7.	79.
36	P43	KY1428	4.2	5	2241	0.056	0.174	2.484	3.657	0.185	2.273	4.	18.	61.	82.
36	514	KY 122	26.0	5	784	0.050	0.050	2.616	5.000	0.259	0.361	1.	9.	1.	11.
36	523	KY 7	0.1	4	2569	0.133	0.500	2.543	3.042	0.210	3.909	4.	33.	734.	771.
36	752	KY 404	8.0	4	2291	0.173	0.520	2.759	3.660	0.201	2.427	3.	39.	665.	707.
37	A70	US 460	0.9	2	7142	0.041	0.009	3.313	4.000	0.167	2.506	12.	59.	7.	79.
37	A75	KY 420	3.7	3	3707	0.040	0.0	2.991	0.0	0.154	0.0	6.	25.	0.	32.
37	A91	US 60	9.2	3	13833	0.023	0.0	2.467	0.0	0.162	0.0	25.	47.	0.	71.
37	B18	KY2261	0.3	3	3000	0.021	0.017	2.433	5.000	0.159	0.361	5.	8.	1.	14.
37	P01	US 60	0.0	4	3307	0.088	0.003	3.363	0.0	0.143	0.0	5.	51.	0.	56.

Figure 4.1 (cont.)

EAL TRAFFIC PARAMETERS FOR INDIVIDUAL CLASSIFICATION STATIONS
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COU	STA	ROUTE	MILE POINT	FED AID	AADT	TRUCK FRACT	FRACT OF TRK WITH COAL	AXLES PER NON COAL TRUCK	AXLES PER COAL TRUCK	EAL'S/ NON COAL AXLE	EAL'S/ COAL TRUCK AXLE	2-DIRECTION EAL'S IN 1000'S 4-TIRE VEHICLES	NON-COAL TRUCKS	COAL TRUCKS	TOTAL
37	256	US 60	14.0	2	9497	0.069	0.0	3.285	0.0	0.144	0.0	16.	113.	0.	129.
37	565	US 127	3.0	2	11000	0.034	0.008	3.154	4.000	0.153	2.506	19.	67.	7.	93.
37	773	KY 12	3.8	5	454	0.093	0.0	2.679	0.0	0.130	0.0	1.	5.	0.	6.
38	A45		0.0	3	475	0.024	0.0	3.076	0.0	0.146	0.0	1.	2.	0.	3.
38	A95		0.0	3	173	0.036	0.0	3.283	0.0	0.118	0.0	0.	1.	0.	1.
38	A97		0.0	3	427	0.025	0.0	3.464	0.0	0.126	0.0	1.	2.	0.	3.
38	B09	KY 166	12.5	2	1470	0.025	0.0	2.601	0.0	0.142	0.0	3.	5.	0.	8.
38	B23		0.0	3	675	0.011	0.0	2.978	0.0	0.143	0.0	1.	1.	0.	2.
38	L46	US 51	3.0	2	3450	0.142	0.002	4.068	5.000	0.142	0.361	5.	103.	1.	109.
41	P16	US 25	17.5	4	2708	0.046	0.0	2.634	0.0	0.147	0.0	5.	18.	0.	22.
41	P23	I 75	164.2	1	22627	0.248	0.033	4.399	4.352	0.142	1.426	31.	1235.	417.	1682.
42	A31		0.0	3	430	0.018	0.0	3.300	0.0	0.152	0.0	1.	1.	0.	2.
42	P10	US 45	6.2	2	1620	0.141	0.0	3.525	0.0	0.145	0.0	3.	43.	0.	45.
42	005	KY 564	13.6	5	330	0.066	0.0	2.427	0.0	0.143	0.0	1.	3.	0.	3.
42	771	KY 440	6.2	5	420	0.052	0.0	2.427	0.0	0.143	0.0	1.	3.	0.	4.
43	P08	US 62	12.1	4	1582	0.077	0.0	3.267	0.0	0.167	0.0	3.	24.	0.	27.
45	E37	KY1725	0.9	3	3410	0.009	0.0	2.924	0.0	0.146	0.0	6.	5.	0.	11.
45	E51	KY 503	9.1	3	1339	0.030	0.0	2.504	0.0	0.206	0.0	2.	8.	0.	10.
45	E62	KY 693	2.7	3	12379	0.018	0.0	2.759	0.0	0.151	0.0	22.	34.	0.	57.
45	E70	KY2543	0.0	3	6703	0.020	0.0	2.278	0.0	0.166	0.0	12.	19.	0.	31.
45	E76		0.0	3	3604	0.035	0.0	2.473	0.0	0.181	0.0	6.	20.	0.	27.
46	P35	US 60	12.6	2	2582	0.176	0.002	4.224	0.0	0.143	0.0	4.	101.	0.	104.
46	501	KY 144	2.8	4	869	0.083	0.011	2.269	0.0	0.172	0.0	1.	10.	0.	12.
46	764	US 60	0.1	2	4911	0.129	0.0	4.247	0.0	0.145	0.0	8.	142.	0.	150.
46	827		0.0	5	750	0.030	0.050	2.240	0.0	0.165	0.0	1.	3.	0.	4.
46	832	KY1957	0.1	5	1774	0.105	0.007	4.422	5.000	0.142	0.361	3.	42.	1.	46.
47	L54	I 65	89.4	1	19268	0.320	0.0	4.539	0.0	0.143	0.0	24.	1455.	0.	1478.
47	P07	US 31	29.6	2	22386	0.033	0.011	3.273	4.429	0.145	1.468	38.	128.	17.	183.
48	A51	KY 72	17.9	2	2415	0.030	0.015	2.459	5.000	0.145	0.361	4.	9.	1.	14.
48	C22	KY 179	7.7	5	2405	0.038	0.0	2.432	0.0	0.208	0.0	4.	17.	0.	21.
48	P18	US 119	10.0	2	7369	0.082	0.127	2.820	4.341	0.153	1.432	12.	84.	175.	271.
48	521	US 421	11.0	2	5444	0.175	0.0	3.280	0.0	0.163	0.0	8.	186.	0.	194.
49	A86	US 27	6.2	2	3462	0.083	0.0	3.284	0.0	0.148	0.0	6.	51.	0.	56.
49	792	KY1054	7.9	5	247	0.075	0.0	2.579	0.0	0.155	0.0	0.	3.	0.	3.
51	A20		0.0	3	1538	0.013	0.0	2.447	0.0	0.161	0.0	3.	3.	0.	6.
51	B02		0.0	3	213	0.306	0.0	3.495	0.0	0.160	0.0	0.	13.	0.	13.
51	B59		0.0	3	1285	0.008	0.0	2.570	0.0	0.141	0.0	2.	2.	0.	4.
51	B77	KY2099	0.1	3	3450	0.126	0.002	3.682	0.0	0.195	0.0	5.	114.	0.	120.
51	B89		0.0	3	769	0.034	0.0	2.431	0.0	0.260	0.0	1.	6.	0.	7.
51	C17	KY 812	6.9	4	3045	0.222	0.650	3.050	4.608	0.185	0.588	4.	49.	431.	485.
51	C41		0.0	3	855	0.028	0.042	2.296	5.000	0.205	0.361	2.	4.	1.	6.
51	C51		0.0	3	579	0.009	0.0	2.517	0.0	0.165	0.0	1.	1.	0.	2.
52	L59	I 71	36.4	1	13320	0.388	0.002	4.580	4.429	0.142	1.468	15.	1225.	17.	1257.
54	A58		0.0	3	1700	0.019	0.143	2.624	4.333	0.176	1.681	3.	5.	8.	16.
54	A97	KY 254	0.1	3	7200	0.033	0.048	2.889	4.400	0.157	1.531	13.	38.	25.	75.
54	B03	KY1034	10.2	3	1145	0.066	0.014	2.388	5.000	0.200	0.361	2.	13.	1.	16.
54	B20		0.0	3	7277	0.033	0.036	2.768	4.429	0.159	1.468	13.	37.	17.	67.
54	B26	KY 262	3.8	3	2540	0.026	0.075	2.625	4.500	0.161	1.314	5.	10.	9.	23.
54	B47		0.0	3	6160	0.021	0.0	2.621	0.0	0.147	0.0	11.	18.	0.	29.
56	G72	KY1230	0.0	3	1025	0.050	0.014	2.728	0.0	0.139	0.0	2.	7.	0.	9.

Figure 4.1 (cont.)

Figure 4.1 (cont.)

EAL TRAFFIC PARAMETERS FOR INDIVIDUAL CLASSIFICATION STATIONS
1983

COU	STA	ROUTE	MILE POINT	FED AID	AADT	TRUCK FRACT	FRACT OF TRK WITH COAL	AXLES PER NON COAL TRUCK	AXLES PER COAL TRUCK	EALS/ NON COAL AXLE	EALS/ COAL TRUCK AXLE	2-DIRECTION EALS IN 1000'S 4-TIRE VEHICLES	NON-COAL TRUCKS	COAL TRUCKS	TOTAL
56	K51	KY2257	0.0	3	16000	0.038	0.0	2.250	0.0	0.176	0.0	28.	88.	0.	116.
56	K88		0.0	3	2550	0.149	0.045	3.431	4.235	0.139	1.567	4.	63.	41.	108.
56	L03		0.0	3	1674	0.045	0.0	2.185	0.0	0.169	0.0	3.	10.	0.	13.
56	L40		0.0	2	12700	0.078	0.0	2.305	0.0	0.201	0.0	21.	168.	0.	190.
56	L42	US 31	20.3	2	3800	0.093	0.0	3.118	0.0	0.163	0.0	6.	65.	0.	72.
56	L97		0.0	3	7350	0.098	0.0	2.538	0.0	0.236	0.0	12.	158.	0.	170.
56	M64	KY2054	0.4	3	6500	0.084	0.022	2.832	4.455	0.193	1.412	11.	106.	25.	142.
56	M92		0.0	5	5400	0.082	0.0	2.678	0.0	0.168	0.0	9.	73.	0.	82.
56	N49	US 31	17.2	2	10385	0.085	0.0	2.702	0.0	0.155	0.0	17.	135.	0.	153.
56	N56		0.0	5	6274	0.148	0.0	2.557	0.0	0.204	0.0	10.	176.	0.	186.
56	N91		0.0	3	5200	0.050	0.0	2.675	0.0	0.163	0.0	9.	42.	0.	50.
56	OU2		2.9	3	21400	0.100	0.001	3.297	5.000	0.145	0.361	35.	375.	1.	410.
56	P21	US 31	14.6	2	18385	0.058	0.0	2.122	0.0	0.226	0.0	31.	186.	0.	217.
56	P30	KY1020	6.0	3	10630	0.022	0.005	2.441	5.000	0.175	0.361	19.	36.	1.	56.
56	P32		0.0	3	11590	0.113	0.0	2.690	0.0	0.203	0.0	19.	262.	0.	281.
56	P47		0.0	3	3830	0.079	0.0	2.622	0.0	0.198	0.0	6.	57.	0.	64.
56	P84	KY 61	0.1	3	14693	0.056	0.0	3.547	0.0	0.079	0.0	25.	84.	0.	110.
56	P99	I 65	133.2	1	80470	0.096	0.0	3.863	0.0	0.144	0.0	133.	1568.	0.	1700.
56	R02		0.0	3	10960	0.070	0.0	2.749	0.0	0.173	0.0	19.	133.	0.	151.
56	R47		0.0	3	2800	0.106	0.0	2.533	0.0	0.157	0.0	5.	43.	0.	48.
56	009		0.0	5	1382	0.011	0.0	2.262	0.0	0.203	0.0	2.	3.	0.	5.
56	051	KY 146	5.5	3	7770	0.031	0.006	2.249	5.000	0.168	0.361	14.	33.	1.	47.
56	270	KY 864	2.4	3	1397	0.029	0.031	2.388	0.0	0.165	0.0	2.	6.	0.	8.
56	271		0.0	5	786	0.017	0.0	2.000	0.0	0.136	0.0	1.	1.	0.	3.
56	347		0.0	5	651	0.042	0.0	2.279	0.0	0.169	0.0	1.	4.	0.	5.
56	468	KY1819	7.0	3	2948	0.034	0.012	2.414	0.0	0.197	0.0	5.	17.	0.	22.
56	515		0.0	3	412	0.315	0.0	2.732	0.0	0.254	0.0	1.	33.	0.	33.
56	530		0.0	5	1775	0.032	0.023	2.279	5.000	0.161	0.361	3.	8.	1.	11.
56	549		0.0	3	4905	0.038	0.006	2.404	5.000	0.209	0.361	9.	34.	1.	43.
56	649		0.0	3	8060	0.081	0.0	2.544	0.0	0.245	0.0	13.	148.	0.	162.
56	651	US 31	11.7	2	42177	0.037	0.005	2.953	4.429	0.153	1.468	74.	257.	17.	348.
56	665		0.0	3	5905	0.069	0.0	2.556	0.0	0.247	0.0	10.	94.	0.	104.
56	842		0.0	3	6920	0.103	0.001	3.623	0.0	0.150	0.0	11.	140.	0.	152.
56	862	KY1020	10.3	3	10740	0.023	0.004	2.385	5.000	0.173	0.361	19.	37.	1.	57.
57	A43		0.0	3	785	0.031	0.0	2.442	0.0	0.178	0.0	1.	4.	0.	5.
57	A63		0.0	3	2735	0.024	0.0	2.415	0.0	0.158	0.0	5.	9.	0.	14.
57	A68		0.0	3	1794	0.094	0.0	2.590	0.0	0.254	0.0	3.	41.	0.	44.
58	001	US 23	18.3	2	4502	0.354	0.641	3.998	4.661	0.146	0.720	5.	123.	1248.	1376.
59	C95		0.0	3	2593	0.069	0.0	2.430	0.0	0.197	0.0	4.	31.	0.	36.
59	D07	KY1072	2.9	3	3706	0.054	0.0	2.990	0.0	0.155	0.0	6.	34.	0.	40.
59	D61	KY1930	6.0	3	1025	0.124	0.0	2.556	0.0	0.229	0.0	2.	27.	0.	29.
59	E00	KY 17	23.1	3	9300	0.026	0.012	2.502	4.000	0.180	2.506	16.	39.	7.	63.
59	E15	KY 17	23.8	3	7168	0.063	0.005	2.121	4.000	0.215	2.506	12.	75.	7.	95.
59	P49	KY 371	3.2	3	20297	0.046	0.0	2.692	0.0	0.188	0.0	35.	173.	0.	209.
59	001	US 25	13.5	3	10827	0.048	0.005	2.898	4.000	0.150	2.506	19.	81.	7.	108.
59	002	KY 17	24.1	3	18610	0.063	0.001	2.168	0.0	0.227	0.0	32.	210.	0.	242.
59	046	KY2047	3.9	5	243	0.220	0.0	2.591	0.0	0.248	0.0	0.	13.	0.	13.
59	783	KY2045	0.7	5	838	0.044	0.0	2.157	0.0	0.154	0.0	1.	4.	0.	6.
59	799	I 75	185.6	1	102618	0.134	0.001	4.215	4.267	0.143	1.450	159.	3019.	34.	3211.
59	805	I 275	83.1	1	37219	0.055	0.002	3.418	4.333	0.151	1.681	64.	384.	8.	456.

EAL TRAFFIC PARAMETERS FOR INDIVIDUAL CLASSIFICATION STATIONS
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COU	STA	ROUTE	MILE POINT	FED AID	AADT	TRUCK FRACT	FRACT OF TRK WITH COAL	AXLES PER NON COAL TRUCK	AXLES PER COAL TRUCK	EAL'S/ NON COAL AXLE	EAL'S/ COAL TRUCK AXLE	2-DIRECTION EAL'S IN 1000'S 4-TIRE VEHICLES	NON-COAL TRUCKS	COAL TRUCKS	TOTAL
60	P44	KY 550	0.0	5	938	0.061	0.078	2.550	4.333	0.168	1.681	2.	9.	8.	18.
60	006	KY 550	26.5	4	2301	0.189	0.555	2.611	3.565	0.229	2.804	3.	43.	869.	915.
60	257	KY1498	0.1	5	470	0.142	0.424	2.958	3.127	0.204	3.761	1.	9.	112.	121.
61	A73	US 25	25.6	2	12100	0.132	0.074	3.683	4.360	0.145	1.420	19.	287.	267.	573.
63	A66	KY 80	11.9	2	13769	0.110	0.125	3.549	4.355	0.135	1.423	22.	231.	425.	679.
63	L57	I 75	42.9	1	21927	0.260	0.023	4.433	4.363	0.141	1.410	30.	1272.	301.	1602.
64	251	US 23	5.9	2	4758	0.344	0.601	3.869	4.630	0.144	0.750	6.	133.	1243.	1381.
64	504	KY 201	0.1	4	255	0.093	0.071	2.820	5.000	0.187	0.361	0.	5.	1.	6.
65	A21	KY1144	0.1	5	2818	0.144	0.0	2.675	0.0	0.264	0.0	4.	104.	0.	108.
65	001	KY 11	6.2	2	1972	0.087	0.087	3.018	4.385	0.162	1.565	3.	28.	33.	64.
66	758	US 421	27.5	2	1342	0.140	0.487	3.869	4.357	0.145	1.459	2.	20.	209.	231.
66	759	US 421	15.8	2	1600	0.146	0.363	2.984	4.356	0.140	1.420	2.	23.	192.	218.
67	016	KY 317	2.8	5	1123	0.155	0.372	3.029	4.145	0.096	1.632	2.	12.	153.	167.
67	250	US 23	0.1	2	4557	0.163	0.369	3.070	4.339	0.098	1.417	7.	52.	613.	671.
67	285	US 119	18.0	2	6371	0.099	0.278	2.569	4.352	0.157	1.436	10.	67.	399.	477.
67	508	US 119	4.5	2	1141	0.076	0.058	3.239	4.500	0.140	1.314	2.	14.	9.	24.
67	785	KY 931	10.0	4	1541	0.070	0.468	2.866	3.857	0.142	2.095	3.	9.	145.	156.
68	P40	KY 10	17.1	2	2132	0.095	0.079	2.673	4.267	0.149	1.450	4.	27.	34.	65.
69	315	US 27	5.1	2	4340	0.162	0.008	3.573	4.500	0.140	1.314	7.	128.	9.	143.
71	A16	US 431	13.9	2	5815	0.082	0.0	3.206	0.0	0.146	0.0	10.	81.	0.	91.
71	B13	US 68	12.4	2	5893	0.135	0.003	3.963	4.000	0.145	2.506	9.	167.	7.	184.
71	B14	KY 100	1.0	3	1700	0.113	0.004	3.101	0.0	0.146	0.0	3.	32.	0.	35.
71	B18	US 79	10.1	2	2401	0.091	0.0	3.261	0.0	0.140	0.0	4.	37.	0.	41.
71	B29		0.0	3	2008	0.027	0.026	2.351	5.000	0.197	0.361	4.	9.	1.	13.
71	B50	US 431	14.7	2	12102	0.073	0.002	3.137	5.000	0.151	0.361	20.	154.	1.	175.
71	P38	US 68	2.6	2	1820	0.166	0.0	3.779	0.0	0.145	0.0	3.	61.	0.	63.
71	528	KY 96	14.0	4	969	0.068	0.012	2.123	0.0	0.156	0.0	2.	8.	0.	10.
73	C69	KY 787	3.1	3	1728	0.023	0.129	2.576	4.500	0.167	1.314	3.	6.	9.	17.
74	L53	US 27	14.6	2	4334	0.132	0.133	3.154	4.341	0.160	1.432	7.	91.	175.	273.
74	002	KY 90	0.6	2	1722	0.234	0.580	5.538	5.094	0.158	0.496	2.	55.	214.	271.
74	004	KY 90	0.7	2	799	0.045	0.0	2.908	0.0	0.160	0.0	1.	6.	0.	8.
74	258	US 27	0.1	2	3808	0.133	0.105	3.361	4.349	0.146	1.420	6.	81.	117.	204.
74	507	KY 791	0.9	5	665	0.086	0.025	2.160	0.0	0.167	0.0	1.	7.	0.	9.
76	A79		0.0	3	3605	0.021	0.0	2.331	0.0	0.167	0.0	6.	11.	0.	17.
76	A84		0.0	3	3140	0.015	0.0	2.341	0.0	0.140	0.0	6.	6.	0.	11.
76	A86		0.0	3	1685	0.030	0.0	2.614	0.0	0.137	0.0	3.	6.	0.	9.
76	C44	KY 21	8.8	2	10835	0.052	0.002	2.928	0.0	0.150	0.0	19.	90.	0.	109.
76	C73	KY 21	7.7	2	2690	0.043	0.0	2.422	0.0	0.133	0.0	5.	14.	0.	18.
77	A21	KY 7	24.0	4	3501	0.079	0.211	2.547	4.374	0.201	1.458	6.	41.	133.	180.
77	280	KY 114	1.9	2	4046	0.115	0.104	3.459	4.336	0.146	1.429	7.	77.	109.	192.
77	281	KY1888	0.1	5	1173	0.061	0.0	2.690	0.0	0.238	0.0	2.	17.	0.	19.
77	287	KY9000	75.3	2	5115	0.203	0.488	3.844	4.493	0.152	1.080	7.	114.	896.	1017.
78	A33	KY 55	0.2	3	5465	0.031	0.006	2.336	5.000	0.168	0.361	10.	24.	1.	34.
78	A36	KY 49	17.6	3	2522	0.020	0.034	2.427	5.000	0.158	0.361	5.	7.	1.	12.
78	A58		0.0	3	2510	0.052	0.007	3.126	0.0	0.156	0.0	4.	24.	0.	28.
78	P24	US 68	9.7	2	8646	0.047	0.0	2.664	0.0	0.156	0.0	15.	62.	0.	77.
78	250	US 68	15.7	4	1520	0.086	0.0	3.051	0.0	0.165	0.0	3.	24.	0.	26.
79	P39	US 641	18.2	4	4513	0.065	0.0	2.994	0.0	0.162	0.0	7.	52.	0.	59.
79	257	US 68	12.3	2	3650	0.032	0.0	2.492	0.0	0.147	0.0	6.	16.	0.	22.
79	504	US 641	10.6	2	9055	0.077	0.0	3.347	0.0	0.156	0.0	15.	134.	0.	149.

Figure 4.1 (cont.)

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COU	STA	ROUTE	MILE POINT	FED AID	AADT	TRUCK FRACT	FRACT OF TRK WITH COAL	AXLES PER NON COAL TRUCK	AXLES PER COAL TRUCK	EAL'S/ NON COAL AXLE	EAL'S/ COAL TRUCK AXLE	2-DIRECTION EAL'S IN 1000'S 4-TIRE VEHICLES	NON-COAL TRUCKS	COAL TRUCKS	TOTAL
80	003	KY 40	20.3	2	5853	0.026	0.0	2.040	0.0	0.145	0.0	10.	17.	0.	27.
80	774	KY 40	9.0	2	2886	0.066	0.212	2.797	4.379	0.168	1.429	5.	26.	91.	122.
81	A32	KY 10	13.0	2	9700	0.034	0.003	2.609	5.000	0.148	0.361	17.	46.	1.	63.
81	A35	US 62	17.1	2	14900	0.054	0.003	3.181	4.000	0.148	2.506	26.	138.	7.	171.
81	A43	KY 10	13.6	2	15500	0.068	0.010	2.762	4.333	0.161	1.681	26.	170.	24.	220.
81	A72		0.0	3	1940	0.018	0.0	2.336	0.0	0.169	0.0	3.	5.	0.	8.
81	522	US 62	8.3	4	590	0.067	0.0	2.434	0.0	0.161	0.0	1.	5.	0.	6.
83	A05	US 460	8.8	2	3274	0.152	0.036	2.583	4.235	0.180	1.567	5.	81.	41.	128.
83	P29	US 460	5.0	2	1432	0.050	0.0	2.481	0.0	0.163	0.0	2.	11.	0.	13.
84	A34		0.0	3	2555	0.020	0.0	2.589	0.0	0.129	0.0	5.	6.	0.	11.
84	A36	US 68	7.4	2	7450	0.035	0.0	2.582	0.0	0.162	0.0	13.	40.	0.	53.
84	P25	US 127	2.3	2	8135	0.107	0.032	3.382	4.350	0.141	1.435	13.	147.	66.	226.
85	764	KY 314	4.5	5	496	0.049	0.0	2.496	0.0	0.142	0.0	1.	3.	0.	4.
87	A45	KY1991	0.0	3	682	0.120	0.0	2.657	0.0	0.265	0.0	1.	21.	0.	22.
87	A49	US 460	8.1	2	11998	0.073	0.0	3.173	0.0	0.155	0.0	20.	157.	0.	177.
87	A52	US 60	5.7	3	10183	0.030	0.0	2.619	0.0	0.164	0.0	18.	48.	0.	66.
87	A55	KY 647	0.0	2	4950	0.020	0.0	2.540	0.0	0.201	0.0	9.	19.	0.	28.
87	A56	KY 713	5.3	2	1320	0.020	0.0	2.680	0.0	0.162	0.0	2.	4.	0.	6.
87	B17	KY 686	0.7	2	8170	0.056	0.0	3.044	0.0	0.182	0.0	14.	92.	0.	106.
87	B23	KY 686	1.8	2	6775	0.050	0.0	3.212	0.0	0.155	0.0	12.	61.	0.	73.
87	029	KY 965	0.1	5	457	0.041	0.0	2.547	0.0	0.129	0.0	1.	2.	0.	3.
87	267	KY 599	5.9	5	665	0.198	0.0	2.605	0.0	0.257	0.0	1.	32.	0.	33.
88	501	US 460	10.7	2	1928	0.097	0.0	2.655	0.0	0.154	0.0	3.	28.	0.	31.
89	253	KY 176	8.4	5	3124	0.219	0.691	3.701	4.397	0.058	0.551	4.	17.	416.	437.
89	796	KY 70	10.8	4	2642	0.065	0.047	2.740	4.429	0.162	1.468	4.	27.	17.	48.
90	A22	US 62	15.7	2	8550	0.069	0.0	3.042	0.0	0.160	0.0	14.	105.	0.	120.
90	A48	US 62	12.3	2	13400	0.049	0.0	3.124	0.0	0.154	0.0	23.	114.	0.	137.
90	A99	US 31	15.9	2	8478	0.046	0.0	3.008	0.0	0.151	0.0	15.	65.	0.	79.
90	B03	US 31	13.2	2	6560	0.055	0.0	3.302	0.0	0.149	0.0	11.	65.	0.	77.
90	B08		0.0	3	790	0.007	0.0	2.140	0.0	0.170	0.0	1.	1.	0.	2.
90	B10		0.0	3	6100	0.052	0.0	3.177	0.0	0.154	0.0	10.	56.	0.	67.
90	058	US 31	21.0	2	3890	0.055	0.0	2.847	0.0	0.174	0.0	7.	38.	0.	45.
90	291	US 150	1.6	2	5658	0.135	0.0	4.091	0.0	0.143	0.0	9.	164.	0.	173.
92	P36	KY 54	9.6	4	903	0.116	0.0	2.753	0.0	0.165	0.0	1.	17.	0.	19.
92	254	KY 505	9.0	5	483	0.129	0.122	2.626	5.000	0.133	0.361	1.	7.	4.	12.
93	A16	KY 146	11.0	4	4900	0.043	0.0	2.740	0.0	0.146	0.0	9.	31.	0.	40.
93	322	KY1408	1.6	5	996	0.064	0.0	2.102	0.0	0.149	0.0	2.	7.	0.	9.
94	026	KY 845	14.0	5	202	0.075	0.0	3.095	0.0	0.214	0.0	0.	3.	0.	4.
94	762	KY 227	24.5	4	337	0.026	0.0	2.300	0.0	0.194	0.0	1.	1.	0.	2.
95	A11	KY 11	12.0	4	3380	0.159	0.061	2.954	4.368	0.230	1.420	5.	125.	75.	205.
96	L50	US 27	6.0	2	2608	0.115	0.083	3.113	4.352	0.151	1.407	4.	47.	58.	109.
97	A09	KY 15	13.5	2	9370	0.092	0.295	2.893	4.358	0.153	1.422	16.	98.	575.	688.
97	A50	KY 451	3.1	3	7740	0.049	0.026	2.474	4.500	0.153	1.314	13.	51.	17.	82.
97	A74	KY 476	2.2	3	5279	0.086	0.377	2.478	3.681	0.198	2.437	9.	51.	557.	616.
97	A77	KY1440	0.5	3	1166	0.045	0.298	2.463	2.769	0.151	3.844	2.	5.	51.	58.
97	A80	KY 451	0.1	3	2420	0.057	0.069	2.291	4.500	0.141	1.314	4.	15.	17.	37.
97	A83	KY 15	10.5	2	9114	0.102	0.471	2.740	4.102	0.172	1.712	15.	85.	1115.	1215.
97	050	KY 267	2.9	5	1479	0.057	0.024	2.371	3.000	0.212	6.080	3.	15.	7.	24.
97	269	KY 7	10.1	4	1816	0.118	0.341	2.701	4.351	0.172	1.456	3.	24.	167.	194.
97	780	KY 15	20.8	2	5412	0.171	0.370	2.621	3.990	0.186	1.893	8.	104.	935.	1047.

Figure 4.1 (cont.)

EAL TRAFFIC PARAMETERS FOR INDIVIDUAL CLASSIFICATION STATIONS
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COU	STA	ROUTE	MILE POINT	FED AID	AADT	TRUCK FRACT	FRACT OF TRK WITH COAL	AXLES PER NON COAL TRUCK	AXLES PER COAL TRUCK	EAL'S/ NON COAL AXLE	EAL'S/ COAL TRUCK AXLE	2-DIRECTION EAL'S IN 1000'S 4-TIRE VEHICLES	NON-COAL TRUCKS	COAL TRUCKS	TOTAL
98	P12	US 23	40.0	2	12159	0.108	0.242	2.810	4.356	0.176	1.429	19.	180.	716.	915.
98	322	KY 194	44.8	4	638	0.182	0.164	3.039	4.278	0.114	1.489	1.	12.	42.	55.
98	515	US 23	1.3	4	3609	0.194	0.433	2.786	4.243	0.188	1.566	5.	76.	728.	809.
98	540	KY1441	2.5	5	279	0.063	0.167	2.562	3.000	0.247	6.080	0.	4.	7.	11.
99	253	KY 15	1.6	4	453	0.104	0.0	2.527	0.0	0.159	0.0	1.	7.	0.	8.
99	759	KY1057	8.4	5	1253	0.029	0.0	2.196	0.0	0.149	0.0	2.	4.	0.	7.
100	804	US 27	17.7	2	10464	0.089	0.022	3.216	4.407	0.150	1.328	17.	160.	43.	220.
100	B45		0.0	3	2647	0.019	0.0	2.383	0.0	0.159	0.0	5.	7.	0.	12.
100	B61	KY 80	1.3	2	8198	0.136	0.212	3.114	4.361	0.147	1.426	13.	147.	533.	693.
100	P32	US 27	5.7	2	3547	0.131	0.071	3.399	4.368	0.153	1.420	6.	82.	75.	162.
100	240	KY 452	0.6	5	755	0.052	0.0	2.397	0.0	0.184	0.0	1.	6.	0.	8.
100	325	KY 790	5.0	4	1784	0.133	0.523	5.300	5.028	0.159	0.429	3.	36.	97.	135.
100	502	KY 80	16.0	4	4163	0.050	0.0	2.530	0.0	0.159	0.0	7.	31.	0.	38.
100	507	KY 235	6.0	5	1149	0.036	0.020	2.382	0.0	0.177	0.0	2.	6.	0.	8.
101	001	US 62	9.9	4	1029	0.046	0.0	2.220	0.0	0.168	0.0	2.	7.	0.	8.
102	P05	US 25	11.7	4	2334	0.071	0.112	2.536	4.278	0.176	1.489	4.	24.	42.	70.
103	L58	I 64	147.6	1	6089	0.274	0.010	4.401	4.267	0.142	1.450	8.	379.	34.	420.
104	A18	KY 430	0.8	5	4200	0.034	0.0	2.758	0.0	0.189	0.0	7.	27.	0.	34.
104	P33	US 127	6.4	2	1542	0.070	0.0	2.921	0.0	0.142	0.0	3.	16.	0.	19.
105	A09		0.0	3	2427	0.016	0.024	2.584	0.0	0.147	0.0	4.	6.	0.	10.
105	L56	I 75	130.4	1	24337	0.250	0.013	4.423	4.350	0.141	1.416	33.	1368.	175.	1576.
106	L55	I 64	38.2	1	16000	0.233	0.002	4.360	4.333	0.141	1.681	22.	836.	16.	874.
106	P19		0.0	5	668	0.074	0.0	2.429	0.0	0.139	0.0	1.	6.	0.	7.
108	001	KY 636	2.8	5	550	0.053	0.0	2.353	0.0	0.200	0.0	1.	5.	0.	6.
110	774	KY 508	0.0	5	254	0.090	0.0	2.632	0.0	0.241	0.0	0.	5.	0.	6.
112	P28	US 42	10.0	4	904	0.082	0.0	3.148	0.0	0.161	0.0	2.	14.	0.	15.
113	P15	US 60	4.2	2	3359	0.193	0.380	3.620	4.618	0.142	0.642	5.	76.	265.	345.
113	251	KY 141	11.3	4	1610	0.058	0.024	2.471	4.000	0.149	2.506	3.	12.	7.	22.
114	A13	US 68	9.6	2	15850	0.060	0.006	3.253	5.000	0.132	0.361	27.	148.	3.	178.
114	A36	KY 234	12.0	3	17265	0.035	0.0	2.611	0.0	0.119	0.0	30.	68.	0.	98.
114	A44	US 231	13.8	2	9420	0.044	0.010	3.056	4.333	0.127	1.681	16.	58.	8.	82.
114	A93	US 68	12.4	2	4983	0.089	0.0	3.014	0.0	0.122	0.0	8.	60.	0.	68.
114	B47	US 231	0.3	2	15409	0.036	0.0	2.622	0.0	0.117	0.0	27.	62.	0.	89.
114	P45	US 231	12.7	3	11296	0.018	0.0	2.421	0.0	0.165	0.0	20.	30.	0.	49.
114	003	KY 101	8.1	2	2441	0.185	0.002	4.352	0.0	0.140	0.0	4.	100.	0.	104.
114	564	US 68	1.5	2	5600	0.114	0.016	3.835	5.000	0.134	0.361	9.	118.	6.	133.
114	595	US 68	4.7	2	6144	0.117	0.0	3.351	0.0	0.145	0.0	10.	127.	0.	137.
115	A17	KY 528	1.5	5	5115	0.023	0.0	2.427	0.0	0.194	0.0	9.	20.	0.	29.
115	A29	KY 555	0.6	2	1620	0.147	0.0	3.701	0.0	0.142	0.0	3.	46.	0.	48.
115	255	US 150	17.3	2	1551	0.160	0.0	3.599	0.0	0.147	0.0	2.	48.	0.	50.
115	504	KY 429	3.1	5	580	0.088	0.0	2.432	0.0	0.169	0.0	1.	8.	0.	9.
115	762	KY 555	5.5	2	1740	0.099	0.0	3.394	0.0	0.145	0.0	3.	31.	0.	34.
116	A67	KY 90	12.3	2	13483	0.063	0.007	2.751	4.333	0.171	1.681	23.	145.	16.	184.
116	A68	KY 90	14.1	2	3831	0.099	0.0	3.191	0.0	0.153	0.0	6.	68.	0.	74.
116	543	KY 90	0.1	2	2070	0.151	0.0	3.041	0.0	0.167	0.0	3.	58.	0.	61.
118	B23	US 25	29.3	2	6245	0.043	0.008	2.420	4.000	0.144	2.506	11.	33.	7.	52.
118	D12	KY 296	2.1	5	8491	0.020	0.018	2.168	4.333	0.141	1.681	15.	19.	8.	42.
119	P06	KY 15	11.7	2	859	0.046	0.0	2.707	0.0	0.117	0.0	1.	5.	0.	6.
119	006	KY 203	0.5	2	930	0.098	0.123	3.345	4.400	0.138	1.531	2.	14.	25.	40.
119	500	KY 746	0.3	4	1016	0.050	0.0	2.404	0.0	0.188	0.0	2.	8.	0.	10.

Figure 4.1 (cont.)

EAL TRAFFIC PARAMETERS FOR INDIVIDUAL CLASSIFICATION STATIONS
1983

COU	STA	ROUTE	MILE POINT	FED AID	AADT	TRUCK FRACT	FRACT OF TRK WITH COAL	AXLES PER NON COAL TRUCK	AXLES PER COAL TRUCK	EAL'S/ NON COAL AXLE	EAL'S/ COAL TRUCK AXLE	2-DIRECTION EAL'S IN 1000'S 4-TIRE VEHICLES	NON-COAL TRUCKS	COAL TRUCKS	TOTAL
119	507	KY 15	0.4	2	4655	0.151	0.311	3.848	4.639	0.147	0.733	7.	101.	267.	375.
119	755	KY 11	5.3	2	875	0.112	0.019	3.272	5.000	0.150	0.361	1.	18.	1.	20.

Figure 4.1 (cont.)

ANNUAL AVERAGE DAILY TRAFFIC

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	NO OF STAS.	STD DEV 83	AVERAGE VALUE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	1	0.		0.								3979.						
1	1	2	0.		0.														3755.
1	1	3	0.		0.														3956.
1	1	4	0.		0.							2935.				3332.	4481.	4470.	
1	2	1	0.		0.							6914.							
1	2	2	1.		0.	19268.	18930.	21603.	17922.	20064.	22172.	18420.	17520.	17192.	13686.	14592.	12787.	14277.	10302.
1	2	3	6.		46416.	48688.	29819.	21371.	35157.	23165.	38483.	17959.	29723.	26660.	15668.	18541.	21724.	19690.	12280.
1	2	4	1.		0.	6089.	7321.	7207.	12596.	15146.	13604.	13184.	9829.	11856.	8784.	7853.	9873.		
2	1	1	7.		1279.	2783.	2575.	2461.	2597.	2762.	2925.	3103.	3406.	2321.	3820.	2875.	2629.	2508.	2332.
2	1	2	19.		1213.	2422.	2860.	2791.	2267.	3069.	2950.	2614.	2804.	2469.	2981.	2867.	2723.	2023.	1727.
2	1	3	9.		1274.	3637.	3457.	3600.	2795.	3835.	2409.	2428.	3047.	3256.	2135.	2062.	2563.	2865.	3396.
2	1	4	4.		1571.	2161.	2216.	2460.	1475.	2352.	2549.	2769.	2046.	2376.	2706.	2387.	3120.	1811.	1878.
2	2	1	1.		0.	9055.	10923.	8965.	6944.	14448.	7623.	7078.	6471.	10150.	10320.	14720.	7482.	10776.	
2	2	2	18.		3627.	9825.	9519.	8834.	6699.	20398.	8585.	10925.	17117.	5136.	10274.	7125.	8861.	10766.	14850.
2	2	3	19.		8923.	13759.	14382.	13009.	14012.	11945.	15471.	18865.	9931.	10624.	7175.	16481.	10628.	10235.	16799.
2	2	4	6.		4593.	9607.	7355.	7017.	11126.	8486.	8833.	7795.	6421.	12765.	5896.	10899.	8309.	7972.	7380.
3	1	1	31.		1358.	1669.	1960.	2307.	1470.	1758.	2111.		2042.		2918.	4158.	1177.	2119.	
3	1	2	4.		857.	1912.	1925.	2873.	2585.	2051.	4734.		1581.	1066.	3353.	3518.	1046.	2553.	
3	1	3	43.		1235.	2262.	2677.	2318.	4106.	2494.	550.		2409.	2366.	2032.	3404.	2745.	3365.	2856.
3	1	4	6.		893.	2423.	2470.	1474.		1519.			1870.	3054.		3004.	1595.		
3	2	1	8.		2478.	7986.	8660.	8305.		11902.		8267.			7689.	7137.			
3	2	2	4.		5484.	10032.	8837.	9298.	11141.	8744.	10519.	7935.	9163.	5870.	9085.	7330.	10430.	6261.	8343.
3	2	3	27.		5280.	11600.	14096.	10646.	16466.	15328.	15576.	13770.	16107.	10270.	14365.	13551.	11617.	9320.	7704.
3	2	4	4.		3330.	7471.	9543.	6804.		7347.		5408.	7189.		7946.	9618.	6410.		
4	1	1	4.		1762.	2124.	4579.	1309.	1364.	2026.	1691.	1701.	1511.	1453.	2084.	1448.	1253.	1202.	1072.
4	1	2	5.		1176.	2200.	2330.	1799.	1574.	1556.	1778.	1552.	1529.	1132.	1087.	1396.	1529.	1223.	1226.
4	1	3	8.		1526.	2399.	2162.	2308.	2622.	2123.	1701.	1885.	1771.	1967.	1101.	1453.	1931.	2235.	1560.
4	1	4	4.		299.	776.	616.	617.	991.	1841.	1668.	1366.	1506.	929.	1354.	2535.	1358.	921.	918.
4	2	1	0.		0.			5586.	7015.	5918.	6655.		5679.	8443.	5999.	7428.		5350.	
4	2	2	0.		0.			7798.	5544.	5746.	6461.		8240.	6734.		6482.		8878.	
4	2	3	1.		0.	9700.	7890.	5679.		7379.	5531.	7873.	6447.	6462.	7679.	5595.	9270.	7771.	
4	2	4	0.		0.					8876.	7912.	7600.	5013.	5102.	6985.	7824.	5465.		
5	1	1	8.		518.	528.	322.	335.	474.	1197.	1304.	889.	486.	390.	1041.	1358.	695.	895.	871.
5	1	2	6.		1550.	1070.	284.	571.	465.	763.	1035.	659.	784.	313.	976.	1775.	764.	429.	680.
5	1	3	14.		331.	602.	948.	2148.	600.	819.	559.	782.	675.	1048.	661.	1270.	619.	1160.	591.
5	1	4	4.		825.	1912.	673.	815.	620.	1507.	939.	907.	1158.	558.	1321.	1602.	892.	1048.	770.
5	2	1	0.		0.						5471.					13289.			
5	2	2	1.		0.	5115.							15074.			8093.			
5	2	3	2.		618.	5837.						16469.		8018.		10086.		8325.	
5	2	4	0.		0.		7226.	5005.			5057.		6504.	10584.		9128.	6746.	10127.	5568.

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	NO OF STAS.	STD DEV 83	AVERAGE VALUE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	35.		973.	1886.	1977.	1650.	2035.										
1	2	30.		1263.	2064.	1890.	2259.	2357.										
1	3	28.		1250.	2543.	2234.	2352.	2110.										
2	1	16.		6994.	11383.	13757.	15142.	12952.										
2	2	7.		4176.	9365.	15778.	14338.	9622.										
2	3	11.		4200.	9039.	9034.	10965.	6012.										

Figure 4.1 (cont.)

PERCENT TRUCKS

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	NO OF STAS.	STD DEV 83	AVERAGE VALUE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	1	0.	0.0	**********	**********	**********	**********	**********	**********	**********	**********	12.389	**********	**********	**********	**********	**********	**********
1	1	2	0.	0.0	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	18.337
1	1	3	0.	0.0	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	14.707	*******
1	1	4	0.	0.0	**********	**********	**********	**********	**********	**********	**********	9.271	**********	**********	**********	**********	13.055	23.818	18.705
1	2	1	0.	0.0	*******	35.230	21.786	22.099	*******	33.750	*******	7.876	**********	**********	**********	**********	**********	**********	**********
1	2	2	1.	0.0	31.971	29.684	27.803	31.783	28.971	28.131	35.500	30.478	27.436	*******	24.004	28.650	19.740	22.264	24.874
1	2	3	6.	12.022	18.781	19.950	27.975	22.251	24.187	20.598	24.175	21.003	18.056	*******	20.655	16.278	16.894	17.277	19.402
1	2	4	1.	0.0	27.428	17.001	23.573	26.748	28.354	23.717	25.631	23.831	21.115	**********	20.237	18.241	17.874	*******	
2	1	1	7.	5.828	10.470	12.493	12.071	15.230	14.567	14.926	16.965	16.264	16.189	*******	20.138	8.863	14.234	15.992	13.082
2	1	2	19.	4.148	11.633	9.532	10.558	13.051	13.061	11.336	16.323	11.586	12.127	*******	14.277	10.111	11.431	14.010	18.242
2	1	3	9.	3.108	5.854	7.831	7.911	7.035	8.713	9.116	9.602	9.060	9.728	*******	5.932	12.813	9.312	12.744	14.080
2	1	4	4.	3.051	7.434	4.326	13.182	17.627	10.913	11.968	13.801	10.714	16.048	*******	12.157	8.574	12.357	15.808	17.138
2	2	1	1.	0.0	7.741	8.196	6.096	15.623	10.647	14.171	29.823	10.314	14.818	*******	4.442	3.508	11.595	18.563	*******
2	2	2	18.	3.006	7.107	8.208	7.029	5.281	6.652	8.298	9.994	2.993	17.274	*******	6.229	7.707	7.021	16.238	16.765
2	2	3	19.	2.329	5.269	6.238	6.219	7.748	8.299	7.751	11.800	8.723	7.781	*******	13.579	8.621	8.359	7.675	5.468
2	2	4	6.	5.502	6.662	1.585	9.317	10.878	15.252	14.536	16.397	14.175	8.528	*******	12.325	7.768	17.694	7.916	9.011
3	1	1	31.	5.570	3.753	5.096	4.752	18.411	6.421	*******	11.350	*******	4.461	*******	1.572	4.631	2.797	11.567	*******
3	1	2	4.	4.760	4.783	6.574	4.070	5.437	5.527	5.582	*******	9.040	9.082	*******	5.175	9.117	10.824	16.233	*******
3	1	3	43.	5.081	5.041	2.807	4.088	3.289	3.055	4.913	*******	9.124	22.823	*******	4.275	21.922	9.849	8.476	8.738
3	1	4	6.	1.271	1.730	1.776	2.455	*******	5.315	**********	**********	2.445	13.662	**********	**********	5.628	9.255	**********	**********
3	2	1	8.	1.799	2.828	5.679	3.131	*******	4.115	*******	4.173	**********	**********	**********	7.226	3.718	**********	**********	**********
3	2	2	4.	1.383	3.387	6.069	4.083	3.488	7.633	3.051	5.520	3.264	32.281	*******	5.820	5.529	2.608	6.742	4.050
3	2	3	27.	3.362	5.608	3.891	4.433	3.683	5.540	5.624	6.545	3.578	5.610	*******	4.712	2.791	5.070	5.293	7.152
3	2	4	4.	0.615	2.069	2.560	4.576	*******	6.378	**********	**********	15.414	4.080	**********	**********	1.941	6.792	7.493	*******
4	1	1	4.	4.072	8.069	5.894	5.313	8.461	9.720	9.772	9.455	9.246	9.626	*******	4.193	6.290	7.834	13.985	11.244
4	1	2	5.	3.035	7.283	4.825	9.951	7.072	9.973	9.105	11.579	9.386	10.548	*******	8.364	9.158	10.169	12.493	11.717
4	1	3	8.	2.506	5.982	4.842	7.627	6.103	8.157	7.022	10.538	8.457	9.112	*******	7.963	6.430	7.026	9.674	10.671
4	1	4	4.	2.301	7.537	7.237	7.204	9.360	9.683	14.321	13.771	10.312	12.077	*******	6.751	6.732	10.584	12.653	11.514
4	2	1	0.	0.0	**********	7.662	11.539	10.937	12.975	*******	7.562	3.946	*******	2.913	4.825	**********	16.041		
4	2	2	0.	0.0	**********	6.890	6.877	4.925	5.864	*******	7.085	8.306	**********	**********	8.103	*******	14.874		
4	2	3	1.	0.0	11.184	3.380	6.765	*******	11.016	5.704	3.459	4.474	4.446	*******	6.096	4.436	8.159	7.956	*******
4	2	4	0.	0.0	**********	**********	**********	7.128	13.629	4.384	13.490	4.646	*******	6.424	5.504	9.405	**********	**********	
5	1	1	8.	5.674	9.241	6.128	6.232	6.977	4.465	6.881	5.321	5.317	5.974	*******	5.303	6.925	7.297	11.860	11.927
5	1	2	6.	4.212	7.712	5.610	10.267	9.327	7.358	6.306	8.067	7.202	7.418	*******	5.353	4.660	8.712	13.161	11.196
5	1	3	14.	6.057	7.722	4.916	6.585	11.169	7.100	6.315	8.386	9.962	6.043	*******	7.731	4.946	10.026	5.519	5.100
5	1	4	4.	5.219	6.793	4.884	8.599	10.181	8.691	10.880	11.309	13.887	10.717	*******	8.613	4.055	8.664	13.105	9.557
5	2	1	0.	0.0	**********	**********	**********	**********	5.045	**********	**********	**********	**********	**********	**********	2.963	**********	**********	**********
5	2	2	1.	0.0	2.319	**********	**********	**********	**********	**********	**********	**********	23.442	**********	**********	4.731	**********	**********	**********
5	2	3	2.	4.642	11.516	**********	**********	**********	**********	12.739	4.639	**********	**********	1.210	*******	2.253	*******		
5	2	4	0.	0.0	*******	3.623	1.658	**********	8.190	*******	2.337	5.438	**********	**********	3.896	7.331	9.655	9.483	

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	NO OF STAS.	STD DEV 83	AVERAGE VALUE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	35.	3.383	4.918	7.777	10.833	8.308	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	2	30.	4.615	7.684	7.613	9.101	9.440	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	3	28.	9.748	17.558	17.663	15.285	18.205	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	1	16.	8.746	9.620	12.283	10.757	14.640	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	2	7.	4.675	10.090	9.869	12.479	9.804	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	3	11.	6.745	13.858	15.504	13.824	25.343	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********

Figure 4.1 (cont.)

PERCENT OF TRUCKS HAULING COAL

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	NO OF STAS.	STD DEV 83	AVERAGE VALUE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	1	0.	0.0															
1	1	2	0.	0.0															
1	1	3	0.	0.0															
1	1	4	0.	0.0															
1	2	1	0.	0.0	*******	0.657	0.368												
1	2	2	0.	0.0	**********	0.029	0.061												
1	2	3	5.	0.068	0.182	0.297	0.556	0.638											
1	2	4	1.	0.0	0.970	0.234	0.247	0.704											
2	1	1	2.	0.060	0.196	0.343	*******	0.443											
2	1	2	3.	0.334	0.423	0.362	0.642	0.407											
2	1	3	1.	0.0	0.333	0.731													
2	1	4	1.	0.0	0.646	**********	0.903												
2	2	1	0.	0.0	*******	0.964													
2	2	2	6.	0.316	0.494	0.573	0.101												
2	2	3	4.	0.333	0.599	0.404	0.497	0.648											
2	2	4	4.	0.331	0.607	**********	0.684												
3	1	1	2.	0.381	0.494	**********	0.806												
3	1	2	2.	0.219	0.555	0.440	*******	0.606											
3	1	3	2.	0.268	0.781	**********	0.990												
3	1	4	0.	0.0															
3	2	1	1.	0.0	0.465	0.273	0.637												
3	2	2	1.	0.0	0.595	0.480													
3	2	3	11.	0.199	0.333	0.216	0.539	0.203											
3	2	4	0.	0.0	*******	0.806													
4	1	1	1.	0.0	0.635	**********	0.895												
4	1	2	0.	0.0	*******	0.667	0.308	0.751											
4	1	3	2.	0.126	0.342	0.663	0.649												
4	1	4	0.	0.0	**********	0.521													
4	2	1	0.	0.0															
4	2	2	0.	0.0	**********	0.654													
4	2	3	0.	0.0															
4	2	4	0.	0.0															
5	1	1	1.	0.0	0.654														
5	1	2	0.	0.0															
5	1	3	0.	0.0															
5	1	4	0.	0.0															
5	2	1	0.	0.0															
5	2	2	0.	0.0															
5	2	3	0.	0.0															
5	2	4	0.	0.0	*******	0.369													

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	NO OF STAS.	STD DEV 83	AVERAGE VALUE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	35.	1.308	2.906	2.917	2.660	2.190											
1	2	30.	3.766	10.519	10.888	11.686	8.653											
1	3	28.	13.393	43.594	46.538	37.174	39.229											
2	1	16.	1.145	2.335	2.078	2.480	2.592											
2	2	7.	2.829	11.889	10.844	12.334	10.857											
2	3	11.	10.437	33.545	36.681	34.680	27.938											

Figure 4.1 (cont.)

AXLES PER TRUCK (NON-COAL-HAULING)

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	CA	NO OF STAS.	STD DEV 83	AVERAGE VALUE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	1	0.	0.0	**********	**********	**********	**********	**********	**********	**********	**********	3.724	**********	**********	**********	**********	**********	**********
1	1	2	0.	0.0	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	3.839
1	1	3	0.	0.0	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	3.589	**********
1	1	4	0.	0.0	**********	**********	**********	**********	**********	**********	**********	3.218	**********	**********	**********	**********	3.291	3.929	3.849
1	2	1	0.	0.0	**********	4.483	4.458	4.322	**********	4.569	**********	3.514	**********	**********	**********	**********	**********	**********	**********
1	2	2	1.	0.0	4.539	4.517	4.429	4.450	4.426	4.428	4.514	4.367	4.303	**********	4.349	4.239	4.286	4.224	4.078
1	2	3	6.	0.437	4.151	4.234	4.339	4.190	4.374	4.105	4.287	4.286	4.222	**********	4.172	4.188	4.045	3.955	3.967
1	2	4	1.	0.0	4.401	4.184	4.373	4.329	4.360	4.239	4.264	4.206	4.188	**********	**********	4.068	4.067	3.911	**********
2	1	1	7.	0.742	3.569	3.478	3.601	3.701	3.636	3.509	3.687	3.610	3.659	**********	4.114	3.209	3.267	3.304	2.941
2	1	2	19.	0.377	3.313	3.102	3.193	3.170	3.210	3.098	3.470	2.984	3.151	**********	3.523	3.053	3.082	2.788	3.007
2	1	3	9.	0.319	2.785	2.867	2.999	2.004	2.967	2.881	2.982	2.855	3.027	**********	2.698	2.973	2.743	2.698	3.054
2	1	4	4.	0.233	2.720	2.644	3.203	2.958	2.994	3.108	3.105	3.098	3.186	**********	2.695	2.634	2.849	2.626	2.727
2	2	1	1.	0.0	3.347	2.972	3.072	3.720	3.644	3.490	4.338	3.545	3.781	**********	2.849	3.299	3.405	3.676	**********
2	2	2	18.	0.393	3.183	3.045	2.923	2.595	2.800	3.061	3.159	2.862	3.071	**********	2.742	2.749	2.887	3.404	3.589
2	2	3	19.	0.380	2.801	2.809	2.817	2.741	3.131	3.165	3.523	2.820	3.159	**********	3.454	3.202	2.762	2.884	2.221
2	2	4	6.	0.468	2.715	2.277	2.959	3.125	3.530	3.325	3.589	3.457	3.220	**********	3.225	2.983	3.387	2.640	2.849
3	1	1	31.	0.431	2.625	2.326	2.556	3.823	2.489	**********	3.249	**********	2.532	**********	2.177	2.671	2.091	2.773	**********
3	1	2	4.	0.502	2.688	2.520	2.638	2.442	2.238	3.008	**********	2.827	2.955	**********	2.243	2.608	2.354	2.830	**********
3	1	3	43.	0.230	2.508	2.300	2.695	2.516	2.457	2.136	**********	3.062	3.185	**********	2.148	2.495	2.378	2.513	2.742
3	1	4	6.	0.261	2.592	2.199	2.507	**********	2.372	**********	**********	2.022	2.978	**********	**********	2.405	2.572	**********	**********
3	2	1	8.	0.287	2.513	2.892	2.412	**********	2.829	**********	2.786	**********	**********	**********	2.840	2.757	**********	**********	**********
3	2	2	4.	0.378	2.636	2.826	2.557	2.531	2.854	2.555	2.772	2.383	3.747	**********	2.682	2.542	2.426	2.370	2.269
3	2	3	27.	0.389	2.582	2.655	2.625	2.825	2.820	2.785	2.649	2.602	2.669	**********	3.014	2.388	2.230	2.376	3.104
3	2	4	4.	0.210	2.456	2.300	2.334	**********	2.859	**********	**********	4.481	2.539	**********	**********	2.242	2.624	2.426	**********
4	1	1	4.	0.602	2.833	2.773	2.745	2.928	2.703	2.879	3.025	2.891	2.855	**********	2.534	2.531	2.449	2.721	2.588
4	1	2	5.	0.315	2.917	2.580	2.786	2.539	2.753	2.612	2.866	2.530	2.689	**********	2.370	2.377	2.422	2.578	2.683
4	1	3	8.	0.406	2.742	2.611	2.774	2.733	2.728	2.443	2.792	2.539	2.580	**********	2.433	2.371	2.361	2.347	2.523
4	1	4	4.	0.088	2.491	2.546	2.565	2.988	2.848	2.894	2.869	2.662	2.883	**********	2.486	2.432	2.517	2.433	2.461
4	2	1	0.	0.0	**********	**********	2.797	3.534	3.442	3.737	**********	3.214	2.873	**********	2.299	2.954	**********	**********	3.314
4	2	2	0.	0.0	**********	**********	2.713	3.255	2.446	2.829	**********	2.898	2.787	**********	**********	**********	2.999	**********	3.348
4	2	3	1.	0.0	3.664	2.499	2.870	**********	3.089	2.920	2.570	2.212	2.702	**********	2.460	2.419	3.084	2.704	**********
4	2	4	0.	0.0	**********	**********	**********	**********	3.087	3.295	2.538	3.771	2.894	**********	2.808	2.629	2.620	**********	**********
5	1	1	8.	0.696	2.759	2.609	2.304	2.729	2.327	2.456	2.661	2.327	2.454	**********	2.321	2.591	2.287	2.465	2.475
5	1	2	6.	0.134	2.541	2.534	2.553	2.488	2.395	2.476	2.637	2.246	2.436	**********	2.198	2.234	2.244	2.243	2.168
5	1	3	14.	0.289	2.455	2.689	2.642	2.197	2.361	2.404	2.561	2.293	2.452	**********	2.306	2.324	2.231	2.366	2.172
5	1	4	4.	0.234	2.498	2.482	2.571	2.678	2.662	2.698	2.741	2.642	2.852	**********	2.485	2.259	2.443	2.346	2.356
5	2	1	0.	0.0	**********	**********	**********	**********	**********	2.796	**********	**********	**********	**********	**********	2.693	**********	**********	**********
5	2	2	1.	0.0	2.427	**********	**********	**********	**********	**********	**********	**********	4.235	**********	**********	2.533	**********	**********	**********
5	2	3	2.	0.085	2.617	**********	**********	**********	**********	**********	3.080	2.746	**********	**********	**********	2.126	**********	2.030	**********
5	2	4	0.	0.0	**********	2.359	2.100	**********	**********	2.679	**********	2.947	2.770	**********	**********	2.397	2.473	2.672	2.804

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	NO OF STAS.	STD DEV 83	AVERAGE VALUE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	35.	0.293	2.535	2.738	2.853	2.843	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	2	30.	0.344	2.792	2.689	2.859	2.912	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	3	28.	0.774	3.339	3.149	3.188	3.271	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	1	16.	0.786	3.236	3.491	3.337	3.464	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	2	7.	0.400	3.354	3.239	3.681	3.208	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	3	11.	0.598	3.153	3.209	3.094	3.642	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********

Figure 4.1 (cont.)

AXLES PER TRUCK (COAL-HAULING)

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	NO OF STAS.	STD DEV 83	AVERAGE VALUE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	1	0.	0.0															
1	1	2	0.	0.0															
1	1	3	0.	0.0															
1	1	4	0.	0.0															
1	2	1	0.	0.0	*******	4.381	4.333												
1	2	2	0.	0.0	**********	4.500	4.333												
1	2	3	5.	0.058	4.342	4.358	4.369	4.323											
1	2	4	1.	0.0	4.267	4.000	4.500	4.263											
2	1	1	2.	3.536	2.500	2.500	*******	4.000											
2	1	2	3.	2.598	1.500	5.000	4.333	4.667											
2	1	3	1.	0.0	0.0	4.333													
2	1	4	1.	0.0	4.000	**********	4.333												
2	2	1	0.	0.0	*******	4.333													
2	2	2	6.	0.443	4.611	4.464	5.000												
2	2	3	4.	2.081	3.107	4.667	4.548	4.417											
2	2	4	4.	0.471	4.333	**********	4.500												
3	1	1	2.	3.536	2.500	**********	4.000												
3	1	2	2.	0.0	0.0	0.0	*******	0.0											
3	1	3	2.	3.536	2.500	**********	5.000												
3	1	4	0.	0.0															
3	2	1	1.	0.0	0.0	5.000	4.333												
3	2	2	1.	0.0	5.000	4.500													
3	2	3	11.	2.408	3.000	0.0	4.167	5.000											
3	2	4	0.	0.0	*******	4.000													
4	1	1	1.	0.0	5.000	**********	4.500												
4	1	2	0.	0.0	*******	0.0	2.500	5.000											
4	1	3	2.	0.0	0.0	0.0	2.500												
4	1	4	0.	0.0	**********	1.667													
4	2	1	0.	0.0															
4	2	2	0.	0.0	**********	4.333													
4	2	3	0.	0.0															
4	2	4	0.	0.0															
5	1	1	1.	0.0	5.000														
5	1	2	0.	0.0															
5	1	3	0.	0.0															
5	1	4	0.	0.0															
5	2	1	0.	0.0															
5	2	2	0.	0.0															
5	2	3	0.	0.0															
5	2	4	0.	0.0	*******	0.0													

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	NO OF STAS.	STD DEV 83	AVERAGE VALUE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	35.	2.242	3.002	3.301	4.294	2.960											
1	2	30.	0.457	4.272	4.136	4.145	3.734											
1	3	28.	0.610	4.228	3.862	4.127	4.329											
2	1	16.	0.544	4.321	4.008	4.326	4.292											
2	2	7.	0.339	4.229	4.329	4.359	4.345											
2	3	11.	0.267	4.279	4.347	4.134	4.350											

Figure 4.1 (cont.)

EAL'S PER TRUCK AXLE (NON-COAL-HAULING)

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	NO OF STAS.	STD DEV 83	AVERAGE VALUE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	1	0.	0.0	**********	**********	**********	**********	**********	**********	**********	**********	0.135	**********	**********	**********	**********	**********	**********
1	1	2	0.	0.0	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	0.138
1	1	3	0.	0.0	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	0.128	**********
1	1	4	0.	0.0	**********	**********	**********	**********	**********	**********	**********	0.154	**********	**********	**********	**********	0.126	0.122	0.136
1	2	1	0.	0.0	**********	0.142	0.153	0.155	**********	0.138	**********	0.146	**********	**********	**********	**********	**********	**********	**********
1	2	2	1.	0.0	0.143	0.142	0.154	0.154	0.139	0.138	0.135	0.139	0.134	**********	0.127	0.126	0.126	0.125	0.137
1	2	3	6.	0.0	0.144	0.143	0.156	0.153	0.138	0.139	0.135	0.139	0.133	**********	0.127	0.124	0.126	0.126	0.136
1	2	4	1.	0.0	0.142	0.142	0.154	0.151	0.138	0.137	0.134	0.137	0.131	**********	0.122	0.126	0.124	**********	**********
2	1	1	7.	0.0	0.144	0.150	0.161	0.158	0.138	0.136	0.139	0.143	0.131	**********	0.128	0.123	0.124	0.127	0.152
2	1	2	19.	0.0	0.149	0.154	0.158	0.157	0.142	0.141	0.140	0.151	0.132	**********	0.124	0.117	0.128	0.128	0.158
2	1	3	9.	0.0	0.156	0.154	0.154	0.147	0.150	0.136	0.149	0.152	0.134	**********	0.131	0.118	0.125	0.122	0.151
2	1	4	4.	0.0	0.140	0.141	0.157	0.152	0.138	0.138	0.144	0.147	0.124	**********	0.122	0.117	0.123	0.128	0.161
2	2	1	1.	0.0	0.156	0.154	0.161	0.160	0.136	0.135	0.136	0.143	0.131	**********	0.125	0.125	0.122	0.123	**********
2	2	2	18.	0.0	0.146	0.150	0.164	0.165	0.161	0.136	0.143	0.153	0.130	**********	0.124	0.117	0.124	0.124	0.142
2	2	3	19.	0.0	0.166	0.161	0.165	0.180	0.143	0.149	0.144	0.162	0.130	**********	0.129	0.120	0.142	0.133	0.187
2	2	4	6.	0.0	0.151	0.167	0.165	0.158	0.138	0.134	0.136	0.137	0.125	**********	0.128	0.117	0.124	0.124	0.154
3	1	1	31.	0.036	0.174	0.168	0.170	0.166	0.155	**********	0.149	**********	0.137	**********	0.122	0.122	0.120	0.129	**********
3	1	2	4.	0.0	0.158	0.179	0.178	0.182	0.193	0.107	**********	0.157	0.131	**********	0.122	0.114	0.122	0.144	**********
3	1	3	43.	0.033	0.180	0.155	0.172	0.163	0.170	0.151	**********	0.148	0.088	**********	0.143	0.116	0.122	0.126	0.151
3	1	4	6.	0.032	0.165	0.165	0.187	**********	0.189	**********	**********	0.166	0.131	**********	**********	0.145	0.125	**********	**********
3	2	1	8.	0.0	0.174	0.171	0.165	**********	0.151	**********	0.141	**********	**********	**********	0.125	0.120	**********	**********	**********
3	2	2	4.	0.0	0.151	0.160	0.168	0.184	0.161	0.130	0.160	0.168	0.132	**********	0.124	0.122	0.147	0.123	0.177
3	2	3	27.	0.035	0.179	0.152	0.175	0.151	0.136	0.132	0.179	0.161	0.128	**********	0.134	0.125	0.147	0.128	0.143
3	2	4	4.	0.0	0.179	0.162	0.180	**********	0.140	**********	**********	0.090	0.126	**********	**********	0.123	0.129	0.154	**********
4	1	1	4.	0.0	0.158	0.149	0.156	0.165	0.131	0.134	0.148	0.150	0.136	**********	0.122	0.118	0.126	0.134	0.169
4	1	2	5.	0.0	0.159	0.174	0.168	0.157	0.159	0.144	0.150	0.159	0.138	**********	0.126	0.122	0.125	0.129	0.163
4	1	3	8.	0.0	0.155	0.142	0.177	0.172	0.133	0.139	0.175	0.156	0.130	**********	0.128	0.121	0.132	0.127	0.174
4	1	4	4.	0.0	0.167	0.167	0.166	0.158	0.132	0.134	0.147	0.149	0.135	**********	0.129	0.126	0.129	0.126	0.165
4	2	1	0.	0.0	**********	**********	0.165	0.158	0.139	0.134	**********	0.143	0.133	**********	0.123	0.125	**********	**********	0.140
4	2	2	0.	0.0	**********	**********	0.164	0.149	0.130	0.138	**********	0.151	0.130	**********	**********	**********	0.128	**********	0.146
4	2	3	1.	0.0	0.147	0.142	0.175	**********	0.111	0.133	0.153	0.162	0.137	**********	0.151	0.120	0.124	0.119	**********
4	2	4	0.	0.0	**********	**********	**********	**********	0.130	0.133	0.141	0.122	0.128	**********	0.126	0.115	0.124	**********	**********
5	1	1	8.	0.040	0.179	0.185	0.201	0.158	0.142	0.137	0.156	0.169	0.152	**********	0.129	0.121	0.128	0.132	0.171
5	1	2	6.	0.038	0.177	0.213	0.191	0.175	0.148	0.148	0.155	0.163	0.172	**********	0.131	0.119	0.124	0.132	0.180
5	1	3	14.	0.043	0.176	0.171	0.189	0.160	0.157	0.150	0.182	0.161	0.157	**********	0.128	0.119	0.137	0.142	0.173
5	1	4	4.	0.050	0.215	0.173	0.195	0.209	0.135	0.140	0.155	0.154	0.148	**********	0.139	0.142	0.132	0.131	0.172
5	2	1	0.	0.0	**********	**********	**********	**********	0.139	**********	**********	**********	**********	**********	**********	0.121	**********	**********	**********
5	2	2	1.	0.0	0.194	**********	**********	**********	**********	**********	**********	**********	0.134	**********	**********	0.131	**********	**********	**********
5	2	3	2.	0.0	0.186	**********	**********	**********	**********	**********	**********	0.144	0.131	**********	**********	0.122	**********	0.120	**********
5	2	4	0.	0.0	**********	0.163	0.161	**********	**********	0.146	**********	0.142	0.125	**********	**********	0.123	0.129	0.130	0.154

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	NO OF STAS.	STD DEV 83	AVERAGE VALUE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	35.	0.0	0.170	0.164	0.171	0.176	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	2	30.	0.0	0.164	0.161	0.161	0.167	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	3	28.	0.037	0.157	0.170	0.165	0.156	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	1	16.	0.0	0.157	0.153	0.159	0.163	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	2	7.	0.0	0.152	0.149	0.153	0.156	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	3	11.	0.0	0.159	0.153	0.166	0.151	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********

Figure 4.1 (cont.)

EAL'S PER TRUCK AXLE (COAL-HAULING)

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	NO OF STAS.	STD DEV 83	AVERAGE VALUE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	1	0.	0.0															
1	1	2	0.	0.0															
1	1	3	0.	0.0															
1	1	4	0.	0.0															
1	2	1	0.	0.0	*******	1.323	1.663												
1	2	2	0.	0.0	**********	1.420	1.663												
1	2	3	5.	0.126	1.543	1.528	1.469	1.428											
1	2	4	1.	0.0	1.450	2.506	1.303	1.493											
2	1	1	2.	0.256	0.181	0.181	*******	2.471											
2	1	2	3.	0.759	0.438	0.361	1.663	1.069											
2	1	3	1.	0.0	0.0	1.681													
2	1	4	1.	0.0	2.506	**********	1.663												
2	2	1	0.	0.0	*******	1.681													
2	2	2	6.	0.924	1.159	1.391	0.368												
2	2	3	4.	1.186	1.620	1.021	1.241	1.483											
2	2	4	4.	1.012	1.764	**********	1.303												
3	1	1	2.	0.256	0.181	**********	2.471												
3	1	2	2.	0.0	0.0	0.0	*******	0.0											
3	1	3	2.	0.256	0.181	**********	0.368												
3	1	4	0.	0.0															
3	2	1	1.	0.0	0.0	0.361	1.663												
3	2	2	1.	0.0	0.361	1.314													
3	2	3	11.	0.948	0.620	0.0	2.067	0.368											
3	2	4	0.	0.0	*******	2.506													
4	1	1	1.	0.0	0.361	**********	1.303												
4	1	2	0.	0.0	*******	0.0	0.184	0.368											
4	1	3	2.	0.0	0.0	0.0	0.184												
4	1	4	0.	0.0	**********	0.123													
4	2	1	0.	0.0															
4	2	2	0.	0.0	**********	1.663													
4	2	3	0.	0.0															
4	2	4	0.	0.0															
5	1	1	1.	0.0	0.361														
5	1	2	0.	0.0															
5	1	3	0.	0.0															
5	1	4	0.	0.0															
5	2	1	0.	0.0															
5	2	2	0.	0.0															
5	2	3	0.	0.0															
5	2	4	0.	0.0	*******	0.0													

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	NO OF STAS.	STD DEV 83	AVERAGE VALUE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	35.	1.247	0.849	0.971	1.257	0.909											
1	2	30.	1.030	1.701	1.805	1.355	1.251											
1	3	28.	1.108	1.510	2.373	1.641	1.312											
2	1	16.	0.816	1.536	1.429	1.509	1.475											
2	2	7.	0.546	1.629	1.453	1.369	1.434											
2	3	11.	0.446	1.488	1.349	1.682	1.396											

Figure 4.1 (cont.)

2-DIRECTION EAL'S IN 1000'S DUE TO 4-TIRED VEHICLES

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	NO OF STAS.	STD DEV 83	AVERAGE VALUE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	1	0.		0.								6.						
1	1	2	0.		0.														6.
1	1	3	0.		0.													6.	
1	1	4	0.		0.							5.					5.	6.	7.
1	2	1	0.		0.	12.	11.	7.		12.		12.							
1	2	2	1.		0.	24.	24.	28.	22.	26.	29.	22.	22.	23.	19.	19.	19.	20.	14.
1	2	3	6.		58.	75.	45.	30.	56.	33.	59.	25.	45.	41.	23.	29.	34.	30.	18.
1	2	4	1.		0.	8.	11.	10.	17.	20.	19.	18.	13.	17.	13.	12.	15.		
2	1	1	7.		2.	4.	4.	4.	4.	4.	4.	5.	5.	3.	6.	5.	4.	4.	4.
2	1	2	19.		2.	4.	5.	5.	4.	5.	5.	4.	5.	4.	5.	5.	4.	3.	3.
2	1	3	9.		2.	6.	6.	6.	5.	6.	4.	4.	5.	5.	4.	3.	4.	5.	5.
2	1	4	4.		3.	4.	4.	4.	2.	4.	4.	4.	3.	4.	4.	4.	5.	3.	3.
2	2	1	1.		0.	15.	18.	15.	11.	24.	12.	9.	10.	16.	18.	26.	12.	16.	
2	2	2	18.		6.	17.	16.	15.	12.	35.	14.	18.	29.	8.	18.	12.	15.	17.	23.
2	2	3	19.		16.	24.	25.	22.	24.	20.	26.	31.	17.	18.	11.	27.	18.	17.	29.
2	2	4	6.		8.	16.	13.	11.	18.	13.	14.	12.	10.	21.	9.	18.	13.	13.	12.
3	1	1	31.		2.	3.	3.	4.	2.	3.		3.		4.	5.	7.	2.	3.	
3	1	2	4.		2.	3.	3.	5.	4.	4.	8.	3.		2.	6.	6.	2.	4.	
3	1	3	43.		2.	4.	5.	4.	7.	4.	1.	4.		4.	4.	5.	5.	6.	5.
3	1	4	6.		2.	4.	4.	3.		3.		3.		5.		5.	3.		
3	2	1	8.		5.	14.	15.	15.		21.		14.			13.	13.			
3	2	2	4.		10.	18.	15.	16.	19.	15.	19.	14.	16.	7.	16.	13.	19.	11.	15.
3	2	3	27.		9.	20.	25.	18.	29.	26.	27.	24.	28.	18.	25.	24.	20.	16.	13.
3	2	4	4.		6.	13.	17.	12.		12.		8.		12.		14.	17.	11.	
4	1	1	4.		3.	3.	8.	2.	2.	3.	3.	3.	2.	2.	4.	2.	2.	2.	2.
4	1	2	5.		2.	4.	4.	3.	3.	3.	3.	2.	3.	2.	2.	2.	3.	2.	2.
4	1	3	8.		3.	4.	4.	4.	4.	4.	3.	3.	3.	3.	2.	2.	3.	4.	2.
4	1	4	4.		1.	1.	1.	1.	2.	3.	3.	2.	2.	2.	2.	4.	2.	1.	1.
4	2	1	0.		0.		9.	11.	10.	11.		10.	15.		11.	13.		8.	
4	2	2	0.		0.		13.	9.	10.	11.		14.	11.			11.		13.	
4	2	3	1.		0.	16.	14.	10.		12.	9.	14.	11.	11.	13.	10.	16.	13.	
4	2	4	0.		0.				15.	12.	13.	8.	9.		12.	13.	9.		
5	1	1	8.		1.	1.	1.	1.	1.	2.	2.	2.	1.	1.	2.	2.	1.	1.	1.
5	1	2	6.		3.	2.	0.	1.	1.	1.	2.	1.	1.	1.	2.	3.	1.	1.	1.
5	1	3	14.		1.	1.	2.	4.	1.	1.	1.	1.	1.	2.	1.	2.	1.	2.	1.
5	1	4	4.		1.	3.	1.	1.	1.	3.	2.	1.	2.	1.	2.	3.	2.	2.	1.
5	2	1	0.		0.					9.						23.			
5	2	2	1.		0.	9.								21.		14.			
5	2	3	2.		1.	9.						26.		14.		18.		15.	
5	2	4	0.		0.		13.	9.			8.	12.		17.		16.	12.	17.	9.

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	NO OF STAS.	STD DEV 83	AVERAGE VALUE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	35.		2.	3.	3.	3.	3.										
1	2	30.		2.	3.	3.	4.	4.										
1	3	28.		2.	4.	3.	4.	3.										
2	1	16.		9.	18.	21.	24.	19.										
2	2	7.		7.	15.	26.	23.	16.										
2	3	11.		7.	14.	14.	17.	8.										

Figure 4.1 (cont.)

2-DIRECTION EAL'S IN 1000'S DUE TO NON-COAL-HAULING VEHICLES

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	NO OF STAS.	STD DEV 83	AVERAGE VALUE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	1	0.		0.								90.						
1	1	2	0.		0.													133.	
1	1	3	0.		0.													97.	
1	1	4	0.		0.							87.					81.	184.	159.
1	2	1	0.		0.		831.	399.	288.		764.		101.						
1	2	2	1.		0.	1455.	1313.	1491.	1410.	1293.	1363.	1440.	1177.	1000.	663.	799.	487.	601.	521.
1	2	3	6.		951.	1535.	1100.	1106.	1078.	1070.	1220.	878.	1055.	824.	609.	551.	545.	599.	440.
1	2	4	1.		0.	379.	270.	417.	769.	959.	687.	705.	516.	521.	327.	273.	309.		
2	1	1	7.		52.	63.	65.	69.	83.	76.	85.	104.	109.	77.	148.	37.	53.	57.	52.
2	1	2	19.		29.	50.	46.	56.	57.	69.	55.	79.	55.	50.	68.	54.	48.	38.	58.
2	1	3	9.		27.	38.	51.	44.	21.	51.	36.	42.	48.	50.	16.	51.	32.	49.	84.
2	1	4	4.		27.	27.	14.	64.	36.	42.	49.	59.	39.	57.	42.	24.	53.	38.	55.
2	2	1	1.		0.	134.	128.	91.	241.	276.	205.	447.	129.	268.	62.	75.	130.	307.	
2	2	2	18.		40.	110.	121.	110.	54.	202.	98.	145.	83.	129.	80.	67.	76.	252.	430.
2	2	3	19.		61.	110.	132.	122.	159.	150.	185.	414.	113.	121.	159.	253.	94.	114.	140.
2	2	4	6.		75.	98.	17.	143.	233.	220.	197.	222.	154.	156.	110.	106.	224.	74.	111.
3	1	1	31.		21.	10.	15.	18.	62.	11.	74.		12.		5.	24.	3.	44.	
3	1	2	4.		15.	16.	20.	21.	23.	18.	31.		23.	14.	17.	32.	12.	60.	
3	1	3	43.		16.	17.	12.	18.	20.	10.	4.		37.	40.	9.	79.	26.	28.	38.
3	1	4	6.		7.	7.	5.	6.		14.			6.	48.		19.	16.		
3	2	1	8.		19.	35.	84.	43.		80.		50.			77.	33.			
3	2	2	4.		21.	45.	90.	59.	66.	109.	39.	61.	43.	342.	51.	46.	35.	44.	44.
3	2	3	27.		82.	108.	80.	83.	95.	115.	123.	128.	87.	63.	99.	43.	70.	49.	89.
3	2	4	4.		9.	24.	29.	46.		81.		122.	38.		15.	71.	65.		
4	1	1	4.		25.	30.	41.	10.	27.	36.	30.	28.	31.	21.	7.	10.	14.	26.	22.
4	1	2	5.		6.	23.	16.	30.	15.	25.	25.	28.	21.	15.	9.	13.	18.	18.	25.
4	1	3	8.		16.	23.	15.	31.	27.	24.	14.	36.	22.	22.	11.	11.	16.	21.	37.
4	1	4	4.		3.	8.	6.	6.	27.	25.	35.	25.	22.	14.	11.	18.	17.	12.	16.
4	2	1	0.		0.			72.	171.	116.	152.		72.	47.	18.	49.		146.	
4	2	2	0.		0.			95.	68.	33.	64.		93.	76.		72.		310.	
4	2	3	1.		0.	213.	34.	69.		94.	44.	39.	38.	39.	63.	26.	95.	73.	
4	2	4	0.		0.					135.	176.	43.	114.	32.	56.	57.	64.		
5	1	1	8.		14.	10.	3.	3.	5.	9.	11.	7.	4.	3.	5.	7.	5.	13.	16.
5	1	2	6.		9.	9.	3.	8.	7.	7.	8.	7.	8.	3.	4.	7.	8.	6.	10.
5	1	3	14.		8.	7.	9.	20.	8.	10.	4.	12.	9.	7.	5.	6.	6.	7.	4.
5	1	4	4.		46.	35.	5.	8.	13.	17.	14.	15.	21.	5.	10.	8.	7.	11.	11.
5	2	1	0.		0.						39.					58.			
5	2	2	1.		0.	20.								732.		49.			
5	2	3	2.		73.	125.						340.	50.			11.		17.	
5	2	4	0.		0.		37.	10.			59.		23.	132.		32.	52.	135.	83.

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	NO OF STAS.	STD DEV 83	AVERAGE VALUE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	35.		18.	15.	24.	27.	38.										
1	2	30.		33.	28.	24.	31.	38.										
1	3	28.		33.	46.	36.	46.	44.										
2	1	16.		490.	317.	461.	383.	505.										
2	2	7.		97.	159.	307.	380.	156.										
2	3	11.		71.	141.	162.	168.	218.										

Figure 4.1 (cont.)

2-DIRECTION EAL'S IN 1000'S DUE TO COAL-HAULING VEHICLES

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	NO OF STAS.	STD DEV 83	AVERAGE VALUE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	1	0.		0.														
1	1	2	0.		0.														
1	1	3	0.		0.														
1	1	4	0.		0.														
1	2	1	0.		0.	51.	16.												
1	2	2	0.		0.		4.	8.											
1	2	3	5.		23.	28.	31.	62.	54.										
1	2	4	1.		0.	34.	7.	9.	45.										
2	1	1	2.		0.	0.	0.	7.											
2	1	2	3.		5.	3.	1.	8.	3.										
2	1	3	1.		0.	0.	8.												
2	1	4	1.		0.	7.		16.											
2	2	1	0.		0.		32.												
2	2	2	6.		6.	6.	13.	1.											
2	2	3	4.		7.	8.	8.	7.	12.										
2	2	4	4.		10.	10.		17.											
3	1	1	2.		0.	0.		7.											
3	1	2	2.		0.	0.	0.		0.										
3	1	3	2.		0.	0.		1.											
3	1	4	0.		0.														
3	2	1	1.		0.	0.	1.	8.											
3	2	2	1.		0.	1.	9.												
3	2	3	11.		3.	2.	0.	11.	1.										
3	2	4	0.		0.	7.													
4	1	1	1.		0.	1.		9.											
4	1	2	0.		0.	0.	0.	1.											
4	1	3	2.		0.	0.	0.	0.											
4	1	4	0.		0.			0.											
4	2	1	0.		0.														
4	2	2	0.		0.			16.											
4	2	3	0.		0.														
4	2	4	0.		0.														
5	1	1	1.		0.	1.													
5	1	2	0.		0.														
5	1	3	0.		0.														
5	1	4	0.		0.														
5	2	1	0.		0.														
5	2	2	0.		0.														
5	2	3	0.		0.														
5	2	4	0.		0.	0.													

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	NO OF STAS.	STD DEV 83	AVERAGE VALUE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	35.		10.	5.	7.	6.	7.										
1	2	30.		47.	40.	44.	70.	51.										
1	3	28.		336.	372.	757.	322.	294.										
2	1	16.		121.	73.	101.	92.	112.										
2	2	7.		109.	243.	394.	469.	275.										
2	3	11.		238.	785.	951.	1267.	990.										

Figure 4.1 (cont.)

TOTAL 2-DIRECTION EAL'S

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	NO OF STAS.	STD DEV 83	AVERAGE VALUE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	1	0.		0.								96.						
1	1	2	0.		0.														139.
1	1	3	0.		0.														103.
1	1	4	0.		0.								92.						
1	2	1	0.		0.														
1	2	2	1.		0.	1478.	1338.	1522.	1434.	1319.	1392.	1462.	1200.	1023.		682.	818.	506.	621.	535.
1	2	3	6.	1005.	1633.	1166.	1183.	1169.	1104.	1279.	903.	1100.	865.		632.	580.	579.	629.	458.
1	2	4	1.		0.	420.	288.	435.	831.	978.	706.	723.	529.	538.		340.	285.	324.	
2	1	1	7.	53.	68.	69.	73.	88.	80.	89.	109.	115.	80.		153.	42.	57.	61.	56.
2	1	2	19.	31.	54.	51.	61.	61.	74.	60.	83.	59.	54.		73.	58.	53.	41.	61.
2	1	3	9.	28.	44.	58.	50.	26.	58.	40.	46.	53.	55.		19.	54.	36.	54.	90.
2	1	4	4.	33.	32.	17.	68.	42.	46.	53.	64.	42.	61.		46.	28.	58.	41.	58.
2	2	1	1.	0.	149.	157.	107.	252.	300.	217.	456.	140.	284.		80.	101.	142.	323.	
2	2	2	18.	43.	128.	141.	124.	66.	236.	113.	163.	112.	136.		97.	79.	91.	268.	453.
2	2	3	19.	72.	136.	158.	147.	195.	170.	211.	444.	130.	139.		170.	281.	113.	131.	169.
2	2	4	6.	83.	121.	30.	155.	255.	234.	211.	234.	164.	177.		119.	124.	237.	88.	123.
3	1	1	31.	22.	13.	19.	22.	71.	14.		77.		15.		10.	32.	5.	47.	
3	1	2	4.	15.	19.	24.	26.	28.	22.	39.		26.	16.		23.	38.	14.	64.	
3	1	3	43.	17.	21.	17.	22.	28.	14.	5.		41.	44.		13.	84.	31.	34.	43.
3	1	4	6.	8.	11.	9.	8.		17.			9.	53.			24.	18.		
3	2	1	8.	20.	49.	99.	60.		101.		64.				90.	46.			
3	2	2	4.	27.	62.	107.	75.	85.	124.	58.	75.	59.	349.		67.	59.	54.	55.	59.
3	2	3	27.	86.	128.	104.	102.	124.	142.	150.	152.	115.	81.		124.	67.	91.	65.	102.
3	2	4	4.	14.	37.	48.	58.		93.			130.	50.			30.	87.	76.	
4	1	1	4.	27.	34.	49.	12.	29.	39.	32.	31.	33.	23.		11.	12.	16.	28.	24.
4	1	2	5.	7.	27.	20.	33.	17.	28.	28.	31.	23.	17.		11.	16.	20.	20.	27.
4	1	3	8.	18.	27.	18.	35.	32.	28.	17.	39.	25.	25.		13.	13.	19.	24.	39.
4	1	4	4.	4.	10.	7.	7.	29.	28.	38.	27.	24.	16.		13.	22.	19.	14.	18.
4	2	1	0.		0.		81.	183.	125.	163.		82.	61.		29.	61.			154.
4	2	2	0.		0.		113.	77.	43.	75.		107.	88.			82.			323.
4	2	3	1.	0.	229.	48.	79.		106.	53.	53.	49.	50.		77.	36.	111.	86.	
4	2	4	0.		0.				150.	189.	57.	122.	41.		68.	71.	73.		
5	1	1	8.	15.	11.	4.	3.	6.	11.	13.	9.	5.	4.		7.	10.	6.	15.	17.
5	1	2	6.	12.	11.	4.	9.	7.	8.	10.	9.	9.	4.		5.	10.	9.	7.	11.
5	1	3	14.	8.	8.	10.	24.	9.	11.	5.	13.	10.	9.		6.	9.	7.	9.	5.
5	1	4	4.	47.	39.	7.	9.	14.	19.	16.	17.	23.	6.		12.	10.	9.	12.	12.
5	2	1	0.		0.					49.						82.			
5	2	2	1.		0.	29.							753.			63.			
5	2	3	2.	73.	134.							366.	64.			29.		32.	
5	2	4	0.		0.		49.	19.		68.		35.	149.			48.	64.	152.	92.

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	NO OF STAS.	STD DEV 83	AVERAGE VALUE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	35.	28.	23.	35.	35.	48.											
1	2	30.	78.	72.	71.	104.	93.											
1	3	28.	360.	422.	796.	371.	341.											
2	1	16.	608.	408.	583.	500.	636.											
2	2	7.	200.	417.	726.	872.	447.											
2	3	11.	281.	940.	1127.	1453.	1217.											

Figure 4.1 (cont.)

INCREMENTS OF ANNUAL AVERAGE DAILY TRAFFIC
(MINUS MEANS A DECREASE THROUGH TIME)
BASE YEAR IS 83

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	CA	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	1	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	1	2	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	1	3	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	1	4	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	2	1	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	2	2	338.	-2335.	1346.	-796.	-2904.	848.	1748.	2076.	********	5582.	4677.	6481.	4992.	8966.	********
1	2	3	18869.	27317.	13531.	25522.	10205.	30729.	18965.	22028.	********	33020.	30147.	26964.	28998.	36408.	********
1	2	4	-1232.	-1118.	-6507.	-9057.	-7515.	-7095.	-3740.	-5767.	**********	-2695.	-1764.	-3784.	**********	**********	**********
2	1	1	209.	322.	187.	21.	-141.	-319.	-623.	462.	********	-1037.	-92.	154.	275.	451.	********
2	1	2	-439.	-370.	154.	-648.	-528.	-193.	-382.	-47.	********	-559.	-446.	-301.	399.	695.	********
2	1	3	180.	37.	842.	-198.	1228.	1210.	590.	381.	********	1502.	1575.	1074.	772.	241.	********
2	1	4	-55.	-300.	686.	-191.	-389.	-608.	115.	-215.	********	-545.	-226.	-960.	350.	283.	********
2	2	1	-1868.	90.	2111.	-5393.	1432.	1978.	2584.	-1095.	********	-1265.	-5665.	1573.	-1721.	**********	**********
2	2	2	306.	991.	3127.	-10573.	1240.	-1100.	-7292.	4689.	********	-448.	2701.	965.	-940.	-5024.	********
2	2	3	-623.	750.	-253.	1813.	-1712.	-5106.	3828.	3134.	********	6584.	-2723.	3130.	3524.	-3040.	********
2	2	4	2252.	2590.	-1519.	1121.	774.	1813.	3186.	-3158.	********	3711.	-1292.	1299.	1635.	2227.	********
3	1	1	-291.	-638.	199.	-89.	********	-442.	********	-373.	********	-1249.	-2489.	492.	-450.	**********	**********
3	1	2	-13.	-961.	-673.	-139.	-2822.	********	331.	846.	********	-1441.	-1607.	866.	-641.	**********	**********
3	1	3	-415.	-56.	-1844.	-232.	1713.	********	-147.	-104.	********	230.	-1142.	-483.	-1103.	-594.	********
3	1	4	-46.	949.	********	904.	**********	**********	553.	-631.	**********	**********	-581.	828.	**********	**********	**********
3	2	1	-674.	-319.	********	-3916.	********	-281.	**********	**********	**********	297.	849.	**********	**********	**********	**********
3	2	2	1195.	734.	-1110.	1287.	-488.	2097.	869.	4162.	********	947.	2702.	-399.	3771.	1689.	********
3	2	3	-2496.	954.	-4866.	-3729.	-3976.	-2171.	-4508.	1329.	********	-2765.	-1952.	-17.	2280.	3896.	********
3	2	4	-2072.	667.	********	123.	**********	**********	2063.	282.	**********	**********	-475.	-2148.	1061.	**********	**********
4	1	1	-2455.	815.	759.	97.	433.	423.	612.	671.	********	39.	676.	870.	922.	1051.	********
4	1	2	-130.	401.	627.	645.	422.	649.	671.	1068.	********	1113.	805.	671.	977.	974.	********
4	1	3	237.	91.	-223.	277.	698.	515.	628.	433.	********	1298.	946.	468.	164.	840.	********
4	1	4	159.	159.	-215.	-1065.	-892.	-590.	-730.	-153.	********	-578.	-1760.	-582.	-145.	-142.	********
4	2	1	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
4	2	2	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
4	2	3	1810.	4021.	********	2321.	4170.	1827.	3253.	3238.	********	2021.	4106.	431.	1929.	**********	**********
4	2	4	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
5	1	1	206.	193.	54.	-668.	-776.	-361.	43.	138.	********	-512.	-829.	-167.	-367.	-342.	********
5	1	2	786.	499.	605.	307.	35.	411.	286.	757.	********	94.	-705.	306.	640.	390.	********
5	1	3	-347.	-1546.	2.	-217.	43.	-181.	-74.	-447.	********	-60.	-668.	-17.	-559.	10.	********
5	1	4	1239.	1098.	1292.	405.	973.	1005.	755.	1354.	********	591.	311.	1020.	864.	1142.	********
5	2	1	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
5	2	2	**********	**********	**********	**********	**********	**********	-9959.	**********	**********	-2978.	**********	**********	**********	**********	**********
5	2	3	**********	**********	**********	**********	-10632.	-2181.	**********	**********	********	-4249.	********	-2488.	**********	**********	**********
5	2	4	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	-91.	236.	-150.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	2	174.	-195.	-293.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	3	310.	191.	434.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	1	-2374.	-3759.	-1570.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	2	-6413.	-4973.	-257.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	3	5.	-1926.	3027.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********

Figure 4.1 (cont.)

INCREMENTS OF PERCENT TRUCK
(MINUS MEANS A DECREASE THROUGH TIME)
BASE YEAR IS 83

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	1	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	1	2	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	1	3	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	1	4	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	2	1	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	2	2	2.287	4.168	0.188	3.000	3.840	-3.529	1.493	4.535********		7.967	3.321	12.231	9.707	7.097********	
1	2	3	-1.169	-9.194	-3.470	-5.406	-1.817	-5.394	-2.222	0.725********		-1.874	2.503	1.887	1.504	-0.621********	
1	2	4	10.426	3.855	0.680	-0.926	3.711	1.797	3.597	6.313**********		7.191	9.187	9.554**********			
2	1	1	-2.023	-1.601	-4.760	-4.097	-4.456	-6.495	-5.794	-5.719********		-9.668	1.607	-3.764	-5.522	-2.612********	
2	1	2	2.101	1.075	-1.418	-1.428	0.297	-4.690	0.047	-0.494********		-2.644	1.522	0.202	-2.377	-6.609********	
2	1	3	-1.977	-2.057	-1.181	-2.859	-3.262	-3.748	-3.206	-3.874********		-0.078	-6.959	-3.458	-6.890	-8.226********	
2	1	4	3.108	-5.748	-10.193	-3.479	-4.534	-6.367	-3.280	-8.614********		-4.723	-1.140	-4.923	-8.374	-9.704********	
2	2	1	-0.455	1.645	-7.882	-2.906	-6.430	-22.082	-2.573	-7.077********		3.299	4.233	-3.854	-10.822**********		
2	2	2	-1.101	0.078	1.826	0.455	-1.191	-2.887	4.114	-10.167********		0.878	-0.600	0.086	-9.131	-9.658********	
2	2	3	-0.969	-0.950	-2.479	-3.030	-2.482	-6.531	-3.454	-2.512********		-8.310	-3.352	-3.090	-2.406	-0.199********	
2	2	4	5.077	-2.655	-4.216	-8.590	-7.874	-9.735	-7.513	-1.866********		-5.663	-1.106	-11.032	-1.254	-2.349********	
3	1	1	-1.343	-0.999	-14.658	-2.668********		-7.597********		-0.708********		2.181	-0.878	0.956	-7.814**********		
3	1	2	-1.791	0.713	-0.654	-0.744	-0.799********		-4.257	-4.299********		-0.392	-4.334	-6.041	-11.450**********		
3	1	3	2.234	0.953	1.752	1.986	0.128********		-4.083	-17.782********		0.766	-16.881	-4.808	-3.435	-3.697********	
3	1	4	-0.046	-0.725********		-3.585**********		-0.715	-11.932**********			-3.898	-7.525**********				
3	2	1	-2.851	-0.303********		-1.287********		-1.345**********		-4.398		-0.890**********					
3	2	2	-2.682	-0.696	-0.101	-4.246	0.336	-2.133	0.123	-28.894********		-2.433	-2.142	0.779	-3.355	-0.663********	
3	2	3	1.717	1.175	1.925	0.068	-0.016	-0.937	2.030	-0.002********		0.896	2.817	0.538	0.315	-1.544********	
3	2	4	-0.491	-2.507********		-4.309**********		-13.345	-2.011**********			0.128	-4.723	-5.424**********			
4	1	1	2.175	2.756	-0.392	-1.651	-1.703	-1.386	-1.177	-1.557********		3.876	1.779	0.235	-5.916	-3.175********	
4	1	2	2.458	-2.668	0.211	-2.690	-1.822	-4.296	-2.103	-3.265********		-1.081	-1.875	-2.886	-5.210	-4.434********	
4	1	3	1.140	-1.645	-0.121	-2.175	-1.040	-4.556	-2.475	-3.130********		-1.981	-0.448	-1.044	-3.692	-4.689********	
4	1	4	0.300	0.333	-1.823	-2.146	-6.784	-6.234	-2.775	-4.540********		0.786	0.805	-3.047	-5.116	-3.977********	
4	2	1	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
4	2	2	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
4	2	3	7.804	4.419********		0.168	5.480	7.725	6.710	6.738********		5.088	6.748	3.025	3.228**********		
4	2	4	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
5	1	1	3.113	3.009	2.264	4.776	2.360	3.920	3.924	3.267********		3.938	2.316	1.944	-2.619	-2.686********	
5	1	2	2.102	-2.555	-1.615	0.354	1.406	-0.355	0.510	0.294********		2.359	3.052	-1.000	-5.449	-3.484********	
5	1	3	2.806	1.137	-3.447	0.622	1.407	-0.664	-2.240	1.679********		-0.009	2.776	-2.304	2.203	2.622********	
5	1	4	1.909	-1.806	-3.388	-1.898	-4.087	-4.516	-7.094	-3.924********		-1.820	2.738	-1.871	-6.312	-2.764********	
5	2	1	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
5	2	2	**********	**********	**********	**********	**********	-21.123**********				-2.412**********					
5	2	3	**********	**********	**********	**********	-1.223	6.877**********				10.306********		9.263**********			
5	2	4	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	-2.859	-5.915	-3.390**********												
1	2	0.071	-1.417	-1.756**********												
1	3	-0.105	2.273	-0.647**********												
2	1	-2.663	-1.137	-5.020**********												
2	2	0.221	-2.389	0.286**********												
2	3	-1.646	0.034	-11.485**********												

Figure 4.1 (cont.)

INCREMENTS OF PERCENT OF TRUCKS HAULING COAL
(MINUS MEANS A DECREASE THROUGH TIME)
BASE YEAR IS 83

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	1															
1	1	2															
1	1	3															
1	1	4															
1	2	1															
1	2	2		-0.029	-0.061												
1	2	3	-0.115	-0.374	-0.456												
1	2	4	0.736	0.723	0.266												
2	1	1	-0.147		-0.247												
2	1	2	0.061	-0.219	0.016												
2	1	3	-0.398														
2	1	4			-0.257												
2	2	1	-0.964														
2	2	2	-0.079	0.393													
2	2	3	0.195	0.102	-0.049												
2	2	4			-0.077												
3	1	1			-0.312												
3	1	2	0.115		-0.051												
3	1	3			-0.209												
3	1	4															
3	2	1	0.192	-0.172													
3	2	2	0.115														
3	2	3	0.117	-0.206	0.130												
3	2	4	-0.806														
4	1	1			-0.260												
4	1	2	-0.667	-0.308	-0.751												
4	1	3	-0.321	-0.307													
4	1	4			-0.521												
4	2	1															
4	2	2															
4	2	3															
4	2	4															
5	1	1															
5	1	2															
5	1	3															
5	1	4															
5	2	1															
5	2	2															
5	2	3															
5	2	4															

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	-0.011	0.246	0.716												
1	2	-0.369	-1.167	1.866												
1	3	-2.944	6.420	4.365												
2	1	0.257	-0.145	-0.257												
2	2	1.045	-0.445	1.032												
2	3	-3.136	-1.135	5.607												

Figure 4.1 (cont.)

INCREMENTS OF AXLES PER TRUCK (NON-COAL-HAULING)
(MINUS MEANS A DECREASE THROUGH TIME)
BASE YEAR IS 83

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	1	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	1	2	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	1	3	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	1	4	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	2	1	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	2	2	0.022	0.110	0.089	0.113	0.111	0.025	0.172	0.236********		0.190	0.300	0.253	0.315	0.461********	
1	2	3	-0.083	-0.188	-0.039	-0.223	0.046	-0.136	-0.135	-0.071********		-0.021	-0.037	0.106	0.196	0.184********	
1	2	4	0.217	0.028	0.072	0.041	0.162	0.137	0.195	0.213**********		0.333	0.334	0.490**********			
2	1	1	0.091	-0.032	-0.132	-0.067	0.060	-0.118	-0.041	-0.090********		-0.545	0.360	0.302	0.265	0.628********	
2	1	2	0.211	0.120	0.143	0.103	0.215	-0.157	0.329	0.162********		-0.210	0.260	0.231	0.525	0.306********	
2	1	3	-0.082	-0.214	0.781	-0.182	-0.096	-0.197	-0.070	-0.242********		0.087	-0.188	0.042	0.087	-0.269********	
2	1	4	0.076	-0.483	-0.238	-0.274	-0.388	-0.385	-0.378	-0.466********		0.025	0.086	-0.129	0.094	-0.007********	
2	2	1	0.375	0.275	-0.373	-0.297	-0.143	-0.991	-0.198	-0.434********		0.498	0.048	-0.058	-0.329**********		
2	2	2	0.138	0.260	0.588	0.383	0.122	0.024	0.321	0.112********		0.441	0.434	0.296	-0.221	-0.406********	
2	2	3	-0.008	-0.016	0.060	-0.330	-0.364	-0.722	-0.019	-0.358********		-0.653	-0.401	0.039	-0.083	0.580********	
2	2	4	0.438	-0.244	-0.410	-0.815	-0.610	-0.874	-0.742	-0.505********		-0.510	-0.268	-0.672	0.075	-0.134********	
3	1	1	0.299	0.069	-1.198	0.136********		-0.624**********		0.093********		0.448	-0.046	0.534	-0.148**********		
3	1	2	0.168	0.050	0.246	0.450	-0.320********		-0.132	-0.267********		0.445	0.080	0.334	-0.142**********		
3	1	3	0.208	-0.187	-0.008	0.051	0.372********		-0.554	-0.677********		0.360	0.013	0.130	-0.005	-0.234********	
3	1	4	0.393	0.085********		0.220**********		0.570	-0.386**********			0.187	0.020**********				
3	2	1	-0.379	0.101********		-0.316********		-0.273**********				-0.327	-0.244**********				
3	2	2	-0.190	0.079	0.105	-0.218	0.081	-0.136	0.253	-1.111********		-0.046	0.094	0.210	0.266	0.367********	
3	2	3	-0.073	-0.043	-0.243	-0.238	-0.203	-0.067	-0.020	-0.087********		-0.432	0.194	0.352	0.206	-0.522********	
3	2	4	0.156	0.122********		-0.403**********		-2.025	-0.083**********			0.214	-0.168	0.030**********			
4	1	1	0.060	0.088	-0.095	0.130	-0.046	-0.192	-0.058	-0.022********		0.299	0.302	0.384	0.112	0.245********	
4	1	2	0.337	0.131	0.378	0.164	0.305	0.051	0.387	0.228********		0.547	0.540	0.495	0.339	0.234********	
4	1	3	0.131	-0.032	0.009	0.014	0.299	-0.050	0.203	0.162********		0.309	0.371	0.381	0.395	0.219********	
4	1	4	-0.055	-0.074	-0.497	-0.357	-0.403	-0.378	-0.171	-0.392********		0.005	0.059	-0.026	0.058	0.030********	
4	2	1	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
4	2	2	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
4	2	3	1.165	0.794********		0.575	0.744	1.094	1.452	0.962********		1.204	1.245	0.580	0.960**********		
4	2	4	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
5	1	1	0.150	0.455	0.030	0.432	0.303	0.098	0.432	0.305********		0.438	0.168	0.472	0.294	0.284********	
5	1	2	0.007	-0.012	0.053	0.146	0.065	-0.096	0.295	0.105********		0.343	0.307	0.297	0.298	0.373********	
5	1	3	-0.234	-0.187	0.258	0.094	0.051	-0.106	0.162	0.003********		0.149	0.131	0.224	0.089	0.283********	
5	1	4	0.016	-0.073	-0.180	-0.164	-0.200	-0.243	-0.144	-0.354********		0.013	0.239	0.055	0.152	0.142********	
5	2	1	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
5	2	2	**********	**********	**********	**********	**********	**********	**********	-1.808**********		-0.106**********					
5	2	3	**********	**********	**********	**********	**********	-0.463	-0.129**********			0.491********	0.587**********				
5	2	4	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	-0.203	-0.318	-0.308**********												
1	2	0.103	-0.067	-0.120**********												
1	3	0.190	0.151	0.068**********												
2	1	-0.255	-0.101	-0.228**********												
2	2	0.115	-0.327	0.146**********												
2	3	-0.056	0.059	-0.489**********												

Figure 4.1 (cont.)

INCREMENTS OF AXLES PER TRUCK (COAL-HAULING)
(MINUS MEANS A DECREASE THROUGH TIME)
BASE YEAR IS 83

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	1															
1	1	2															
1	1	3															
1	1	4															
1	2	1															
1	2	2	********	-4.500	-4.333												
1	2	3	-0.016	-0.027	0.019												
1	2	4	0.267	-0.233	0.004												
2	1	1	0.0	********	-1.500												
2	1	2	-3.500	-2.833	-3.167												
2	1	3	-4.333														
2	1	4	**********	-0.333													
2	2	1	-4.333														
2	2	2	0.147	-0.389													
2	2	3	-1.560	-1.441	-1.310												
2	2	4	**********	-0.167													
3	1	1	**********	-1.500													
3	1	2	0.0	********	0.0												
3	1	3	**********	-2.500													
3	1	4															
3	2	1	-5.000	-4.333													
3	2	2	0.500														
3	2	3	3.000	-1.167	-2.000												
3	2	4	-4.000														
4	1	1	**********	0.500													
4	1	2	0.0	-2.500	-5.000												
4	1	3	0.0	-2.500													
4	1	4	**********	-1.667													
4	2	1															
4	2	2															
4	2	3															
4	2	4															
5	1	1															
5	1	2															
5	1	3															
5	1	4															
5	2	1															
5	2	2															
5	2	3															
5	2	4															

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	-0.299	-1.292	0.042												
1	2	0.136	0.127	0.538												
1	3	0.366	0.101	-0.101												
2	1	0.313	-0.005	0.029												
2	2	-0.100	-0.130	-0.116												
2	3	-0.068	0.145	-0.071												

Figure 4.1 (cont.)

INCREMENTS OF EAL'S PER TRUCK AXLE (NON-COAL-HAULING)
(MINUS MEANS A DECREASE THROUGH TIME)
BASE YEAR IS 83

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	1	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	1	2	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	1	3	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	1	4	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	2	1	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	2	2	0.001	-0.011	-0.011	0.004	0.005	0.008	0.004	0.009********		0.016	0.017	0.017	0.018	0.006********	
1	2	3	0.001	-0.012	-0.009	0.006	0.005	0.009	0.005	0.011********		0.017	0.020	0.018	0.018	0.008********	
1	2	4	0.000	-0.012	-0.009	0.004	0.005	0.008	0.005	0.011**********		0.020	0.016	0.018	**********		
2	1	1	-0.006	-0.017	-0.014	0.006	0.008	0.005	0.001	0.013********		0.016	0.021	0.020	0.017	-0.008********	
2	1	2	-0.005	-0.009	-0.008	0.007	0.008	0.009	-0.002	0.017********		0.025	0.032	0.021	0.021	-0.009********	
2	1	3	0.002	0.002	0.009	0.006	0.020	0.007	0.004	0.022********		0.025	0.038	0.031	0.034	0.005********	
2	1	4	-0.001	-0.017	-0.012	0.002	0.002	-0.004	-0.007	0.016********		0.018	0.023	0.017	0.012	-0.021********	
2	2	1	0.002	-0.005	-0.004	0.020	0.021	0.020	0.013	0.025********		0.031	0.031	0.034	0.033**********		
2	2	2	-0.004	-0.018	-0.019	-0.015	0.010	0.003	-0.007	0.016********		0.022	0.029	0.022	0.022	0.004********	
2	2	3	0.005	0.001	-0.014	0.023	0.017	0.022	0.004	0.036********		0.037	0.046	0.024	0.033	-0.021********	
2	2	4	-0.016	-0.014	-0.007	0.013	0.017	0.015	0.014	0.026********		0.023	0.034	0.027	0.027	-0.003********	
3	1	1	0.006	0.004	0.008	0.019********		0.025********		0.037********		0.052	0.052	0.054	0.046**********		
3	1	2	-0.021	-0.020	-0.024	-0.035	0.051********		0.001	0.027********		0.036	0.044	0.036	0.014**********		
3	1	3	0.025	0.008	0.017	0.010	0.029********		0.032	0.092********		0.037	0.064	0.058	0.054	0.029********	
3	1	4	-0.000	-0.022********		-0.024**********			-0.001	0.034**********		0.020	0.040**********				
3	2	1	0.003	0.009********		0.023********		0.033**********				0.049	0.054**********				
3	2	2	-0.009	-0.017	-0.033	-0.010	0.021	-0.009	-0.017	0.019********		0.027	0.029	0.004	0.028	-0.026********	
3	2	3	0.027	0.004	0.028	0.043	0.047	-0.000	0.018	0.051********		0.045	0.054	0.032	0.051	0.036********	
3	2	4	0.017	-0.001********		0.039**********			0.089	0.053**********		0.056	0.050	0.025**********			
4	1	1	0.009	0.002	-0.007	0.027	0.024	0.010	0.008	0.022********		0.036	0.040	0.032	0.024	-0.011********	
4	1	2	-0.015	-0.009	0.002	-0.000	0.015	0.009	-0.000	0.021********		0.033	0.037	0.034	0.030	-0.004********	
4	1	3	0.013	-0.022	-0.017	0.022	0.016	-0.020	-0.001	0.025********		0.027	0.034	0.023	0.028	-0.019********	
4	1	4	-0.000	0.001	0.009	0.035	0.033	0.020	0.018	0.032********		0.038	0.041	0.038	0.041	0.002********	
4	2	1	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
4	2	2	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
4	2	3	0.005	-0.028********		0.036	0.014	-0.006	-0.015	0.010********		-0.004	0.027	0.023	0.028**********		
4	2	4	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
5	1	1	-0.006	-0.022	0.021	0.037	0.042	0.023	0.010	0.027********		0.050	0.058	0.051	0.047	0.008********	
5	1	2	-0.036	-0.014	0.002	0.029	0.029	0.022	0.014	0.005********		0.046	0.058	0.053	0.045	-0.003********	
5	1	3	0.005	-0.013	0.016	0.019	0.026	-0.006	0.015	0.019********		0.048	0.057	0.039	0.034	0.003********	
5	1	4	0.042	0.020	0.006	0.080	0.075	0.060	0.061	0.067********		0.076	0.073	0.083	0.084	0.043********	
5	2	1	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
5	2	2	**********	**********	**********	**********	**********	0.060**********				0.063**********					
5	2	3	**********	**********	**********	**********	0.042	0.055**********				0.064********		0.066**********			
5	2	4	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	0.006	-0.001	-0.006	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	2	0.003	0.003	-0.003	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	3	-0.013	-0.008	0.001	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	1	0.004	-0.002	-0.006	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	2	0.003	-0.001	-0.004	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	3	0.006	-0.007	0.008	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********

Figure 4.1 (cont.)

INCREMENTS OF EAL'S PER TRUCK AXLE (COAL-HAULING)
(MINUS MEANS A DECREASE THROUGH TIME)
BASE YEAR IS 83

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	1															
1	1	2															
1	1	3															
1	1	4															
1	2	1															
1	2	2	********	-1.420	-1.663												
1	2	3	0.015	0.074	0.115												
1	2	4	-1.056	0.147	-0.043												
2	1	1	-0.000	********	-2.290												
2	1	2	0.077	-1.225	-0.631												
2	1	3	-1.681														
2	1	4	**********	0.843													
2	2	1	-1.681														
2	2	2	-0.232	0.791													
2	2	3	0.599	0.379	0.137												
2	2	4	**********	0.461													
3	1	1	**********	-2.290													
3	1	2	0.0	********	0.0												
3	1	3	**********	-0.187													
3	1	4															
3	2	1	-0.361	-1.663													
3	2	2	-0.953														
3	2	3	0.620	-1.447	0.252												
3	2	4	-2.506														
4	1	1	**********	-0.942													
4	1	2	0.0	-0.184	-0.368												
4	1	3	0.0	-0.184													
4	1	4	**********	-0.123													
4	2	1															
4	2	2															
4	2	3															
4	2	4															
5	1	1															
5	1	2															
5	1	3															
5	1	4															
5	2	1															
5	2	2															
5	2	3															
5	2	4															

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	-0.122	-0.408	-0.060												
1	2	-0.104	0.346	0.450												
1	3	-0.863	-0.131	0.198												
2	1	0.107	0.027	0.061												
2	2	0.176	0.260	0.195												
2	3	0.139	-0.194	0.092												

Figure 4.1 (cont.)

INCREMENTS OF 2-DIRECTION EAL'S IN 1000'S DUE TO 4-TIRED VEHICLES
(MINUS MEANS A DECREASE THROUGH TIME)
BASE YEAR IS 83

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	1	**********														
1	1	2	**********														
1	1	3	**********														
1	1	4	**********														
1	2	1	**********														
1	2	2	-0.	-4.	2.	-2.	-5.	2.	2.	1.	********	5.	5.	5.	3.	10.	********
1	2	3	30.	45.	20.	42.	16.	50.	30.	34.	********	52.	47.	41.	45.	57.	********
1	2	4	-3.	-2.	-9.	-12.	-11.	-10.	-5.	-9.	**********	-5.	-4.	-7.	**********		
2	1	1	0.	1.	0.	0.	0.	-0.	-1.	1.	********	-1.	-0.	0.	1.	1.	********
2	1	2	-1.	-1.	0.	-1.	-1.	-0.	-1.	-0.	********	-1.	-1.	-1.	1.	1.	********
2	1	3	0.	0.	1.	-0.	2.	2.	1.	1.	********	2.	3.	2.	2.	1.	********
2	1	4	-0.	-0.	1.	-0.	-1.	-1.	0.	-0.	********	-1.	-0.	-1.	1.	1.	********
2	2	1	-3.	-0.	5.	-9.	3.	6.	5.	-1.	********	-3.	-11.	3.	-1.	**********	
2	2	2	1.	2.	5.	-18.	2.	-2.	-13.	9.	********	-1.	5.	2.	-0.	-6.	********
2	2	3	-1.	2.	0.	4.	-2.	-7.	7.	6.	********	12.	-3.	6.	6.	-5.	********
2	2	4	3.	5.	-2.	3.	2.	4.	6.	-5.	********	7.	-2.	4.	3.	4.	********
3	1	1	-0.	-1.	1.	-0.	********	-0.	********	-1.	********	-2.	-4.	1.	-0.	**********	
3	1	2	0.	-1.	-1.	-0.	-5.	********	1.	2.	********	-2.	-3.	2.	-1.	**********	
3	1	3	-1.	-0.	-3.	-0.	3.	********	-0.	0.	********	0.	-1.	-1.	-2.	-1.	********
3	1	4	-0.	2.	********	2.	**********		1.	-1.	**********		-1.	2.	**********		
3	2	1	-1.	-0.	********	-7.	********	-0.	**********			1.	2.	**********			
3	2	2	3.	2.	-2.	3.	-1.	4.	1.	10.	********	2.	5.	-1.	7.	3.	********
3	2	3	-5.	1.	-9.	-6.	-7.	-4.	-8.	2.	********	-5.	-4.	-0.	4.	7.	********
3	2	4	-4.	1.	********	1.	**********		5.	1.	**********		-1.	-3.	2.	**********	
4	1	1	-4.	1.	1.	0.	1.	1.	1.	1.	********	-0.	1.	1.	2.	2.	********
4	1	2	-0.	1.	1.	1.	1.	1.	1.	2.	********	2.	1.	1.	2.	2.	********
4	1	3	0.	0.	-0.	1.	1.	1.	1.	1.	********	2.	2.	1.	0.	2.	********
4	1	4	0.	0.	-0.	-2.	-1.	-1.	-1.	-0.	********	-1.	-3.	-1.	-0.	-0.	********
4	2	1	**********														
4	2	2	**********														
4	2	3	2.	6.	********	4.	6.	2.	5.	5.	********	3.	6.	0.	3.	**********	
4	2	4	**********														
5	1	1	0.	0.	0.	-1.	-1.	-1.	0.	0.	********	-1.	-1.	-0.	-1.	-1.	********
5	1	2	1.	1.	1.	1.	0.	1.	1.	1.	********	0.	-1.	1.	1.	1.	********
5	1	3	-1.	-3.	0.	-0.	0.	-0.	-0.	-1.	********	-0.	-1.	-0.	-1.	-0.	********
5	1	4	2.	2.	2.	1.	2.	2.	1.	2.	********	1.	0.	2.	1.	2.	********
5	2	1	**********														
5	2	2	**********							-12.	**********		-5.	**********			
5	2	3	**********						-17.	-5.	**********		-9.	********		-5.	**********
5	2	4	**********														

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	-0.	1.	-0.	**********											
1	2	0.	-0.	-0.	**********											
1	3	0.	0.	1.	**********											
2	1	-3.	-6.	-2.	**********											
2	2	-10.	-7.	-0.	**********											
2	3	0.	-3.	6.	**********											

Figure 4.1 (cont.)

INCREMENTS OF 2-DIRECTION EAL'S IN 1000'S DUE TO NON-COAL-HAULING VEHICLES
(MINUS MEANS A DECREASE THROUGH TIME)
BASE YEAR IS 83

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	1	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	1	2	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	1	3	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	1	4	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	2	1	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	2	2	141.	-36.	45.	162.	92.	15.	277.	454.********		791.	656.	967.	854.	933.********	
1	2	3	435.	429.	457.	464.	315.	657.	480.	711.********		925.	984.	990.	936.	1095.********	
1	2	4	109.	-38.	-390.	-580.	-309.	-327.	-137.	-143.**********		52.	106.	69.**********			
2	1	1	-2.	-6.	-19.	-13.	-22.	-41.	-46.	-14.********		-85.	26.	10.	6.	11.********	
2	1	2	4.	-5.	-7.	-19.	-5.	-29.	-5.	0.********		-18.	-4.	2.	12.	-8.********	
2	1	3	-14.	-6.	16.	-14.	2.	-4.	-11.	-13.********		22.	-13.	6.	-12.	-47.********	
2	1	4	13.	-37.	-10.	-15.	-22.	-32.	-12.	-30.********		-15.	3.	-26.	-12.	-28.********	
2	2	1	6.	42.	-107.	-142.	-71.	-313.	4.	-134.********		71.	59.	4.	-173.**********		
2	2	2	-12.	0.	55.	-92.	11.	-35.	27.	-19.********		30.	43.	34.	-142.	-321.********	
2	2	3	-22.	-12.	-49.	-40.	-75.	-303.	-3.	-11.********		-49.	-143.	16.	-4.	-30.********	
2	2	4	82.	-45.	-135.	-122.	-99.	-124.	-56.	-58.********		-12.	-8.	-126.	24.	-13.********	
3	1	1	-5.	-8.	-52.	-0.********		-64.********		-2.********		5.	-14.	7.	-34.**********		
3	1	2	-5.	-5.	-7.	-2.	-15.********		-7.	2.********		-1.	-16.	4.	-44.**********		
3	1	3	4.	-1.	-3.	7.	13.********		-20.	-23.********		8.	-62.	-9.	-12.	-21.********	
3	1	4	2.	1.********		-7.**********			1.	-41.**********		-12.	-9.**********				
3	2	1	-49.	-8.********		-45.********		-15.**********			-42.	2.**********					
3	2	2	-46.	-14.	-21.	-64.	6.	-17.	2.	-297.********		-6.	-2.	9.	0.	0.********	
3	2	3	28.	25.	13.	-8.	-16.	-20.	21.	44.********		8.	65.	37.	59.	18.********	
3	2	4	-5.	-22.********		-57.**********			-98.	-14.**********		9.	-47.	-41.**********			
4	1	1	-11.	21.	4.	-6.	1.	2.	-0.	9.********		23.	21.	16.	4.	9.********	
4	1	2	7.	-7.	9.	-2.	-1.	-5.	3.	9.********		14.	10.	6.	5.	-1.********	
4	1	3	8.	-9.	-5.	-1.	8.	-13.	0.	1.********		12.	12.	7.	2.	-14.********	
4	1	4	2.	3.	-19.	-17.	-27.	-16.	-14.	-6.********		-3.	-9.	-9.	-4.	-8.********	
4	2	1	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
4	2	2	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
4	2	3	179.	144.********		119.	169.	174.	176.	175.********		150.	187.	118.	140.**********		
4	2	4	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
5	1	1	7.	8.	5.	2.	-0.	3.	7.	7.********		6.	3.	5.	-3.	-5.********	
5	1	2	5.	1.	2.	2.	0.	1.	1.	6.********		5.	1.	1.	2.	-1.********	
5	1	3	-2.	-14.	-2.	-3.	3.	-5.	-2.	-1.********		2.	0.	1.	-0.	3.********	
5	1	4	30.	28.	23.	19.	22.	20.	14.	30.********		26.	28.	28.	25.	24.********	
5	2	1	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
5	2	2	**********	**********	**********	**********	**********	**********	-712.**********			-29.**********					
5	2	3	**********	**********	**********	**********	**********	-216.	75.**********			114.********	108.**********				
5	2	4	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	-9.	-12.	-23.**********												
1	2	4.	-3.	-9.**********												
1	3	10.	0.	2.**********												
2	1	-144.	-66.	-188.**********												
2	2	-148.	-221.	3.**********												
2	3	-21.	-27.	-78.**********												

Figure 4.1 (cont.)

INCREMENTS OF 2-DIRECTION EAL'S IN 1000'S DUE TO COAL HAULING VEHICLES
(MINUS MEANS A DECREASE THROUGH TIME)
BASE YEAR IS 83

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	1															
1	1	2															
1	1	3															
1	1	4															
1	2	1															
1	2	2		-4.	-8.												
1	2	3	-3.	-34.	-26.												
1	2	4	27.	25.	-11.												
2	1	1	-0.		-7.												
2	1	2	2.	-5.	0.												
2	1	3	-8.														
2	1	4			-8.												
2	2	1	-32.														
2	2	2	-7.	5.													
2	2	3	-0.	1.	-4.												
2	2	4			-7.												
3	1	1			-7.												
3	1	2	0.		0.												
3	1	3			-0.												
3	1	4															
3	2	1	-1.	-8.													
3	2	2	-8.														
3	2	3	2.	-10.	1.												
3	2	4	-7.														
4	1	1			-8.												
4	1	2	0.	-0.	-1.												
4	1	3	0.	-0.													
4	1	4			-0.												
4	2	1															
4	2	2															
4	2	3															
4	2	4															
5	1	1															
5	1	2															
5	1	3															
5	1	4															
5	2	1															
5	2	2															
5	2	3															
5	2	4															

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	-2.	-1.	-2.												
1	2	-4.	-30.	-11.												
1	3	-385.	51.	78.												
2	1	-28.	-20.	-39.												
2	2	-151.	-227.	-33.												
2	3	-166.	-482.	-205.												

Figure 4.1 (cont.)

INCREMENTS OF TOTAL 2-DIRECTION EAL'S
(MINUS MEANS A DECREASE THROUGH TIME)
BASE YEAR IS 83

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	CA	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	1	1**********														
1	1	2	2**********														
1	1	3	3**********														
1	1	4	4**********														
1	2	1	1**********														
1	2	2	141.	-43.	45.	159.	86.	17.	279.	456.********		796.	661.	972.	857.	943.********	
1	2	3	467.	450.	465.	530.	354.	730.	533.	769.********		1001.	1054.	1054.	1005.	1176.********	
1	2	4	132.	-15.	-410.	-558.	-286.	-303.	-109.	-118.**********		81.	136.	96.**********			
2	1	1	-1.	-5.	-20.	-12.	-22.	-41.	-47.	-12.********		-86.	26.	11.	7.	12.********	
2	1	2	3.	-7.	-6.	-20.	-5.	-28.	-5.	1.********		-18.	-4.	2.	13.	-6.********	
2	1	3	-14.	-6.	18.	-14.	4.	-2.	-10.	-12.********		24.	-10.	8.	-10.	-46.********	
2	1	4	15.	-36.	-9.	-14.	-21.	-31.	-10.	-28.********		-14.	5.	-25.	-9.	-26.********	
2	2	1	-8.	42.	-103.	-151.	-68.	-307.	9.	-134.********		69.	48.	7.	-174.**********		
2	2	2	-12.	4.	62.	-108.	15.	-35.	16.	-8.********		31.	49.	37.	-140.	-325.********	
2	2	3	-22.	-12.	-59.	-35.	-75.	-308.	6.	-3.********		-35.	-145.	23.	5.	-33.********	
2	2	4	91.	-34.	-134.	-112.	-90.	-113.	-43.	-56.********		2.	-3.	-116.	33.	-2.********	
3	1	1	-6.	-9.	-58.	-1.********		-64.********		-2.********		3.	-19.	8.	-34.**********		
3	1	2	-5.	-7.	-8.	-3.	-20.********		-7.	3.********		-4.	-19.	5.	-45.**********		
3	1	3	4.	-1.	-7.	7.	16.********		-20.	-23.********		8.	-63.	-10.	-13.	-22.********	
3	1	4	2.	3.********		-5.**********			2.	-42.**********		-13.	-7.**********				
3	2	1	-50.	-11.********		-52.********		-15.**********			-41.	3.**********					
3	2	2	-45.	-12.	-23.	-61.	5.	-13.	3.	-287.********		-4.	4.	8.	7.	3.********	
3	2	3	24.	26.	4.	-14.	-22.	-23.	13.	47.********		4.	62.	38.	63.	26.********	
3	2	4	-11.	-20.********		-56.**********			-93.	-13.**********		8.	-50.	-39.**********			
4	1	1	-15.	22.	5.	-5.	2.	3.	1.	11.********		23.	22.	18.	6.	11.********	
4	1	2	7.	-6.	10.	-1.	-0.	-4.	4.	10.********		16.	12.	7.	7.	0.********	
4	1	3	8.	-8.	-5.	-1.	10.	-12.	1.	2.********		14.	14.	8.	2.	-12.********	
4	1	4	2.	3.	-19.	-19.	-28.	-17.	-15.	-6.********		-4.	-12.	-10.	-4.	-8.********	
4	2	1	1**********														
4	2	2	2**********														
4	2	3	181.	150.********		123.	175.	176.	180.	179.********		152.	193.	118.	143.**********		
4	2	4	4**********														
5	1	1	7.	8.	5.	1.	-2.	3.	7.	8.********		5.	2.	5.	-3.	-6.********	
5	1	2	7.	2.	3.	2.	1.	2.	1.	7.********		5.	0.	1.	3.	-1.********	
5	1	3	-3.	-16.	-2.	-4.	3.	-5.	-2.	-2.********		1.	-1.	1.	-1.	3.********	
5	1	4	32.	30.	25.	19.	23.	22.	16.	33.********		27.	28.	30.	26.	26.********	
5	2	1	1**********														
5	2	2	2**********						-724.**********			-34.**********					
5	2	3	3**********					-232.	70.**********			105.********		103.**********			
5	2	4	4**********														

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	-11.	-12.	-25.**********												
1	2	0.	-33.	-21.**********												
1	3	-375.	51.	80.**********												
2	1	-175.	-92.	-229.**********												
2	2	-310.	-455.	-30.**********												
2	3	-187.	-513.	-277.**********												

Figure 4.1 (cont.)

Figure 4.1 (cont.)

ANNUAL AVERAGE DAILY TRAFFIC

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	5-YEAR MOVING AVERAGE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	1	**********	**********	**********	**********	3979.	3979.	3979.	3979.	3979.	**********	**********	**********	**********	**********	**********
1	1	2	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	3755.	3755.	3755.	3755.	3755.
1	1	3	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	3956.	3956.	3956.	3956.	*******
1	1	4	**********	**********	**********	2935.	2935.	2935.	2935.	2935.	3332.	3619.	3851.	3851.	3851.	4474.	4470.
1	2	1	7563.	7886.	7496.	7242.	7884.	7884.	6914.	6914.	**********	**********	**********	**********	**********	**********	**********
1	2	2	19447.	20259.	20128.	19255.	19172.	19004.	17241.	16603.	14489.	13592.	13357.	13332.	13103.	13482.	10302.
1	2	3	30264.	29302.	27148.	28370.	27573.	29084.	25104.	24393.	21866.	20072.	19252.	19451.	19801.	16726.	12280.
1	2	4	11406.	12975.	13316.	12584.	12433.	12119.	11333.	10298.	9587.	8775.	8775.	8775.	8771.	9873.	*******
2	1	1	2626.	2670.	2743.	2985.	2913.	2951.	2992.	2950.	2592.	2647.	2596.	2556.	2520.	2456.	2332.
2	1	2	2682.	2779.	2735.	2741.	2762.	2668.	2629.	2665.	2619.	2412.	2267.	2253.	2156.	1918.	1727.
2	1	3	3589.	2956.	2796.	2735.	2855.	2739.	2931.	2906.	2765.	2616.	2758.	2820.	2905.	3024.	3396.
2	1	4	2230.	2349.	2475.	2391.	2443.	2458.	2479.	2371.	2691.	2473.	2382.	2317.	2309.	1832.	1878.
2	2	1	10852.	10115.	9879.	10039.	10367.	8424.	9284.	10579.	10516.	10817.	10817.	10953.	9541.	10776.	*******
2	2	2	11403.	11238.	11446.	12849.	13361.	9842.	11052.	9794.	8721.	9207.	9720.	9462.	10630.	12399.	14850.
2	2	3	13459.	13582.	14353.	14430.	13910.	14811.	14200.	13396.	13674.	13019.	13310.	13556.	11257.	11428.	16799.
2	2	4	8763.	8655.	8470.	8244.	8585.	8625.	8377.	9615.	10802.	9221.	8840.	9058.	7792.	7719.	7380.
3	1	1	1827.	2002.	2027.	1793.	1970.	2070.	2447.	2902.	2729.	2647.	2647.	2511.	1962.	2119.	*******
3	1	2	2308.	2468.	2724.	2394.	2078.	2112.	2718.	2985.	2949.	3148.	3148.	2968.	2050.	2553.	*******
3	1	3	2351.	2355.	2284.	2188.	2014.	1775.	2235.	2381.	2496.	2783.	2790.	3074.	3026.	3238.	2856.
3	1	4	2009.	1871.	1490.	1589.	2008.	2659.	2659.	2832.	2245.	2065.	2065.	2065.	1595.	**********	**********
3	2	1	9251.	9973.	10459.	11383.	11383.	8267.	7804.	7413.	7413.	7413.	7413.	7137.	**********	**********	**********
3	2	2	9289.	9202.	9107.	8979.	8500.	8360.	8362.	7952.	7958.	7849.	7919.	7601.	7927.	7302.	8343.
3	2	3	12224.	12696.	12455.	15097.	14102.	13488.	13152.	12985.	12091.	11512.	11240.	11000.	9405.	9089.	7704.
3	2	4	7674.	7748.	7075.	6959.	7025.	6595.	6595.	7135.	8446.	8224.	8224.	8224.	8335.	6410.	*******
4	1	1	1880.	1779.	1666.	1635.	1620.	1571.	1557.	1507.	1395.	1289.	1232.	1201.	1182.	1142.	1072.
4	1	2	1730.	1723.	1657.	1604.	1493.	1485.	1356.	1313.	1286.	1328.	1298.	1323.	1305.	1225.	1226.
4	1	3	2234.	2019.	1961.	1884.	1889.	1831.	1689.	1518.	1562.	1662.	1653.	1760.	1998.	2031.	1560.
4	1	4	1255.	1445.	1485.	1543.	1457.	1390.	1313.	1426.	1364.	1348.	1236.	1218.	1101.	919.	918.
4	2	1	6290.	6394.	6394.	6408.	6545.	6858.	6707.	7067.	7345.	7070.	6726.	6908.	5350.	5350.	5350.
4	2	2	6705.	6607.	6607.	6365.	6670.	6786.	7111.	7111.	6633.	6482.	7680.	7680.	7680.	8878.	8878.
4	2	3	6982.	6471.	6469.	6862.	6753.	6395.	6898.	6386.	7099.	7590.	7590.	7577.	8370.	7771.	*******
4	2	4	8876.	8394.	8280.	7872.	7564.	6908.	6522.	7189.	7002.	7129.	7129.	7181.	5465.	**********	**********
5	1	1	502.	897.	1044.	1108.	805.	780.	762.	859.	840.	987.	955.	918.	829.	879.	871.
5	1	2	586.	659.	705.	815.	633.	624.	573.	827.	825.	1076.	985.	987.	641.	578.	680.
5	1	3	983.	1068.	962.	714.	791.	788.	765.	848.	884.	902.	846.	975.	845.	876.	591.
5	1	4	1044.	963.	993.	1068.	954.	859.	995.	1186.	1105.	1206.	1073.	1011.	867.	856.	770.
5	2	1	*******	5471.	5471.	5471.	5471.	5471.	*******	13289.	13289.	13289.	13289.	13289.	**********	**********	**********
5	2	2	5115.	**********	**********	**********	15074.	15074.	15074.	8965.	8965.	8093.	8093.	8093.	**********	**********	**********
5	2	3	5837.	**********	**********	16469.	9708.	9708.	9708.	9850.	8904.	9646.	9646.	9646.	8325.	8325.	*******
5	2	4	6116.	5763.	5031.	5781.	8662.	8662.	9564.	9286.	8625.	8534.	8348.	8348.	7742.	8987.	5568.

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	5-YEAR MOVING AVERAGE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	1901.	1907.	1874.	2035.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	2	2102.	2121.	2302.	2357.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	3	2342.	2261.	2284.	2110.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	1	13402.	14231.	14468.	12952.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	2	13200.	14274.	12887.	9622.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	3	9453.	9605.	10257.	6012.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********

Figure 4.1 (cont.)

PERCENT TRUCKS

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	5-YEAR MOVING AVERAGE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	1	**********	**********	**********	**********	12.389	12.389	12.389	12.389	12.389	**********	**********	**********	**********	**********	**********
1	1	2	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	18.337	18.337	18.337	18.337	18.337
1	1	3	**********	**********	**********	**********	**********	**********	**********	**********	**********	14.707	14.707	14.707	14.707	14.707	*******
1	1	4	**********	**********	**********	9.271	9.271	9.271	9.271	9.271	13.055	15.746	16.553	16.553	16.553	20.750	18.705
1	2	1	24.079	25.460	23.832	17.900	16.501	16.501	7.876	7.876	**********	**********	**********	**********	**********	**********	**********
1	2	2	30.069	29.387	30.050	30.494	29.511	29.612	29.761	28.620	23.807	22.215	22.405	22.282	21.125	22.786	24.874
1	2	3	22.317	22.468	23.510	22.436	21.516	20.601	20.605	18.584	17.236	17.002	17.254	17.065	17.368	18.127	19.402
1	2	4	25.820	24.537	25.164	24.854	23.950	23.442	23.296	22.027	19.818	18.651	18.651	18.651	18.074	17.874	*******
2	1	1	12.968	13.830	14.454	15.527	15.706	15.990	16.538	15.472	14.555	14.653	14.399	14.208	14.802	15.136	13.082
2	1	2	11.703	11.677	12.883	13.026	12.777	12.690	12.932	11.680	11.649	12.533	13.741	13.730	14.306	15.512	18.242
2	1	3	7.321	8.613	8.882	9.047	9.249	9.313	9.065	9.444	9.518	11.105	11.646	12.217	12.151	13.145	14.080
2	1	4	11.688	12.142	12.988	12.490	13.139	13.489	13.641	13.013	13.292	13.247	13.841	14.178	14.801	16.238	17.138
2	2	1	8.925	10.233	11.491	13.890	13.962	15.541	14.143	10.189	10.422	10.818	10.818	12.557	15.950	18.563	*******
2	2	2	7.002	7.301	7.501	7.448	8.008	8.686	7.927	7.027	7.473	8.298	9.068	10.392	11.735	16.449	16.765
2	2	3	6.346	6.901	8.204	9.199	9.080	9.438	10.188	8.677	8.620	8.440	8.211	7.997	7.506	7.274	5.468
2	2	4	11.612	13.273	14.589	14.899	14.416	14.078	13.796	10.254	9.326	9.079	9.065	8.823	9.549	8.385	9.011
3	1	1	4.760	5.875	6.655	8.242	6.705	7.217	4.708	3.215	3.173	6.348	6.348	8.737	10.105	11.567	*******
3	1	2	5.196	5.278	4.668	5.962	6.713	8.196	6.343	7.268	7.387	8.340	8.340	11.109	14.430	16.233	*******
3	1	3	4.404	3.804	4.026	5.066	9.209	12.287	10.960	12.330	12.216	8.972	8.951	10.704	9.102	8.541	8.738
3	1	4	2.552	2.826	3.495	4.741	7.290	9.923	9.923	7.775	9.067	8.046	8.046	8.046	9.255	**********	**********
3	2	1	3.868	4.463	3.826	4.123	4.123	4.173	6.615	5.472	5.472	5.472	5.472	3.718	**********	**********	**********
3	2	2	5.072	5.307	5.076	5.469	8.087	8.346	8.092	7.454	7.775	5.560	5.345	5.215	4.838	5.396	4.050
3	2	3	4.836	4.511	4.969	5.444	5.605	5.637	5.582	4.104	4.316	4.269	4.475	4.457	5.497	5.559	7.152
3	2	4	3.985	4.681	5.477	8.185	7.012	7.858	7.858	5.491	4.631	5.606	5.606	5.606	7.072	7.493	*******
4	1	1	8.448	9.044	9.251	9.351	9.557	9.538	9.219	8.342	8.275	10.114	10.412	10.635	10.969	12.724	11.244
4	1	2	8.690	8.922	9.760	9.633	10.100	10.118	10.190	9.596	9.812	10.381	10.772	11.061	11.561	12.057	11.717
4	1	3	7.079	7.210	8.523	8.643	8.749	8.897	9.243	7.524	7.312	7.602	7.897	7.885	9.013	9.976	10.671
4	1	4	8.680	11.029	12.218	11.926	12.054	12.465	11.042	9.691	9.862	10.092	10.460	11.041	11.424	12.019	11.514
4	2	1	10.523	11.223	11.223	11.209	9.889	9.364	4.807	4.816	4.267	4.347	6.686	7.629	16.041	16.041	16.041
4	2	2	6.558	6.280	6.280	6.152	6.709	6.932	8.001	8.001	8.225	8.103	11.488	11.488	11.488	14.874	14.874
4	2	3	8.569	7.810	7.817	7.926	6.977	4.668	4.561	4.683	5.578	6.894	6.894	7.008	8.037	7.956	*******
4	2	4	7.128	10.378	9.522	10.018	9.421	10.568	6.888	6.276	6.412	6.530	6.530	6.568	9.405	**********	**********
5	1	1	6.980	6.398	6.294	6.204	6.087	6.191	5.551	5.814	6.130	7.354	8.622	10.024	10.654	11.904	11.927
5	1	2	8.983	8.422	8.700	7.257	7.251	7.243	7.205	6.470	6.723	7.583	8.409	8.979	10.875	11.997	11.196
5	1	3	6.878	6.315	7.569	8.478	7.885	7.976	8.055	7.432	6.852	6.769	6.468	5.591	5.875	5.309	5.100
5	1	4	7.515	8.401	10.107	11.159	11.067	11.477	10.652	8.674	8.043	8.487	8.814	8.864	10.030	10.653	9.557
5	2	1	*******	5.045	5.045	5.045	5.045	5.045	*******	2.963	2.963	2.963	2.963	2.963	**********	**********	**********
5	2	2	2.319	**********	**********	**********	23.442	23.442	23.442	7.070	7.070	4.731	4.731	4.731	**********	**********	**********
5	2	3	11.516	**********	**********	12.739	6.259	6.259	6.259	4.366	3.169	1.471	1.471	1.471	2.253	2.253	*******
5	2	4	2.641	4.490	4.924	5.263	5.368	5.368	4.663	4.175	5.349	6.193	6.398	6.398	8.345	9.612	9.483

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	5-YEAR MOVING AVERAGE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	7.667	8.855	9.364	8.308	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	2	8.240	8.532	9.249	9.440	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	3	17.014	16.797	16.109	18.205	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	1	11.352	12.062	11.952	14.640	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	2	10.643	10.798	11.656	9.804	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	3	15.051	15.488	15.470	25.343	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********

Figure 4.1 (cont.)

PERCENT OF TRUCKS HAULING COAL

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	5-YEAR MOVING AVERAGE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	1															
1	1	2															
1	1	3															
1	1	4															
1	2	1	0.512	0.512	0.368												
1	2	2	*******	0.040	0.040	0.061											
1	2	3	0.340	0.419	0.589	0.638											
1	2	4	0.572	0.472	0.552	0.704											
2	1	1	0.250	0.376	0.443	0.443											
2	1	2	0.436	0.478	0.501	0.407											
2	1	3	0.373	0.731													
2	1	4	0.698	0.903	0.903	0.903											
2	2	1	*******	0.964													
2	2	2	0.483	0.416	0.101												
2	2	3	0.566	0.508	0.531	0.648											
2	2	4	0.618	0.684	0.684	0.684											
3	1	1	0.504	0.806	0.806	0.806											
3	1	2	0.509	0.473	0.606	0.606											
3	1	3	0.786	0.990	0.990	0.990											
3	1	4															
3	2	1	0.463	0.455	0.637												
3	2	2	0.572	0.480													
3	2	3	0.338	0.374	0.427	0.203											
3	2	4	*******	0.806													
4	1	1	0.687	0.895	0.895	0.895											
4	1	2	*******	0.557	0.529	0.751											
4	1	3	0.447	0.656	0.649												
4	1	4	*******	0.521	0.521	0.521											
4	2	1															
4	2	2	0.654	0.654	0.654												
4	2	3															
4	2	4															
5	1	1	0.654														
5	1	2															
5	1	3															
5	1	4															
5	2	1															
5	2	2															
5	2	3															
5	2	4	0.369	0.369													

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	5-YEAR MOVING AVERAGE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	2.662	2.557	2.387	2.190											
1	2	10.566	10.591	10.359	8.653											
1	3	42.201	41.644	37.754	39.229											
2	1	2.359	2.369	2.514	2.592											
2	2	11.493	11.382	11.880	10.857											
2	3	34.828	35.298	33.717	27.938											

AXLES PER TRUCK (NON-COAL-HAULING)

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	5-YEAR MOVING AVERAGE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	1	**********	**********	**********	**********	3.724	3.724	3.724	3.724	3.724	**********	**********	**********	**********	**********	**********
1	1	2	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	3.839	3.839	3.839	3.839	3.839
1	1	3	**********	**********	**********	**********	**********	**********	**********	**********	**********	3.589	3.589	3.589	3.589	3.589	*******
1	1	4	**********	**********	**********	3.218	3.218	3.218	3.218	3.218	3.291	3.450	3.559	3.559	3.559	3.881	3.849
1	2	1	4.439	4.458	4.454	3.980	3.866	3.866	3.514	3.514	**********	**********	**********	**********	**********	**********	**********
1	2	2	4.452	4.440	4.443	4.427	4.394	4.388	4.369	4.323	4.289	4.265	4.251	4.244	4.245	4.195	4.078
1	2	3	4.276	4.255	4.267	4.265	4.260	4.221	4.255	4.228	4.136	4.079	4.067	4.061	4.012	3.960	3.967
1	2	4	4.337	4.278	4.280	4.255	4.236	4.222	4.213	4.167	4.113	4.015	4.015	4.015	3.996	3.911	*******
2	1	1	3.602	3.586	3.615	3.618	3.613	3.607	3.662	3.599	3.450	3.310	3.250	3.222	3.223	3.197	2.941
2	1	2	3.204	3.164	3.229	3.174	3.169	3.156	3.172	3.079	3.123	2.944	2.958	2.947	2.930	2.866	3.007
2	1	3	2.851	2.882	2.897	2.875	2.929	2.925	2.932	2.929	2.896	2.740	2.797	2.807	2.789	2.805	3.054
2	1	4	2.999	3.061	3.093	3.074	3.111	3.130	3.055	2.991	2.920	2.713	2.716	2.720	2.729	2.659	2.727
2	2	1	3.335	3.373	3.460	3.645	3.673	3.687	3.637	3.486	3.465	3.360	3.360	3.499	3.574	3.676	*******
2	2	2	2.975	2.923	2.934	2.935	2.980	3.070	2.934	2.782	2.802	2.879	2.944	3.038	3.182	3.478	3.589
2	2	3	2.861	2.918	3.090	3.184	3.206	3.240	3.276	3.131	3.138	3.038	2.975	2.956	2.763	2.763	2.221
2	2	4	3.188	3.303	3.421	3.460	3.454	3.424	3.448	3.204	3.117	2.920	2.905	2.882	2.812	2.730	2.849
3	1	1	2.573	2.514	2.649	2.727	2.607	2.819	2.534	2.405	2.374	2.500	2.500	2.662	2.659	2.773	*******
3	1	2	2.533	2.527	2.531	2.433	2.548	2.936	2.444	2.499	2.467	2.450	2.450	2.632	2.671	2.830	*******
3	1	3	2.553	2.577	2.639	2.535	2.682	2.794	2.705	2.679	2.494	2.361	2.396	2.489	2.488	2.570	2.742
3	1	4	2.416	2.357	2.458	2.302	2.495	2.659	2.659	2.532	2.600	2.516	2.516	2.516	2.572	**********	**********
3	2	1	2.672	2.762	2.700	2.823	2.823	2.786	2.829	2.799	2.799	2.799	2.799	2.757	**********	**********	**********
3	2	2	2.691	2.696	2.663	2.689	2.800	2.769	2.764	2.651	2.679	2.539	2.500	2.451	2.341	2.319	2.269
3	2	3	2.642	2.679	2.681	2.739	2.720	2.669	2.669	2.579	2.544	2.418	2.467	2.425	2.449	2.480	3.104
3	2	4	2.500	2.516	2.596	3.183	2.999	3.186	3.186	2.809	2.491	2.458	2.458	2.458	2.545	2.426	*******
4	1	1	2.821	2.845	2.892	2.896	2.879	2.901	2.890	2.816	2.632	2.575	2.579	2.580	2.584	2.660	2.588
4	1	2	2.710	2.662	2.719	2.658	2.677	2.667	2.647	2.530	2.504	2.453	2.520	2.538	2.581	2.637	2.683
4	1	3	2.724	2.619	2.677	2.643	2.632	2.607	2.615	2.446	2.418	2.375	2.389	2.380	2.387	2.400	2.523
4	1	4	2.744	2.817	2.855	2.813	2.818	2.813	2.738	2.662	2.596	2.480	2.475	2.473	2.477	2.449	2.461
4	2	1	3.350	3.460	3.460	3.520	3.407	3.390	2.795	2.875	2.807	2.790	2.895	3.044	3.314	3.314	3.314
4	2	2	2.849	2.841	2.841	2.896	2.780	2.822	2.815	2.815	2.872	2.999	3.173	3.173	3.173	3.348	3.348
4	2	3	3.000	2.925	2.931	2.872	2.826	2.675	2.558	2.517	2.696	2.697	2.697	2.731	2.856	2.704	*******
4	2	4	3.087	3.191	3.098	3.182	3.150	3.181	2.919	2.781	2.689	2.675	2.675	2.627	2.620	**********	**********
5	1	1	2.567	2.466	2.461	2.474	2.460	2.469	2.398	2.413	2.391	2.388	2.412	2.450	2.421	2.472	2.475
5	1	2	2.531	2.517	2.537	2.447	2.441	2.445	2.402	2.320	2.321	2.231	2.217	2.220	2.214	2.199	2.168
5	1	3	2.517	2.520	2.502	2.416	2.428	2.435	2.392	2.336	2.342	2.319	2.292	2.283	2.264	2.269	2.172
5	1	4	2.568	2.605	2.677	2.699	2.734	2.747	2.670	2.537	2.497	2.395	2.383	2.357	2.381	2.353	2.356
5	2	1	*******	2.796	2.796	2.796	2.796	2.796	*******	2.693	2.693	2.693	2.693	2.693	**********	**********	**********
5	2	2	2.427	**********	**********	**********	4.235	4.235	4.235	2.746	2.746	2.533	2.533	2.533	**********	**********	**********
5	2	3	2.617	**********	**********	3.080	2.813	2.813	2.813	2.555	2.480	2.102	2.102	2.102	2.030	2.030	*******
5	2	4	2.229	2.379	2.389	2.813	2.787	2.787	2.814	2.549	2.497	2.477	2.498	2.498	2.576	2.705	2.804

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	5-YEAR MOVING AVERAGE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	2.729	2.812	2.847	2.843	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	2	2.796	2.797	2.882	2.912	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	3	3.228	3.184	3.211	3.271	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	1	3.362	3.414	3.376	3.464	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	2	3.385	3.393	3.535	3.208	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	3	3.181	3.192	3.172	3.642	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********

Figure 4.1 (cont.)

AXLES PER TRUCK (COAL-HAULING)

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	5-YEAR MOVING AVERAGE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	1															
1	1	2															
1	1	3															
1	1	4															
1	2	1	4.357	4.357	4.333												
1	2	2	*******	4.444	4.444	4.333											
1	2	3	4.351	4.355	4.351	4.323											
1	2	4	4.259	4.256	4.342	4.263											
2	1	1	2.650	3.000	4.000	4.000											
2	1	2	2.247	4.611	4.533	4.667											
2	1	3	0.433	4.333													
2	1	4	4.067	4.333	4.333	4.333											
2	2	1	*******	4.333													
2	2	2	4.616	4.643	5.000												
2	2	3	3.635	4.546	4.519	4.417											
2	2	4	4.357	4.500	4.500	4.500											
3	1	1	2.547	4.000	4.000	4.000											
3	1	2	0.0	0.0	0.0	0.0											
3	1	3	2.557	5.000	5.000	5.000											
3	1	4															
3	2	1	0.933	4.667	4.333												
3	2	2	4.900	4.500													
3	2	3	3.043	3.333	4.445	5.000											
3	2	4	*******	4.000													
4	1	1	4.900	4.500	4.500	4.500											
4	1	2	*******	3.000	3.750	5.000											
4	1	3	0.417	1.250	2.500												
4	1	4	*******	1.667	1.667	1.667											
4	2	1															
4	2	2	4.333	4.333	4.333												
4	2	3															
4	2	4															
5	1	1	5.000														
5	1	2															
5	1	3															
5	1	4															
5	2	1															
5	2	2															
5	2	3															
5	2	4	0.0	0.0													

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	5-YEAR MOVING AVERAGE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	3.314	3.448	3.518	2.960											
1	2	4.120	4.040	3.965	3.734											
1	3	4.095	4.041	4.184	4.329											
2	1	4.244	4.213	4.316	4.292											
2	2	4.318	4.342	4.355	4.345											
2	3	4.267	4.262	4.165	4.350											

Figure 4.1 (cont.)

EAL'S PER TRUCK AXLE (NON-COAL-HAULING)

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	5-YEAR MOVING AVERAGE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	1	**********				0.135	0.135	0.135	0.135	0.135	**********					
1	1	2	**********									**********	0.138	0.138	0.138	0.138	0.138
1	1	3	**********									**********	0.128	0.128	0.128	0.128	0.128
1	1	4	**********				0.154	0.154	0.154	0.154	0.154	0.126	0.125	0.128	0.128	0.128	0.130	0.136
1	2	1	0.151	0.150	0.151	0.146	0.143	0.143	0.146	0.146	**********						
1	2	2	0.149	0.146	0.145	0.142	0.137	0.137	0.136	0.134	0.129	0.126	0.127	0.127	0.127	0.127	0.137
1	2	3	0.144	0.143	0.141	0.139	0.137	0.137	0.135	0.132	0.127	0.125	0.127	0.127	0.128	0.130	0.136
1	2	4	0.144	0.140	0.139	0.138	0.135	0.135	0.134	0.131	0.127	0.124	0.124	0.124	0.125	0.124	*******
2	1	1	0.151	0.148	0.147	0.142	0.138	0.137	0.138	0.135	0.127	0.125	0.130	0.130	0.131	0.134	0.152
2	1	2	0.151	0.151	0.148	0.147	0.141	0.141	0.140	0.137	0.128	0.126	0.133	0.133	0.135	0.139	0.158
2	1	3	0.154	0.144	0.142	0.143	0.141	0.139	0.141	0.137	0.129	0.123	0.128	0.128	0.129	0.131	0.151
2	1	4	0.147	0.144	0.144	0.143	0.137	0.137	0.134	0.128	0.123	0.124	0.130	0.131	0.133	0.139	0.161
2	2	1	0.151	0.147	0.146	0.139	0.135	0.134	0.132	0.130	0.127	0.124	0.124	0.123	0.123	0.123	*******
2	2	2	0.156	0.154	0.153	0.149	0.146	0.139	0.135	0.126	0.122	0.122	0.124	0.124	0.128	0.131	0.142
2	2	3	0.161	0.158	0.153	0.149	0.145	0.145	0.143	0.131	0.126	0.128	0.133	0.133	0.143	0.143	0.187
2	2	4	0.148	0.143	0.140	0.138	0.135	0.134	0.133	0.126	0.121	0.121	0.128	0.128	0.135	0.137	0.154
3	1	1	0.170	0.164	0.162	0.155	0.150	0.142	0.133	0.127	0.126	0.124	0.124	0.125	0.127	0.128	*******
3	1	2	0.178	0.179	0.178	0.176	0.166	0.131	0.127	0.123	0.121	0.122	0.122	0.123	0.137	0.144	*******
3	1	3	0.174	0.168	0.170	0.159	0.143	0.129	0.129	0.127	0.121	0.129	0.131	0.126	0.128	0.132	0.151
3	1	4	0.175	0.179	0.188	0.184	0.169	0.143	0.143	0.144	0.132	0.132	0.132	0.132	0.125	**********	
3	2	1	0.166	0.161	0.154	0.150	0.150	0.141	0.128	0.123	0.123	0.123	0.123	0.120	**********		
3	2	2	0.162	0.163	0.164	0.161	0.157	0.154	0.147	0.131	0.126	0.125	0.132	0.134	0.149	0.150	0.177
3	2	3	0.167	0.160	0.165	0.152	0.148	0.154	0.157	0.134	0.129	0.129	0.130	0.129	0.132	0.130	0.143
3	2	4	0.165	0.161	0.160	0.130	0.129	0.114	0.114	0.118	0.126	0.134	0.134	0.134	0.139	0.154	*******
4	1	1	0.152	0.144	0.144	0.146	0.140	0.141	0.142	0.138	0.129	0.128	0.139	0.140	0.141	0.150	0.169
4	1	2	0.162	0.155	0.153	0.153	0.149	0.148	0.146	0.140	0.129	0.126	0.137	0.138	0.142	0.148	0.163
4	1	3	0.150	0.145	0.155	0.152	0.148	0.152	0.150	0.129	0.126	0.126	0.130	0.131	0.138	0.141	0.174
4	1	4	0.149	0.142	0.142	0.143	0.141	0.142	0.142	0.139	0.130	0.128	0.137	0.139	0.140	0.148	0.165
4	2	1	0.152	0.147	0.147	0.144	0.137	0.136	0.133	0.129	0.126	0.124	0.128	0.129	0.140	0.140	0.140
4	2	2	0.153	0.147	0.147	0.141	0.136	0.137	0.135	0.135	0.129	0.128	0.137	0.137	0.137	0.146	0.146
4	2	3	0.143	0.141	0.142	0.128	0.131	0.142	0.146	0.138	0.131	0.124	0.124	0.121	0.121	0.119	*******
4	2	4	0.130	0.132	0.133	0.131	0.131	0.132	0.128	0.120	0.120	0.120	0.120	0.117	0.124	**********	
5	1	1	0.180	0.159	0.152	0.145	0.148	0.148	0.142	0.137	0.134	0.128	0.140	0.145	0.149	0.157	0.171
5	1	2	0.188	0.179	0.171	0.155	0.161	0.162	0.161	0.153	0.145	0.125	0.138	0.139	0.148	0.160	0.180
5	1	3	0.173	0.166	0.172	0.167	0.165	0.165	0.154	0.140	0.134	0.130	0.137	0.144	0.155	0.157	0.173
5	1	4	0.175	0.164	0.159	0.149	0.148	0.150	0.148	0.144	0.139	0.136	0.147	0.149	0.151	0.159	0.172
5	2	1	*******	0.139	0.139	0.139	0.139	0.139	*******	0.121	0.121	0.121	0.121	0.121	**********		
5	2	2	0.194	**********			0.134	0.134	0.134	0.131	0.131	0.131	0.131	0.131	**********		
5	2	3	0.186	**********			0.144	0.134	0.134	0.134	0.129	0.127	0.121	0.121	0.121	0.120	0.120
5	2	4	0.162	0.157	0.154	0.144	0.133	0.133	0.129	0.125	0.125	0.126	0.128	0.128	0.132	0.136	0.154

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	5-YEAR MOVING AVERAGE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	0.171	0.171	0.174	0.176	**********										
1	2	0.163	0.162	0.164	0.167	**********										
1	3	0.163	0.166	0.162	0.156	**********										
2	1	0.158	0.158	0.160	0.163	**********										
2	2	0.152	0.152	0.154	0.156	**********										
2	3	0.158	0.158	0.164	0.151	**********										

Figure 4.1 (cont.)

EAL'S PER TRUCK AXLE (COAL-HAULING)

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	5-YEAR MOVING AVERAGE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	1															
1	1	2															
1	1	3															
1	1	4															
1	2	1	1.493	1.493	1.663												
1	2	2	*******	1.501	1.501	1.663											
1	2	3	1.512	1.497	1.453	1.428											
1	2	4	1.649	1.699	1.430	1.493											
2	1	1	0.410	0.944	2.471	2.471											
2	1	2	0.609	1.149	1.307	1.069											
2	1	3	0.168	1.681													
2	1	4	2.337	1.663	1.663	1.663											
2	2	1	*******	1.681													
2	2	2	1.143	1.050	0.368												
2	2	3	1.482	1.245	1.295	1.483											
2	2	4	1.698	1.303	1.303	1.303											
3	1	1	0.252	2.471	2.471	2.471											
3	1	2	0.0	0.0	0.0	0.0											
3	1	3	0.185	0.368	0.368	0.368											
3	1	4															
3	2	1	0.202	1.012	1.663												
3	2	2	0.552	1.314													
3	2	3	0.685	1.125	1.501	0.368											
3	2	4	*******	2.506													
4	1	1	0.550	1.303	1.303	1.303											
4	1	2	*******	0.221	0.276	0.368											
4	1	3	0.031	0.092	0.184												
4	1	4	*******	0.123	0.123	0.123											
4	2	1															
4	2	2	1.663	1.663	1.663												
4	2	3															
4	2	4															
5	1	1	0.361														
5	1	2															
5	1	3															
5	1	4															
5	2	1															
5	2	2															
5	2	3															
5	2	4	0.0	0.0													

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	5-YEAR MOVING AVERAGE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	0.974	1.028	1.055	0.909											
1	2	1.587	1.527	1.309	1.251											
1	3	1.798	1.913	1.548	1.312											
2	1	1.493	1.475	1.499	1.475											
2	2	1.466	1.420	1.389	1.434											
2	3	1.486	1.485	1.641	1.396											

Figure 4.1 (cont.)

Figure 4.1 (cont.)

2-DIRECTION EAL'S IN 1000'S DUE TO 4-TIRED VEHICLES

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	5-YEAR MOVING AVERAGE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	1	**********	**********	**********	**********	6.	6.	6.	6.	6.	**********	**********	**********	**********	**********	**********
1	1	2	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	6.	6.	6.	6.	6.
1	1	3	**********	**********	**********	**********	**********	**********	**********	**********	**********	6.	6.	6.	6.	6.	*******
1	1	4	**********	**********	**********	5.	5.	5.	5.	5.	5.	5.	6.	6.	6.	6.	7.
1	2	1	10.	11.	10.	11.	12.	12.	12.	12.	**********	**********	**********	**********	**********	**********	**********
1	2	2	25.	26.	26.	25.	25.	24.	22.	22.	20.	19.	19.	19.	19.	19.	14.
1	2	3	45.	44.	40.	43.	41.	44.	38.	37.	34.	31.	30.	30.	31.	25.	18.
1	2	4	15.	18.	18.	17.	17.	17.	16.	15.	14.	13.	13.	13.	13.	15.	*******
2	1	1	4.	4.	4.	5.	4.	4.	5.	5.	4.	4.	4.	4.	4.	4.	4.
2	1	2	4.	4.	4.	4.	4.	4.	4.	4.	4.	4.	4.	3.	3.	3.	3.
2	1	3	6.	5.	5.	5.	5.	4.	5.	5.	5.	4.	4.	4.	5.	5.	5.
2	1	4	4.	4.	4.	4.	4.	4.	4.	4.	4.	4.	4.	4.	4.	3.	3.
2	2	1	18.	17.	16.	16.	16.	13.	15.	17.	17.	18.	18.	18.	15.	16.	*******
2	2	2	19.	19.	19.	22.	23.	17.	19.	17.	15.	15.	16.	15.	17.	19.	23.
2	2	3	23.	23.	24.	24.	23.	24.	23.	22.	23.	22.	22.	23.	19.	19.	29.
2	2	4	14.	14.	13.	13.	14.	14.	13.	16.	18.	15.	15.	15.	13.	13.	12.
3	1	1	3.	3.	3.	3.	3.	3.	4.	5.	5.	5.	5.	4.	3.	3.	*******
3	1	2	4.	4.	5.	4.	4.	4.	5.	5.	5.	5.	5.	5.	3.	4.	*******
3	1	3	4.	4.	4.	4.	3.	3.	4.	4.	4.	5.	5.	5.	5.	5.	5.
3	1	4	4.	3.	3.	3.	3.	4.	4.	5.	4.	4.	4.	4.	3.	**********	**********
3	2	1	16.	17.	18.	20.	20.	14.	13.	13.	13.	13.	13.	13.	**********	**********	**********
3	2	2	16.	16.	16.	15.	14.	14.	14.	14.	14.	14.	13.	14.	13.	13.	15.
3	2	3	21.	22.	22.	26.	24.	23.	23.	23.	21.	20.	20.	19.	16.	16.	13.
3	2	4	13.	13.	12.	12.	12.	11.	11.	12.	15.	14.	14.	14.	14.	11.	*******
4	1	1	3.	3.	3.	3.	3.	3.	3.	2.	2.	2.	2.	2.	2.	2.	2.
4	1	2	3.	3.	3.	3.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
4	1	3	4.	3.	3.	3.	3.	3.	3.	3.	3.	3.	3.	3.	3.	3.	2.
4	1	4	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	1.	1.
4	2	1	10.	10.	10.	10.	11.	11.	12.	12.	13.	12.	12.	12.	8.	8.	8.
4	2	2	11.	11.	11.	11.	11.	11.	12.	12.	11.	11.	12.	12.	12.	13.	13.
4	2	3	12.	11.	11.	11.	11.	11.	12.	11.	12.	13.	13.	13.	14.	13.	*******
4	2	4	15.	14.	13.	13.	12.	11.	11.	12.	12.	12.	12.	12.	9.	**********	**********
5	1	1	1.	2.	2.	2.	1.	1.	1.	1.	1.	2.	2.	2.	1.	1.	1.
5	1	2	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	1.	1.	1.
5	1	3	2.	2.	2.	1.	1.	1.	1.	1.	2.	2.	1.	2.	1.	2.	1.
5	1	4	2.	2.	2.	2.	2.	1.	2.	2.	2.	2.	2.	2.	1.	1.	1.
5	2	1	*******	9.	9.	9.	9.	9.	*******	23.	23.	23.	23.	23.	**********	**********	**********
5	2	2	9.	**********	**********	**********	21.	21.	21.	15.	15.	14.	14.	14.	**********	**********	**********
5	2	3	9.	**********	**********	26.	16.	16.	16.	17.	16.	17.	17.	17.	15.	15.	*******
5	2	4	11.	10.	9.	10.	15.	15.	16.	16.	15.	15.	14.	14.	13.	15.	9.

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	5-YEAR MOVING AVERAGE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	3.	3.	3.	3.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	2	3.	4.	4.	4.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	3	3.	3.	3.	3.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	1	21.	22.	23.	19.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	2	21.	23.	20.	16.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	3	15.	15.	16.	8.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********

Figure 4.1 (cont.)

2-DIRECTION EAL'S IN 1000'S DUE TO NON-COAL-HAULING VEHICLES

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	5-YEAR MOVING AVERAGE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	1	**********	**********	**********	**********	90.	90.	90.	90.	90.	**********	**********	**********	**********	**********	**********
1	1	2	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	133.	133.	133.	133.	133.
1	1	3	**********	**********	**********	**********	**********	**********	**********	**********	**********	97.	97.	97.	97.	97.	*******
1	1	4	**********	**********	**********	87.	87.	87.	87.	87.	81.	106.	121.	121.	121.	169.	159.
1	2	1	452.	497.	441.	313.	322.	322.	101.	101.	**********	**********	**********	**********	**********	**********	**********
1	2	2	1398.	1384.	1394.	1325.	1235.	1224.	1119.	1012.	706.	584.	579.	573.	531.	585.	521.
1	2	3	1163.	1118.	1081.	1072.	1019.	1001.	903.	797.	623.	560.	547.	544.	541.	535.	440.
1	2	4	685.	705.	728.	681.	642.	606.	562.	473.	380.	299.	299.	299.	289.	309.	*******
2	1	1	71.	76.	81.	92.	90.	94.	99.	90.	64.	56.	56.	53.	54.	55.	52.
2	1	2	56.	58.	63.	63.	61.	58.	58.	53.	50.	45.	48.	47.	46.	45.	58.
2	1	3	44.	41.	39.	40.	43.	42.	44.	45.	40.	41.	49.	52.	52.	60.	84.
2	1	4	45.	48.	53.	48.	51.	52.	51.	45.	49.	42.	44.	45.	47.	44.	55.
2	2	1	176.	184.	203.	249.	255.	245.	232.	176.	173.	167.	167.	195.	240.	307.	*******
2	2	2	125.	124.	127.	132.	141.	111.	107.	79.	78.	101.	131.	155.	200.	323.	430.
2	2	3	127.	140.	201.	227.	215.	245.	260.	191.	192.	177.	174.	175.	113.	118.	140.
2	2	4	178.	196.	210.	206.	198.	189.	182.	133.	133.	106.	107.	106.	107.	90.	111.
3	1	1	13.	16.	22.	25.	20.	37.	22.	11.	11.	24.	24.	34.	37.	44.	*******
3	1	2	20.	21.	21.	21.	19.	21.	17.	22.	21.	27.	27.	36.	44.	60.	*******
3	1	3	16.	16.	16.	16.	21.	27.	26.	32.	29.	27.	28.	35.	29.	31.	38.
3	1	4	7.	7.	9.	12.	22.	34.	34.	27.	23.	17.	17.	17.	16.	**********	**********
3	2	1	59.	73.	66.	76.	76.	50.	72.	55.	55.	55.	55.	33.	**********	**********	**********
3	2	2	74.	78.	70.	74.	99.	93.	85.	71.	73.	46.	46.	44.	43.	44.	44.
3	2	3	94.	90.	98.	115.	107.	102.	98.	64.	58.	52.	55.	51.	57.	55.	89.
3	2	4	46.	54.	63.	89.	74.	66.	66.	46.	46.	53.	53.	53.	68.	65.	*******
4	1	1	30.	30.	29.	30.	28.	27.	25.	23.	16.	18.	19.	20.	21.	24.	22.
4	1	2	23.	24.	25.	23.	22.	22.	19.	16.	14.	15.	18.	19.	21.	22.	25.
4	1	3	24.	21.	26.	25.	25.	25.	24.	14.	14.	14.	16.	17.	22.	26.	37.
4	1	4	18.	25.	27.	27.	24.	24.	19.	17.	15.	15.	15.	16.	16.	14.	16.
4	2	1	129.	136.	136.	136.	109.	106.	46.	47.	42.	41.	62.	73.	146.	146.	146.
4	2	2	75.	71.	71.	65.	68.	72.	81.	81.	74.	72.	191.	191.	191.	310.	310.
4	2	3	90.	70.	71.	67.	60.	40.	43.	39.	53.	66.	66.	66.	82.	73.	*******
4	2	4	135.	156.	140.	136.	125.	120.	59.	59.	57.	58.	58.	59.	64.	**********	**********
5	1	1	6.	7.	8.	9.	6.	6.	4.	5.	5.	7.	9.	11.	12.	15.	16.
5	1	2	7.	7.	8.	8.	6.	6.	5.	5.	5.	7.	7.	8.	8.	8.	10.
5	1	3	10.	10.	11.	9.	9.	9.	8.	7.	6.	6.	5.	6.	5.	5.	4.
5	1	4	12.	11.	13.	16.	14.	13.	12.	10.	8.	9.	9.	9.	10.	11.	11.
5	2	1	*******	39.	39.	39.	39.	39.	*******	58.	58.	58.	58.	58.	**********	**********	**********
5	2	2	20.	**********	**********	**********	732.	732.	732.	134.	134.	49.	49.	49.	**********	**********	**********
5	2	3	125.	**********	**********	340.	108.	108.	108.	71.	33.	12.	12.	12.	17.	17.	*******
5	2	4	24.	35.	35.	41.	96.	96.	105.	58.	59.	59.	61.	61.	84.	122.	83.

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	5-YEAR MOVING AVERAGE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	26.	30.	33.	38.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	2	29.	30.	34.	38.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	3	42.	41.	45.	44.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	1	400.	434.	421.	505.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	2	276.	309.	311.	156.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	3	161.	168.	175.	218.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********

Figure 4.1 (cont.)

2-DIRECTION EAL'S IN 1000'S DUE TO COAL-HAULING VEHICLES

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	5-YEAR MOVING AVERAGE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	1															
1	1	2															
1	1	3															
1	1	4															
1	2	1	33.	33.	16.												
1	2	2	*******	5.	5.	8.											
1	2	3	38.	43.	59.	54.											
1	2	4	28.	27.	33.	45.											
2	1	1	1.	3.	7.	7.											
2	1	2	3.	4.	5.	3.											
2	1	3	1.	8.													
2	1	4	9.	16.	16.	16.											
2	2	1	*******	32.													
2	2	2	6.	9.	1.												
2	2	3	8.	8.	8.	12.											
2	2	4	11.	17.	17.	17.											
3	1	1	1.	7.	7.	7.											
3	1	2	0.	0.	0.	0.											
3	1	3	0.	1.	1.	1.											
3	1	4															
3	2	1	1.	4.	8.												
3	2	2	2.	9.													
3	2	3	2.	6.	8.	1.											
3	2	4	*******	7.													
4	1	1	2.	9.	9.	9.											
4	1	2	*******	0.	1.	1.											
4	1	3	0.	0.	0.												
4	1	4	*******	0.	0.	0.											
4	2	1															
4	2	2	16.	16.													
4	2	3															
4	2	4															
5	1	1	1.														
5	1	2															
5	1	3															
5	1	4															
5	2	1															
5	2	2															
5	2	3															
5	2	4	0.	0.													

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	5-YEAR MOVING AVERAGE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	6.	7.	7.	7.											
1	2	49.	54.	61.	51.											
1	3	471.	510.	314.	294.											
2	1	91.	99.	98.	112.											
2	2	367.	402.	410.	275.											
2	3	1001.	1080.	1228.	990.											

TOTAL 2-DIRECTION EAL'S

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	5-YEAR MOVING AVERAGE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	1	**********	**********	**********	**********	96.	96.	96.	96.	96.	**********	**********	**********	**********	**********	**********
1	1	2	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	139.	139.	139.	139.	139.
1	1	3	**********	**********	**********	**********	**********	**********	**********	**********	**********	103.	103.	103.	103.	103.	*******
1	1	4	**********	**********	**********	92.	92.	92.	92.	92.	86.	112.	127.	127.	127.	176.	166.
1	2	1	474.	517.	454.	324.	333.	333.	112.	112.	**********	**********	**********	**********	**********	**********	**********
1	2	2	1424.	1411.	1421.	1350.	1259.	1248.	1141.	1034.	726.	603.	598.	592.	550.	604.	535.
1	2	3	1227.	1175.	1130.	1117.	1060.	1045.	941.	835.	657.	591.	577.	574.	572.	560.	458.
1	2	4	717.	730.	752.	702.	659.	622.	578.	488.	393.	313.	313.	313.	303.	324.	*******
2	1	1	76.	80.	86.	96.	94.	98.	103.	94.	68.	61.	60.	57.	58.	59.	56.
2	1	2	61.	62.	68.	67.	65.	62.	63.	57.	55.	49.	51.	51.	50.	48.	61.
2	1	3	50.	46.	44.	45.	48.	47.	49.	50.	45.	45.	53.	57.	57.	64.	90.
2	1	4	49.	52.	57.	52.	55.	56.	55.	49.	53.	46.	48.	48.	51.	47.	58.
2	2	1	195.	202.	219.	265.	271.	258.	247.	193.	190.	185.	185.	213.	255.	323.	*******
2	2	2	146.	144.	146.	154.	164.	127.	126.	96.	93.	117.	147.	171.	217.	342.	453.
2	2	3	152.	165.	226.	251.	239.	270.	283.	213.	214.	199.	197.	198.	132.	138.	169.
2	2	4	194.	210.	224.	219.	212.	203.	195.	149.	151.	121.	121.	122.	120.	103.	123.
3	1	1	16.	20.	26.	29.	23.	40.	27.	17.	15.	29.	29.	38.	40.	47.	*******
3	1	2	24.	25.	26.	25.	23.	24.	22.	27.	26.	33.	33.	41.	47.	64.	*******
3	1	3	21.	20.	20.	20.	25.	30.	29.	36.	33.	32.	33.	40.	34.	36.	43.
3	1	4	11.	10.	11.	15.	26.	38.	38.	31.	26.	20.	20.	20.	18.	**********	**********
3	2	1	76.	91.	85.	96.	96.	64.	85.	68.	68.	68.	68.	46.	**********	**********	**********
3	2	2	90.	94.	86.	89.	113.	107.	99.	85.	87.	60.	60.	58.	56.	57.	59.
3	2	3	116.	112.	120.	141.	131.	126.	121.	86.	79.	72.	74.	71.	73.	70.	102.
3	2	4	60.	68.	75.	101.	86.	77.	77.	58.	60.	68.	68.	68.	83.	76.	*******
4	1	1	33.	33.	32.	33.	30.	29.	28.	25.	19.	21.	21.	22.	22.	26.	24.
4	1	2	26.	27.	28.	26.	25.	24.	22.	18.	16.	18.	20.	21.	23.	24.	27.
4	1	3	28.	24.	30.	28.	28.	28.	27.	17.	16.	17.	19.	20.	26.	29.	39.
4	1	4	20.	28.	29.	29.	27.	26.	21.	20.	17.	17.	17.	18.	17.	16.	18.
4	2	1	139.	146.	146.	146.	120.	117.	57.	59.	55.	53.	73.	85.	154.	154.	154.
4	2	2	89.	84.	84.	75.	79.	84.	93.	93.	86.	82.	203.	203.	203.	323.	323.
4	2	3	102.	81.	82.	79.	71.	51.	55.	50.	65.	79.	79.	79.	96.	86.	*******
4	2	4	150.	169.	153.	149.	137.	131.	70.	71.	69.	70.	70.	71.	73.	**********	**********
5	1	1	7.	9.	10.	11.	8.	8.	6.	6.	6.	9.	11.	13.	14.	16.	17.
5	1	2	8.	8.	9.	9.	7.	7.	6.	6.	6.	8.	9.	10.	9.	9.	11.
5	1	3	12.	12.	13.	10.	10.	10.	9.	8.	7.	7.	7.	7.	7.	7.	5.
5	1	4	14.	12.	15.	18.	15.	15.	14.	12.	9.	11.	11.	11.	11.	12.	12.
5	2	1	*******	49.	49.	49.	49.	49.	*******	82.	82.	82.	82.	82.	**********	**********	**********
5	2	2	29.	**********	**********	**********	753.	753.	753.	149.	149.	63.	63.	63.	**********	**********	**********
5	2	3	134.	**********	**********	366.	124.	124.	124.	88.	49.	29.	29.	29.	32.	32.	*******
5	2	4	34.	45.	43.	51.	110.	110.	121.	74.	74.	74.	75.	75.	96.	137.	92.

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	5-YEAR MOVING AVERAGE 83	82	81	80	79	78	77	76	75	74	73	72	71	70	69
1	1	35.	40.	43.	48.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	2	82.	87.	99.	93.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	3	517.	555.	362.	341.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	1	512.	555.	542.	636.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	2	665.	734.	741.	447.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	3	1176.	1263.	1419.	1217.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********

Figure 4.1 (cont.)

INCREMENTS OF ANNUAL AVERAGE DAILY TRAFFIC
(MINUS MEANS A DECREASE THROUGH TIME BASED ON A 5-YEAR MOVING AVERAGE)
BASE YEAR IS 83

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	1	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	1	2	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	1	3	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	1	4	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	2	1	-323.	67.	321.	-321.	-321.	649.	649.	**********	**********	**********	**********	**********	**********	**********	**********
1	2	2	-812.	-681.	192.	275.	443.	2206.	2844.	4958.	5855.	6090.	6115.	6344.	5965.	9145.	********
1	2	3	962.	3116.	1895.	2692.	1181.	5160.	5871.	8398.	10192.	11012.	10813.	10463.	13539.	17984.	********
1	2	4	-1569.	-1910.	-1178.	-1027.	-714.	72.	1108.	1819.	2631.	2631.	2631.	2635.	1533.	**********	**********
2	1	1	-44.	-118.	-359.	-287.	-325.	-366.	-324.	34.	-21.	30.	70.	106.	170.	294.	********
2	1	2	-97.	-53.	-59.	-80.	14.	53.	17.	63.	270.	415.	429.	526.	764.	955.	********
2	1	3	633.	793.	854.	734.	850.	658.	683.	824.	973.	831.	768.	684.	565.	193.	********
2	1	4	-119.	-245.	-161.	-213.	-227.	-249.	-140.	-461.	-242.	-151.	-87.	-79.	398.	353.	********
2	2	1	737.	973.	813.	485.	2428.	1568.	273.	337.	35.	35.	-101.	1312.	76.	**********	**********
2	2	2	165.	-43.	-1446.	-1958.	1561.	351.	1609.	2682.	2196.	1683.	1942.	773.	-996.	-3446.	********
2	2	3	-123.	-893.	-971.	-451.	-1351.	-741.	63.	-215.	440.	149.	-96.	2202.	2031.	-3340.	********
2	2	4	108.	294.	519.	178.	138.	386.	-851.	-2039.	-457.	-77.	-295.	971.	1045.	1383.	********
3	1	1	-175.	-200.	34.	-43.	-243.	-620.	-1075.	-902.	-820.	-820.	-684.	-135.	-292.	**********	**********
3	1	2	-160.	-416.	-87.	230.	196.	-411.	-677.	-642.	-840.	-840.	-660.	258.	-245.	**********	**********
3	1	3	-5.	67.	163.	336.	576.	116.	-30.	-146.	-432.	-439.	-723.	-676.	-887.	-505.	********
3	1	4	138.	519.	420.	1.	-650.	-650.	-822.	-235.	-56.	-56.	-56.	414.	**********	**********	**********
3	2	1	-723.	-1209.	-2132.	-2132.	984.	1446.	1838.	1838.	1838.	1838.	2114.	**********	**********	**********	**********
3	2	2	87.	182.	310.	789.	929.	927.	1337.	1331.	1440.	1370.	1688.	1362.	1987.	946.	********
3	2	3	-472.	-231.	-2873.	-1878.	-1264.	-928.	-761.	133.	712.	984.	1224.	2819.	3135.	4520.	********
3	2	4	-74.	599.	715.	649.	1079.	1079.	539.	-772.	-550.	-550.	-550.	-661.	1264.	**********	**********
4	1	1	101.	214.	244.	259.	309.	322.	372.	485.	591.	648.	678.	697.	737.	807.	********
4	1	2	7.	73.	126.	237.	245.	374.	417.	444.	402.	432.	406.	425.	505.	504.	********
4	1	3	216.	273.	351.	345.	403.	546.	717.	672.	572.	582.	474.	236.	204.	675.	********
4	1	4	-190.	-230.	-288.	-202.	-135.	-59.	-171.	-109.	-93.	18.	37.	154.	336.	337.	********
4	2	1	-104.	-104.	-117.	-254.	-568.	-417.	-777.	-1055.	-780.	-436.	-618.	940.	940.	940.	********
4	2	2	98.	98.	340.	34.	-81.	-406.	-406.	71.	223.	-976.	-976.	-976.	-2174.	-2174.	********
4	2	3	511.	513.	120.	229.	587.	84.	596.	-117.	-608.	-608.	-595.	-1388.	-789.	**********	**********
4	2	4	482.	595.	1004.	1312.	1967.	2353.	1686.	1874.	1747.	1747.	1695.	3411.	**********	**********	**********
5	1	1	-395.	-542.	-607.	-303.	-278.	-260.	-357.	-339.	-485.	-453.	-417.	-328.	-377.	-369.	********
5	1	2	-73.	-119.	-229.	-47.	-38.	13.	-241.	-239.	-490.	-399.	-401.	-55.	8.	-94.	********
5	1	3	-85.	21.	269.	192.	195.	218.	135.	99.	81.	137.	8.	138.	107.	392.	********
5	1	4	81.	51.	-24.	89.	185.	49.	-142.	-61.	-162.	-29.	33.	176.	188.	274.	********
5	2	1	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
5	2	2	**********	**********	-9959.	-9959.	-9959.	-3850.	-3850.	-2978.	-2978.	-2978.	**********	**********	**********	**********	**********
5	2	3	**********	-10632.	-3871.	-3871.	-3871.	-4013.	-3067.	-3809.	-3809.	-3809.	-2488.	-2488.	**********	**********	**********
5	2	4	353.	1085.	335.	-2547.	-2547.	-3448.	-3171.	-2509.	-2418.	-2233.	-2233.	-1626.	-2871.	548.	********

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	-6.	26.	-135.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	2	-20.	-200.	-256.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	3	81.	58.	232.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	1	-829.	-1066.	450.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	2	-1074.	314.	3579.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	3	-152.	-804.	3441.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********

Figure 4.1 (cont.)

INCREMENTS OF PERCENT TRUCK
(MINUS MEANS A DECREASE THROUGH TIME BASED ON A 5-YEAR MOVING AVERAGE)
BASE YEAR IS 83

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	1	**********														
1	1	2	**********														
1	1	3	**********														
1	1	4	**********														
1	2	1	-1.382	0.247	6.179	7.578	7.578	16.203	16.203	**********							
1	2	2	0.682	0.019	-0.425	0.558	0.457	0.307	1.449	6.262	7.853	7.663	7.786	8.944	7.283	5.195	********
1	2	3	-0.151	-1.193	-0.120	0.800	1.716	1.711	3.733	5.081	5.315	5.062	5.251	4.948	4.190	2.915	********
1	2	4	1.283	0.656	0.966	1.870	2.378	2.524	3.793	6.002	7.169	7.169	7.169	7.746	7.946	**********	
2	1	1	-0.862	-1.486	-2.559	-2.737	-3.022	-3.570	-2.504	-1.587	-1.684	-1.431	-1.240	-1.833	-2.168	-0.114	********
2	1	2	0.026	-1.180	-1.322	-1.074	-0.987	-1.228	0.023	0.054	-0.830	-2.037	-2.027	-2.603	-3.808	-6.539	********
2	1	3	-1.292	-1.562	-1.726	-1.929	-1.992	-1.744	-2.123	-2.197	-3.784	-4.325	-4.896	-4.830	-5.824	-6.759	********
2	1	4	-0.454	-1.300	-0.802	-1.451	-1.801	-1.953	-1.325	-1.604	-1.559	-2.153	-2.490	-3.113	-4.550	-5.450	********
2	2	1	-1.308	-2.566	-4.966	-5.037	-6.616	-5.218	-1.264	-1.497	-1.893	-1.893	-3.632	-7.025	-9.638	**********	
2	2	2	-0.299	-0.500	-0.446	-1.006	-1.684	-0.925	-0.025	-0.471	-1.296	-2.066	-3.390	-4.733	-9.447	-9.763	********
2	2	3	-0.555	-1.858	-2.854	-2.734	-3.092	-3.842	-2.331	-2.274	-2.094	-1.866	-1.651	-1.161	-0.928	0.878	********
2	2	4	-1.661	-2.977	-3.287	-2.804	-2.465	-2.184	1.358	2.286	2.533	2.547	2.789	2.063	3.227	2.601	********
3	1	1	-1.115	-1.896	-3.482	-1.946	-2.457	0.052	1.545	1.587	-1.589	-1.589	-3.977	-5.346	-6.807	**********	
3	1	2	-0.082	0.528	-0.766	-1.517	-3.000	-1.147	-2.071	-2.190	-3.144	-3.144	-5.913	-9.234	-11.037	**********	
3	1	3	0.600	0.378	-0.662	-4.806	-7.883	-6.556	-7.926	-7.812	-4.568	-4.547	-6.301	-4.698	-4.138	-4.334	********
3	1	4	-0.274	-0.943	-2.189	-4.737	-7.371	-7.371	-5.223	-6.515	-5.494	-5.494	-5.494	-6.703	**********		
3	2	1	-0.594	0.043	-0.255	-0.255	-0.305	-2.747	-1.604	-1.604	-1.604	-1.604	0.150	**********			
3	2	2	-0.236	-0.005	-0.397	-3.015	-3.274	-3.020	-2.382	-2.703	-0.489	-0.273	-0.143	0.233	-0.324	1.022	********
3	2	3	0.325	-0.134	-0.608	-0.769	-0.802	-0.746	0.732	0.520	0.567	0.361	0.379	-0.662	-0.723	-2.316	********
3	2	4	-0.697	-1.492	-4.200	-3.028	-3.873	-3.873	-1.506	-0.646	-1.622	-1.622	-1.622	-3.088	-3.508	**********	
4	1	1	-0.596	-0.804	-0.903	-1.110	-1.090	-0.771	-0.394	0.173	-1.666	-1.965	-2.187	-2.521	-4.276	-2.796	********
4	1	2	-0.232	-1.070	-0.943	-1.411	-1.428	-1.501	-0.907	-1.122	-1.692	-2.083	-2.372	-2.872	-3.368	-3.027	********
4	1	3	-0.131	-1.443	-1.564	-1.670	-1.818	-2.164	-0.444	-0.232	-0.523	-0.818	-0.805	-1.933	-2.897	-3.592	********
4	1	4	-2.349	-3.538	-3.246	-3.374	-3.785	-2.362	-1.011	-1.182	-1.412	-1.780	-2.361	-2.744	-3.339	-2.834	********
4	2	1	-0.701	-0.701	-0.686	0.634	1.158	5.716	5.707	6.256	6.176	3.837	2.894	-5.518	-5.518	-5.518	********
4	2	2	0.278	0.278	0.406	-0.151	-0.374	-1.443	-1.443	-1.667	-1.545	-4.930	-4.930	-4.930	-8.316	-8.316	********
4	2	3	0.759	0.751	0.643	1.592	3.900	4.008	3.886	2.991	1.675	1.675	1.561	0.532	0.613	**********	
4	2	4	-3.251	-2.394	-2.890	-2.293	-3.440	0.240	0.852	0.716	0.598	0.598	0.560	-2.277	**********		
5	1	1	0.581	0.686	0.776	0.892	0.789	1.428	1.165	0.850	-0.374	-1.642	-3.045	-3.675	-4.924	-4.947	********
5	1	2	0.562	0.284	1.726	1.732	1.740	1.779	2.513	2.260	1.400	0.574	0.004	-1.892	-3.014	-2.213	********
5	1	3	0.563	-0.691	-1.600	-1.008	-1.099	-1.177	-0.555	0.025	0.108	0.409	1.286	1.002	1.568	1.778	********
5	1	4	-0.886	-2.592	-3.644	-3.552	-3.962	-3.137	-1.159	-0.528	-0.972	-1.299	-1.349	-2.515	-3.138	-2.042	********
5	2	1	**********														
5	2	2	**********	-21.123	-21.123	-21.123	-4.751	-4.751	-2.412	-2.412	-2.412	**********					
5	2	3	**********	-1.223	5.257	5.257	5.257	7.150	8.346	10.045	10.045	10.045	9.263	9.263	**********		
5	2	4	-1.850	-2.283	-2.623	-2.728	-2.728	-2.022	-1.534	-2.709	-3.552	-3.758	-3.758	-5.704	-6.971	-6.842	********

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	-1.188	-1.697	-0.641	**********											
1	2	-0.292	-1.010	-1.200	**********											
1	3	0.217	0.906	-1.191	**********											
2	1	-0.711	-0.600	-3.288	**********											
2	2	-0.155	-1.013	0.839	**********											
2	3	-0.437	-0.419	-10.292	**********											

Figure 4.1 (cont.)

INCREMENTS OF PERCENT OF TRUCKS HAULING COAL
(MINUS MEANS A DECREASE THROUGH TIME BASED ON A 5-YEAR MOVING AVERAGE)
BASE YEAR IS 83

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	1															
1	1	2															
1	1	3															
1	1	4															
1	2	1	0.0	0.144													
1	2	2															
1	2	3	-0.079	-0.249	-0.298												
1	2	4	0.100	0.020	-0.132												
2	1	1	-0.126	-0.193	-0.193												
2	1	2	-0.042	-0.065	0.029												
2	1	3	-0.358														
2	1	4	-0.205	-0.205	-0.205												
2	2	1															
2	2	2	0.067	0.382													
2	2	3	0.058	0.035	-0.082												
2	2	4	-0.066	-0.066	-0.066												
3	1	1	-0.302	-0.302	-0.302												
3	1	2	0.036	-0.097	-0.097												
3	1	3	-0.204	-0.204	-0.204												
3	1	4															
3	2	1	0.008	-0.174													
3	2	2	0.092														
3	2	3	-0.036	-0.089	0.135												
3	2	4															
4	1	1	-0.208	-0.208	-0.208												
4	1	2															
4	1	3	-0.209	-0.202													
4	1	4															
4	2	1															
4	2	2	0.0	0.0													
4	2	3															
4	2	4															
5	1	1															
5	1	2															
5	1	3															
5	1	4															
5	2	1															
5	2	2															
5	2	3															
5	2	4	0.0														

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	0.105	0.276	0.472												
1	2	-0.025	0.207	1.913												
1	3	0.557	4.447	2.972												
2	1	-0.010	-0.155	-0.233												
2	2	0.111	-0.386	0.636												
2	3	-0.470	1.111	6.890												

Figure 4.1 (cont.)

INCREMENTS OF AXLES PER TRUCK (NON-COAL-HAULING)
(MINUS MEANS A DECREASE THROUGH TIME BASED ON A 5-YEAR MOVING AVERAGE)
BASE YEAR IS 83

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	1	**********														
1	1	2	**********														
1	1	3	**********														
1	1	4	**********														
1	2	1	-0.019	-0.014	0.460	0.574	0.574	0.925	0.925	**********							
1	2	2	0.012	0.008	0.025	0.057	0.063	0.083	0.129	0.163	0.187	0.200	0.208	0.207	0.257	0.374	********
1	2	3	0.021	0.009	0.011	0.016	0.055	0.021	0.048	0.140	0.197	0.209	0.215	0.264	0.316	0.309	********
1	2	4	0.059	0.057	0.082	0.101	0.115	0.124	0.170	0.224	0.322	0.322	0.322	0.341	0.426	**********	
2	1	1	0.016	-0.013	-0.015	-0.011	-0.005	-0.060	0.003	0.153	0.292	0.352	0.381	0.379	0.405	0.661	********
2	1	2	0.040	-0.025	0.030	0.035	0.048	0.032	0.125	0.081	0.260	0.246	0.258	0.274	0.338	0.197	********
2	1	3	-0.031	-0.046	-0.024	-0.078	-0.074	-0.081	-0.078	-0.046	0.111	0.053	0.044	0.062	0.046	-0.203	********
2	1	4	-0.062	-0.094	-0.075	-0.112	-0.131	-0.056	0.008	0.079	0.286	0.284	0.280	0.270	0.341	0.272	********
2	2	1	-0.037	-0.124	-0.310	-0.338	-0.351	-0.302	-0.151	-0.130	-0.025	-0.025	-0.164	-0.239	-0.341	**********	
2	2	2	0.052	0.041	0.040	-0.005	-0.095	0.041	0.193	0.173	0.096	0.031	-0.063	-0.207	-0.503	-0.614	********
2	2	3	-0.057	-0.229	-0.324	-0.345	-0.380	-0.415	-0.270	-0.277	-0.177	-0.115	-0.095	0.098	0.097	0.640	********
2	2	4	-0.115	-0.234	-0.273	-0.267	-0.236	-0.261	-0.016	0.070	0.268	0.282	0.306	0.376	0.458	0.339	********
3	1	1	0.059	-0.077	-0.154	-0.034	-0.246	0.039	0.167	0.199	0.072	0.072	-0.090	-0.087	-0.200	**********	
3	1	2	0.006	0.002	0.100	-0.015	-0.403	0.089	0.034	0.066	0.083	0.083	-0.099	-0.138	-0.297	**********	
3	1	3	-0.025	-0.086	0.017	-0.129	-0.241	-0.153	-0.126	0.059	0.192	0.157	0.064	0.065	-0.017	-0.189	********
3	1	4	0.059	-0.042	0.114	-0.079	-0.243	-0.243	-0.116	-0.184	-0.100	-0.100	-0.100	-0.156	**********		
3	2	1	-0.091	-0.028	-0.151	-0.151	-0.114	-0.158	-0.127	-0.127	-0.127	-0.127	-0.085	**********			
3	2	2	-0.004	0.028	0.002	-0.109	-0.078	-0.072	0.041	0.012	0.153	0.191	0.241	0.351	0.372	0.422	********
3	2	3	-0.036	-0.039	-0.097	-0.077	-0.027	-0.027	0.063	0.098	0.224	0.175	0.217	0.194	0.162	-0.462	********
3	2	4	-0.016	-0.097	-0.684	-0.500	-0.687	-0.687	-0.309	0.009	0.041	0.041	0.041	-0.045	0.074	**********	
4	1	1	-0.024	-0.071	-0.074	-0.058	-0.079	-0.069	0.005	0.189	0.246	0.243	0.241	0.237	0.161	0.233	********
4	1	2	0.048	-0.009	0.052	0.033	0.043	0.063	0.180	0.207	0.257	0.190	0.172	0.130	0.073	0.027	********
4	1	3	0.104	0.047	0.081	0.092	0.116	0.109	0.278	0.306	0.349	0.335	0.343	0.336	0.323	0.201	********
4	1	4	-0.073	-0.111	-0.069	-0.074	-0.069	0.006	0.082	0.148	0.264	0.269	0.271	0.267	0.295	0.283	********
4	2	1	-0.111	-0.111	-0.170	-0.058	-0.040	0.554	0.475	0.543	0.560	0.455	0.306	0.036	0.036	0.036	********
4	2	2	0.008	0.008	-0.047	0.069	0.027	0.034	0.034	-0.023	-0.150	-0.324	-0.324	-0.324	-0.499	-0.499	********
4	2	3	0.075	0.068	0.128	0.174	0.324	0.442	0.483	0.303	0.303	0.303	0.269	0.144	0.296	**********	
4	2	4	-0.104	-0.011	-0.095	-0.063	-0.094	0.168	0.306	0.398	0.412	0.412	0.460	0.467	**********		
5	1	1	0.101	0.106	0.093	0.107	0.098	0.168	0.154	0.176	0.179	0.155	0.117	0.145	0.095	0.092	********
5	1	2	0.014	-0.006	0.084	0.090	0.086	0.129	0.211	0.210	0.300	0.314	0.311	0.317	0.332	0.363	********
5	1	3	-0.003	0.015	0.101	0.090	0.082	0.125	0.181	0.175	0.199	0.225	0.235	0.253	0.248	0.345	********
5	1	4	-0.037	-0.109	-0.131	-0.166	-0.179	-0.102	0.031	0.071	0.173	0.185	0.211	0.187	0.215	0.212	********
5	2	1	**********														
5	2	2	**********		-1.808	-1.808	-1.808	-0.319	-0.319	-0.106	-0.106	-0.106	**********				
5	2	3	**********	-0.463	-0.195	-0.195	-0.195	0.062	0.137	0.515	0.515	0.515	0.587	0.587	**********		
5	2	4	-0.150	-0.160	-0.583	-0.558	-0.558	-0.585	-0.319	-0.267	-0.248	-0.268	-0.268	-0.347	-0.476	-0.575	********

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	-0.084	-0.119	-0.114	**********											
1	2	-0.002	-0.087	-0.116	**********											
1	3	0.044	0.017	-0.043	**********											
2	1	-0.052	-0.014	-0.102	**********											
2	2	-0.009	-0.151	0.177	**********											
2	3	-0.011	0.009	-0.461	**********											

Figure 4.1 (cont.)

INCREMENTS OF AXLES PER TRUCK (COAL-HAULING)
(MINUS MEANS A DECREASE THROUGH TIME BASED ON A 5-YEAR MOVING AVERAGE)
BASE YEAR IS 83

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	1															
1	1	2															
1	1	3															
1	1	4															
1	2	1	0.0	0.024													
1	2	2															
1	2	3	-0.004	0.000	0.028												
1	2	4	0.002	-0.083	-0.004												
2	1	1	-0.350	-1.350	-1.350												
2	1	2	-2.364	-2.287	-2.420												
2	1	3	-3.900														
2	1	4	-0.266	-0.266	-0.266												
2	2	1															
2	2	2	-0.027	-0.384													
2	2	3	-0.911	-0.884	-0.782												
2	2	4	-0.143	-0.143	-0.143												
3	1	1	-1.453	-1.453	-1.453												
3	1	2	0.0	0.0	0.0												
3	1	3	-2.443	-2.443	-2.443												
3	1	4															
3	2	1	-3.733	-3.400													
3	2	2	0.400														
3	2	3	-0.290	-1.402	-1.957												
3	2	4															
4	1	1	0.400	0.400	0.400												
4	1	2															
4	1	3	-0.833	-2.083													
4	1	4															
4	2	1															
4	2	2	0.0	0.0													
4	2	3															
4	2	4															
5	1	1															
5	1	2															
5	1	3															
5	1	4															
5	2	1															
5	2	2															
5	2	3															
5	2	4	0.0														

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	-0.135	-0.204	0.354												
1	2	0.080	0.155	0.386												
1	3	0.053	-0.089	-0.234												
2	1	0.031	-0.071	-0.048												
2	2	-0.025	-0.037	-0.027												
2	3	0.005	0.102	-0.083												

Figure 4.1 (cont.)

INCREMENTS OF EAL'S PER TRUCK AXLE (NON-COAL-HAULING)
(MINUS MEANS A DECREASE THROUGH TIME BASED ON A 5-YEAR MOVING AVERAGE)
BASE YEAR IS 83

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	1	**********														
1	1	2	**********														
1	1	3	**********														
1	1	4	**********														
1	2	1	0.002	0.001	0.005	0.008	0.008	0.005	0.005	**********							
1	2	2	0.003	0.004	0.007	0.011	0.012	0.013	0.015	0.020	0.023	0.022	0.022	0.022	0.021	0.012	********
1	2	3	0.001	0.003	0.005	0.007	0.007	0.009	0.012	0.016	0.018	0.017	0.017	0.016	0.014	0.008	********
1	2	4	0.004	0.005	0.007	0.009	0.009	0.010	0.013	0.017	0.020	0.020	0.020	0.019	0.020	**********	
2	1	1	0.002	0.004	0.008	0.013	0.013	0.013	0.015	0.024	0.025	0.021	0.021	0.020	0.016	-0.001	********
2	1	2	0.001	0.003	0.004	0.010	0.011	0.011	0.014	0.023	0.025	0.019	0.018	0.016	0.013	-0.007	********
2	1	3	0.010	0.011	0.011	0.013	0.014	0.013	0.017	0.025	0.030	0.025	0.026	0.025	0.023	0.003	********
2	1	4	0.003	0.003	0.004	0.010	0.010	0.013	0.019	0.024	0.023	0.017	0.016	0.014	0.008	-0.014	********
2	2	1	0.004	0.005	0.012	0.017	0.017	0.019	0.021	0.024	0.028	0.028	0.028	0.029	0.028	**********	
2	2	2	0.002	0.002	0.007	0.009	0.017	0.021	0.030	0.033	0.034	0.032	0.032	0.028	0.025	0.014	********
2	2	3	0.003	0.008	0.012	0.016	0.016	0.018	0.030	0.035	0.033	0.028	0.028	0.018	0.018	-0.026	********
2	2	4	0.005	0.008	0.010	0.013	0.014	0.014	0.022	0.027	0.027	0.020	0.020	0.013	0.011	-0.006	********
3	1	1	0.005	0.008	0.015	0.019	0.028	0.037	0.043	0.043	0.045	0.045	0.044	0.043	0.042	**********	
3	1	2	-0.000	-0.000	0.002	0.013	0.047	0.051	0.055	0.058	0.056	0.056	0.056	0.042	0.034	**********	
3	1	3	0.007	0.004	0.016	0.032	0.045	0.046	0.047	0.054	0.046	0.043	0.048	0.047	0.042	0.023	********
3	1	4	-0.004	-0.012	-0.009	0.006	0.033	0.033	0.032	0.044	0.044	0.044	0.044	0.050	**********		
3	2	1	0.005	0.012	0.016	0.016	0.025	0.038	0.043	0.043	0.043	0.043	0.046	**********			
3	2	2	-0.001	-0.001	0.001	0.006	0.008	0.016	0.031	0.037	0.038	0.030	0.028	0.013	0.012	-0.015	********
3	2	3	0.007	0.002	0.015	0.019	0.013	0.010	0.033	0.038	0.038	0.037	0.038	0.035	0.037	0.024	********
3	2	4	0.005	0.005	0.035	0.037	0.051	0.051	0.048	0.039	0.031	0.031	0.031	0.026	0.011	**********	
4	1	1	0.008	0.007	0.006	0.012	0.010	0.009	0.013	0.022	0.023	0.012	0.012	0.010	0.001	-0.017	********
4	1	2	0.007	0.009	0.009	0.013	0.014	0.016	0.022	0.033	0.036	0.025	0.024	0.020	0.014	-0.001	********
4	1	3	0.005	-0.005	-0.002	0.001	-0.002	-0.000	0.021	0.024	0.024	0.020	0.019	0.012	0.009	-0.024	********
4	1	4	0.007	0.007	0.007	0.009	0.007	0.007	0.010	0.019	0.021	0.012	0.010	0.009	0.001	-0.016	********
4	2	1	0.005	0.005	0.008	0.015	0.016	0.019	0.023	0.026	0.027	0.024	0.023	0.012	0.012	0.012	********
4	2	2	0.006	0.006	0.012	0.017	0.017	0.018	0.018	0.024	0.025	0.016	0.016	0.016	0.007	0.007	********
4	2	3	0.002	0.001	0.015	0.013	0.002	-0.003	0.006	0.012	0.019	0.019	0.023	0.022	0.024	**********	
4	2	4	-0.002	-0.003	-0.001	-0.001	-0.002	0.002	0.010	0.010	0.010	0.010	0.013	0.006	**********		
5	1	1	0.021	0.029	0.035	0.032	0.032	0.038	0.043	0.046	0.052	0.040	0.035	0.031	0.023	0.009	********
5	1	2	0.009	0.018	0.033	0.027	0.026	0.027	0.036	0.043	0.063	0.050	0.049	0.040	0.028	0.008	********
5	1	3	0.007	0.001	0.007	0.009	0.008	0.020	0.033	0.040	0.044	0.036	0.029	0.018	0.016	0.000	********
5	1	4	0.011	0.016	0.026	0.027	0.025	0.027	0.031	0.035	0.039	0.028	0.026	0.024	0.015	0.003	********
5	2	1	**********														
5	2	2	**********		0.060	0.060	0.060	0.062	0.062	0.063	0.063	0.063	**********				
5	2	3	**********	0.042	0.052	0.052	0.052	0.057	0.059	0.064	0.064	0.064	0.066	0.066	**********		
5	2	4	0.005	0.008	0.018	0.029	0.029	0.033	0.037	0.037	0.036	0.034	0.034	0.030	0.026	0.008	********

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	-0.000	-0.003	-0.005	**********											
1	2	0.000	-0.001	-0.004	**********											
1	3	-0.003	0.001	0.007	**********											
2	1	-0.000	-0.003	-0.005	**********											
2	2	0.000	-0.002	-0.004	**********											
2	3	0.000	-0.005	0.007	**********											

Figure 4.1 (cont.)

INCREMENTS OF EAL'S PER TRUCK AXLE (COAL-HAULING)
(MINUS MEANS A DECREASE THROUGH TIME BASED ON A 5-YEAR MOVING AVERAGE)
BASE YEAR IS 83

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	1															
1	1	2															
1	1	3															
1	1	4															
1	2	1	0.0	-0.170													
1	2	2															
1	2	3	0.016	0.060	0.084												
1	2	4	-0.050	0.219	0.156												
2	1	1	-0.535	-2.061	-2.061												
2	1	2	-0.540	-0.698	-0.460												
2	1	3	-1.513														
2	1	4	0.674	0.674	0.674												
2	2	1															
2	2	2	0.093	0.775													
2	2	3	0.237	0.188	-0.001												
2	2	4	0.395	0.395	0.395												
3	1	1	-2.219	-2.219	-2.219												
3	1	2	0.0	0.0	0.0												
3	1	3	-0.183	-0.183	-0.183												
3	1	4															
3	2	1	-0.810	-1.461													
3	2	2	-0.762														
3	2	3	-0.440	-0.816	0.317												
3	2	4															
4	1	1	-0.753	-0.753	-0.753												
4	1	2															
4	1	3	-0.061	-0.153													
4	1	4															
4	2	1															
4	2	2	0.0	0.0													
4	2	3															
4	2	4															
5	1	1															
5	1	2															
5	1	3															
5	1	4															
5	2	1															
5	2	2															
5	2	3															
5	2	4	0.0														

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	-0.054	-0.081	0.065												
1	2	0.060	0.277	0.336												
1	3	-0.115	0.250	0.486												
2	1	0.018	-0.006	0.018												
2	2	0.046	0.077	0.032												
2	3	0.001	-0.155	0.090												

Figure 4.1 (cont.)

INCREMENTS OF 2-DIRECTION EAL'S IN 1000'S DUE TO 4-TIRED VEHICLES
(MINUS MEANS A DECREASE THROUGH TIME BASED ON A 5-YEAR MOVING AVERAGE)
BASE YEAR IS 83

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	1	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	1	2	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	1	3	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	1	4	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	2	1	-0.	0.	-0.	-1.	-1.	-1.	-1.	**********	**********	**********	**********	**********	**********	**********	**********
1	2	2	-1.	-1.	0.	0.	0.	3.	3.	5.	5.	6.	6.	6.	6.	11.	********
1	2	3	1.	5.	3.	4.	1.	8.	8.	11.	14.	16.	15.	15.	20.	27.	********
1	2	4	-3.	-3.	-2.	-2.	-2.	-1.	1.	1.	2.	2.	2.	2.	0.	**********	**********
2	1	1	-0.	-0.	-0.	-0.	-0.	-0.	-0.	0.	-0.	0.	0.	0.	0.	0.	********
2	1	2	-0.	-0.	-0.	-0.	0.	0.	0.	0.	0.	1.	1.	1.	1.	2.	********
2	1	3	1.	1.	2.	1.	2.	1.	1.	1.	2.	2.	2.	1.	1.	1.	********
2	1	4	-0.	-0.	-0.	-0.	-0.	-0.	-0.	-1.	-0.	-0.	-0.	-0.	1.	1.	********
2	2	1	1.	2.	2.	2.	5.	3.	1.	1.	0.	0.	0.	3.	2.	**********	**********
2	2	2	0.	-0.	-2.	-3.	3.	1.	3.	4.	4.	3.	4.	2.	0.	-4.	********
2	2	3	-0.	-1.	-1.	-0.	-1.	-0.	1.	0.	1.	1.	0.	-4.	4.	-6.	********
2	2	4	0.	1.	1.	1.	0.	1.	-2.	-4.	-1.	-1.	-1.	1.	1.	2.	********
3	1	1	-0.	-0.	0.	0.	-0.	-1.	-2.	-2.	-1.	-1.	-1.	0.	-0.	**********	**********
3	1	2	-0.	-1.	-0.	0.	0.	-1.	-1.	-1.	-1.	-1.	-1.	1.	-0.	**********	**********
3	1	3	-0.	0.	0.	1.	1.	0.	0.	0.	-1.	-1.	-1.	-1.	-1.	-1.	********
3	1	4	0.	1.	1.	0.	-1.	-1.	-1.	-0.	0.	0.	0.	1.	**********	**********	**********
3	2	1	-1.	-2.	-4.	-4.	2.	3.	3.	3.	3.	3.	4.	**********	**********	**********	**********
3	2	2	0.	0.	0.	2.	2.	2.	2.	2.	2.	2.	3.	2.	3.	1.	********
3	2	3	-1.	-0.	-5.	-3.	-2.	-2.	-2.	0.	1.	1.	2.	5.	5.	8.	********
3	2	4	-0.	1.	2.	2.	2.	2.	1.	-1.	-1.	-1.	-1.	-1.	3.	**********	**********
4	1	1	0.	0.	0.	0.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	********
4	1	2	0.	0.	0.	0.	0.	1.	1.	1.	1.	1.	1.	1.	1.	1.	********
4	1	3	0.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.	1.	********
4	1	4	-0.	-0.	-0.	-0.	-0.	-0.	-0.	-0.	-0.	-0.	0.	0.	0.	1.	********
4	2	1	-0.	-0.	-0.	-1.	-1.	-1.	-2.	-3.	-2.	-1.	-2.	2.	2.	2.	********
4	2	2	0.	0.	1.	0.	-0.	-1.	-1.	0.	0.	-1.	-1.	-1.	-2.	-2.	********
4	2	3	1.	1.	0.	0.	1.	-0.	1.	-1.	-1.	-1.	-1.	-2.	-1.	**********	**********
4	2	4	1.	1.	2.	2.	3.	4.	2.	3.	2.	2.	2.	6.	**********	**********	**********
5	1	1	-1.	-1.	-1.	-1.	-0.	-0.	-1.	-1.	-1.	-1.	-1.	-1.	-1.	-1.	********
5	1	2	-0.	-0.	-0.	-0.	-0.	0.	-0.	-0.	-1.	-1.	-1.	-0.	0.	-0.	********
5	1	3	-0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	-0.	0.	0.	1.	********
5	1	4	0.	0.	0.	0.	0.	0.	-0.	-0.	-0.	-0.	0.	0.	0.	0.	********
5	2	1	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
5	2	2	**********	**********	-12.	-12.	-12.	-6.	-6.	-5.	-5.	-5.	**********	**********	**********	**********	**********
5	2	3	**********	-17.	-7.	-7.	-7.	-8.	-6.	-8.	-8.	-8.	-5.	-5.	**********	**********	**********
5	2	4	1.	2.	1.	-4.	-4.	-5.	-5.	-4.	-4.	-4.	-4.	-2.	-4.	2.	********

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	0.	0.	-0.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	2	-0.	-0.	-0.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	3	0.	0.	0.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	1	-1.	-2.	1.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	2	-2.	1.	5.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	3	-0.	-1.	7.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********

Figure 4.1 (cont.)

INCREMENTS OF 2-DIRECTION EAL'S IN 1000'S DUE TO NON-COAL-HAULING VEHICLES
(MINUS MEANS A DECREASE THROUGH TIME BASED ON A 5-YEAR MOVING AVERAGE)
BASE YEAR IS 83

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	1	**********														
1	1	2	**********														
1	1	3	**********														
1	1	4	**********														
1	2	1	-44.	11.	139.	131.	131.	352.	352.	**********							
1	2	2	14.	3.	72.	163.	174.	278.	385.	691.	814.	818.	825.	866.	813.	876.	********
1	2	3	45.	82.	91.	144.	162.	260.	366.	540.	603.	616.	619.	622.	628.	724.	********
1	2	4	-21.	-44.	3.	43.	79.	122.	211.	305.	385.	385.	385.	395.	375.	**********	
2	1	1	-5.	-10.	-20.	-19.	-22.	-28.	-19.	7.	15.	15.	18.	17.	16.	19.	********
2	1	2	-1.	-7.	-7.	-4.	-1.	-2.	4.	6.	12.	9.	9.	10.	11.	-2.	********
2	1	3	3.	5.	4.	1.	2.	-0.	-1.	-4.	3.	-5.	-8.	-8.	-15.	-40.	********
2	1	4	-3.	-8.	-3.	-6.	-8.	-6.	-1.	-4.	2.	0.	-0.	-2.	1.	-10.	********
2	2	1	-8.	-27.	-73.	-79.	-69.	-56.	0.	3.	9.	9.	-19.	-64.	-131.	**********	
2	2	2	1.	-2.	-6.	-16.	15.	18.	46.	48.	24.	-6.	-30.	-74.	-198.	-305.	********
2	2	3	-13.	-73.	-99.	-88.	-118.	-133.	-63.	-64.	-50.	-47.	-48.	14.	9.	-13.	********
2	2	4	-18.	-32.	-28.	-20.	-11.	-4.	45.	45.	72.	71.	72.	71.	88.	67.	********
3	1	1	-3.	-9.	-12.	-7.	-24.	-9.	2.	2.	-11.	-11.	-21.	-24.	-31.	**********	
3	1	2	-1.	-1.	-1.	0.	-1.	3.	-2.	-1.	-8.	-8.	-17.	-24.	-40.	**********	
3	1	3	1.	0.	0.	-5.	-11.	-9.	-16.	-13.	-10.	-11.	-19.	-12.	-14.	-21.	********
3	1	4	-0.	-1.	-5.	-15.	-27.	-27.	-20.	-15.	-10.	-10.	-10.	-9.	**********		
3	2	1	-14.	-7.	-16.	-16.	10.	-12.	4.	4.	4.	4.	26.	**********			
3	2	2	-4.	3.	-0.	-25.	-19.	-11.	2.	0.	27.	28.	29.	31.	29.	29.	********
3	2	3	5.	-3.	-20.	-12.	-8.	-4.	31.	36.	42.	40.	43.	38.	40.	5.	********
3	2	4	-8.	-17.	-43.	-29.	-20.	-20.	0.	0.	-7.	-7.	-7.	-23.	-19.	**********	
4	1	1	0.	1.	0.	2.	3.	5.	7.	14.	12.	11.	10.	9.	6.	8.	********
4	1	2	-0.	-2.	-0.	1.	2.	4.	8.	9.	8.	5.	4.	3.	1.	-2.	********
4	1	3	3.	-2.	-1.	-0.	-0.	-0.	10.	11.	10.	8.	7.	2.	-1.	-12.	********
4	1	4	-7.	-9.	-9.	-6.	-6.	-1.	1.	3.	3.	3.	2.	2.	4.	2.	********
4	2	1	-7.	-7.	-7.	20.	24.	84.	82.	87.	88.	67.	57.	-16.	-16.	-16.	********
4	2	2	5.	5.	11.	8.	3.	-5.	-5.	1.	4.	-115.	-115.	-115.	-235.	-235.	********
4	2	3	20.	19.	22.	30.	50.	47.	51.	37.	24.	24.	24.	8.	17.	**********	
4	2	4	-21.	-5.	-1.	10.	15.	76.	76.	78.	77.	77.	76.	71.	**********		
5	1	1	-1.	-2.	-3.	-0.	-0.	2.	2.	1.	-1.	-3.	-5.	-6.	-9.	-10.	********
5	1	2	-0.	-1.	-0.	1.	1.	2.	2.	2.	1.	-0.	-1.	-1.	-1.	-3.	********
5	1	3	-0.	-1.	1.	1.	1.	2.	3.	4.	4.	5.	4.	5.	5.	6.	********
5	1	4	1.	-2.	-5.	-2.	-1.	-0.	2.	4.	3.	2.	2.	2.	1.	1.	********
5	2	1	**********														
5	2	2	**********		-712.	-712.	-712.	-114.	-114.	-29.	-29.	-29.	**********				
5	2	3	**********	-216.	17.	17.	17.	53.	92.	113.	113.	113.	108.	108.	**********		
5	2	4	-12.	-11.	-18.	-72.	-72.	-81.	-35.	-35.	-36.	-37.	-37.	-60.	-99.	-60.	********

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	-5.	-8.	-12.	**********											
1	2	-0.	-5.	-9.	**********											
1	3	1.	-3.	-1.	**********											
2	1	-34.	-21.	-105.	**********											
2	2	-33.	-35.	120.	**********											
2	3	-7.	-14.	-58.	**********											

Figure 4.1 (cont.)

INCREMENTS OF 2-DIRECTION EAL'S IN 1000'S DUE TO COAL HAULING VEHICLES
(MINUS MEANS A DECREASE THROUGH TIME BASED ON A 5-YEAR MOVING AVERAGE)
BASE YEAR IS 83

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	1															
1	1	2															
1	1	3															
1	1	4															
1	2	1	0.	18.													
1	2	2															
1	2	3	-5.	-21.	-16.												
1	2	4	1.	-5.	-17.												
2	1	1	-2.	-6.	-6.												
2	1	2	-1.	-2.	0.												
2	1	3	-7.														
2	1	4	-7.	-7.	-7.												
2	2	1															
2	2	2	-2.	6.													
2	2	3	-0.	-0.	-4.												
2	2	4	-6.	-6.	-6.												
3	1	1	-7.	-7.	-7.												
3	1	2	0.	0.	0.												
3	1	3	-0.	-0.	-0.												
3	1	4															
3	2	1	-3.	-7.													
3	2	2	-6.														
3	2	3	-4.	-6.	2.												
3	2	4															
4	1	1	-6.	-6.	-6.												
4	1	2															
4	1	3	-0.	-0.													
4	1	4															
4	2	1															
4	2	2	0.	0.													
4	2	3															
4	2	4															
5	1	1															
5	1	2															
5	1	3															
5	1	4															
5	2	1															
5	2	2															
5	2	3															
5	2	4	0.														

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	-0.	-0.	-1.												
1	2	-5.	-13.	-2.												
1	3	-39.	157.	176.												
2	1	-8.	-7.	-20.												
2	2	-35.	-43.	92.												
2	3	-79.	-227.	11.												

Figure 4.1 (cont.)

INCREMENTS OF TOTAL 2-DIRECTION SALES
(MINUS MEANS A DECREASE THROUGH TIME BASED ON A 5-YEAR MOVING AVERAGE)
BASE YEAR IS 83

NON-COAL-HAULING ROADS

LOCAL CONDITION FA	VOL	GA	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	1	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	1	2	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	1	3	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	1	4	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	2	1	-43.	20.	150.	140.	140.	361.	361.	**********	**********	**********	**********	**********	**********	**********	**********
1	2	2	12.	3.	73.	164.	175.	282.	390.	697.	821.	826.	832.	873.	820.	888.	********
1	2	3	52.	97.	110.	167.	182.	287.	392.	570.	636.	650.	653.	655.	667.	769.	********
1	2	4	-12.	-34.	15.	58.	95.	139.	230.	324.	405.	405.	405.	415.	393.	**********	**********
2	1	1	-5.	-10.	-21.	-19.	-23.	-28.	-19.	7.	15.	16.	19.	17.	16.	20.	********
2	1	2	-1.	-7.	-6.	-4.	-1.	-2.	4.	6.	12.	10.	10.	11.	13.	0.	********
2	1	3	4.	7.	6.	3.	4.	1.	0.	5.	5.	-3.	-6.	-7.	-14.	-39.	********
2	1	4	-3.	-8.	-3.	-6.	-7.	-6.	-0.	-4.	3.	1.	1.	-2.	2.	-9.	********
2	2	1	-7.	-24.	-70.	-76.	-63.	-52.	2.	5.	10.	10.	-18.	-60.	-128.	**********	**********
2	2	2	2.	-1.	-8.	-18.	18.	20.	50.	53.	29.	-2.	-25.	-71.	-197.	-307.	********
2	2	3	-13.	-74.	-99.	-86.	-118.	-131.	-61.	-62.	-47.	-44.	-45.	20.	14.	-17.	********
2	2	4	-16.	-30.	-25.	-18.	-9.	-1.	45.	43.	73.	72.	72.	74.	91.	71.	********
3	1	1	-4.	-9.	-13.	-7.	-24.	-10.	-0.	1.	-12.	-12.	-22.	-24.	-31.	**********	**********
3	1	2	-1.	-2.	-1.	1.	-1.	2.	-3.	-9.	-9.	-18.	-24.	-40.	**********	**********	**********
3	1	3	1.	0.	0.	-4.	-9.	-9.	-16.	-13.	-11.	-12.	-20.	-13.	-16.	-22.	********
3	1	4	0.	-1.	-4.	-15.	-28.	-28.	-21.	-16.	-10.	-10.	-10.	-8.	**********	**********	**********
3	2	1	-15.	-9.	-20.	-20.	12.	-9.	8.	8.	8.	8.	30.	**********	**********	**********	**********
3	2	2	-4.	4.	1.	-23.	-17.	-9.	5.	3.	30.	30.	32.	34.	33.	31.	********
3	2	3	4.	-4.	-25.	-15.	-10.	-5.	30.	37.	44.	42.	46.	43.	46.	14.	********
3	2	4	-8.	-16.	-41.	-26.	-17.	-17.	2.	-0.	-8.	-8.	-8.	-23.	-16.	**********	**********
4	1	1	0.	2.	1.	3.	4.	6.	8.	15.	13.	12.	12.	11.	7.	10.	********
4	1	2	-0.	-2.	0.	2.	2.	5.	8.	10.	9.	6.	5.	3.	2.	-1.	********
4	1	3	4.	-2.	-0.	0.	0.	1.	11.	12.	11.	9.	8.	2.	-1.	-11.	********
4	1	4	-8.	-9.	-9.	-7.	-6.	-1.	1.	3.	3.	3.	2.	3.	4.	2.	********
4	2	1	-7.	-7.	-7.	20.	22.	82.	80.	85.	86.	66.	55.	-14.	-14.	-14.	********
4	2	2	6.	6.	14.	10.	6.	-3.	-3.	4.	7.	-113.	-113.	-113.	-234.	-234.	********
4	2	3	20.	20.	23.	31.	50.	47.	52.	37.	23.	23.	23.	6.	15.	**********	**********
4	2	4	-20.	-4.	0.	12.	19.	80.	78.	81.	79.	79.	78.	77.	**********	**********	**********
5	1	1	-2.	-3.	-4.	-1.	-1.	1.	1.	1.	-2.	-4.	-6.	-6.	-9.	-10.	********
5	1	2	-0.	-1.	-1.	1.	1.	2.	2.	2.	-0.	-1.	-2.	-1.	-1.	-3.	********
5	1	3	-0.	-1.	1.	2.	2.	3.	4.	4.	4.	5.	4.	5.	5.	7.	********
5	1	4	1.	-2.	-5.	-2.	-1.	-0.	2.	4.	3.	2.	2.	2.	1.	1.	********
5	2	1	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
5	2	2	**********	-724.	-724.	-724.	-120.	-120.	-34.	-34.	-34.	**********	**********	**********	**********	**********	**********
5	2	3	**********	-232.	10.	10.	10.	46.	85.	105.	105.	105.	103.	103.	**********	**********	**********
5	2	4	-11.	-9.	-17.	-76.	-76.	-86.	-40.	-39.	-40.	-41.	-41.	-62.	-103.	-58.	********

COAL-HAULING ROADS

LOCAL CONDITION VOL	CT	TIME INTERVAL IN YEARS 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	-5.	-8.	-13.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	2	-5.	-18.	-11.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
1	3	-38.	154.	175.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	1	-43.	-29.	-124.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	2	-69.	-76.	217.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********
2	3	-87.	-243.	-41.	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********	**********

Figure 4.1 (cont.)

Figure 4.2 EAL CALC Job Control Language

```
//AXLE83   JOB 5035-51219,' SALSMAN ',MSGLEVEL=(1,1),
// TIME=(1,00),REGION=380K
/*JOBPARM  W,P=R,L=4,COPIES=2
/*SETUP TAPE=(23194)
/*SETUP TAPE=(23235)
/*SETUP TAPE=(23195,RINGIN)
..INCLUDE PASSWORD JOB
//S EXEC PGM=EALCAL
//STEPLIB  DD DSN=UKU.@KTR05.TRAF1,DISP=SHR
//FT06F001 DD SYSOUT=A
//FT07F001 DD SYSOUT=B
/*
//GO.FT14F001 DD DSN=FWT.YR82,UNIT=3400-6,VOL=SER=23194,
//  DCB=(LRECL=80,BLKSIZE=16000,RECFM=FB,DEN=4),DISP=(OLD,KEEP),
//  LABEL=(13,SL,,IN)
//GO.FT14F002 DD DSN=FWT.YR80,UNIT=3400-6,VOL=SER=23194,
//  DCB=(LRECL=80,BLKSIZE=16000,RECFM=FB,DEN=4),DISP=(OLD,KEEP),
//  LABEL=(12,SL,,IN)
//GO.FT14F003 DD DSN=FWT.YR78,UNIT=3400-6,VOL=SER=23194,
//  DCB=(LRECL=80,BLKSIZE=16000,RECFM=FB,DEN=4),DISP=(OLD,KEEP),
//  LABEL=(11,SL,,IN)
//GO.FT14F004 DD DSN=FWT.YR77,UNIT=3400-6,VOL=SER=23194,
//  DCB=(LRECL=80,BLKSIZE=16000,RECFM=FB,DEN=4),DISP=(OLD,KEEP),
//  LABEL=(10,SL,,IN)
//GO.FT14F005 DD DSN=FWT.YR76,UNIT=3400-6,VOL=SER=23194,
//  DCB=(LRECL=80,BLKSIZE=16000,RECFM=FB,DEN=4),DISP=(OLD,KEEP),
//  LABEL=(9,SL,,IN)
//GO.FT14F006 DD DSN=FWT.YR75,UNIT=3400-6,VOL=SER=23194,
//  DCB=(LRECL=80,BLKSIZE=16000,RECFM=FB,DEN=4),DISP=(OLD,KEEP),
//  LABEL=(8,SL,,IN)
//GO.FT14F007 DD DSN=FWT.YR74,UNIT=3400-6,VOL=SER=23194,
//  DCB=(LRECL=80,BLKSIZE=16000,RECFM=FB,DEN=4),DISP=(OLD,KEEP),
//  LABEL=(7,SL,,IN)
//GO.FT14F008 DD DSN=FWT.YR73,UNIT=3400-6,VOL=SER=23194,
//  DCB=(LRECL=80,BLKSIZE=16000,RECFM=FB,DEN=4),DISP=(OLD,KEEP),
//  LABEL=(6,SL,,IN)
//GO.FT14F009 DD DSN=FWT.YR72,UNIT=3400-6,VOL=SER=23194,
//  DCB=(LRECL=80,BLKSIZE=16000,RECFM=FB,DEN=4),DISP=(OLD,KEEP),
//  LABEL=(5,SL,,IN)
//GO.FT14F010 DD DSN=FWT.YR71,UNIT=3400-6,VOL=SER=23194,
//  DCB=(LRECL=80,BLKSIZE=16000,RECFM=FB,DEN=4),DISP=(OLD,KEEP),
//  LABEL=(4,SL,,IN)
//GO.FT14F011 DD DSN=FWT.YR70,UNIT=3400-6,VOL=SER=23194,
//  DCB=(LRECL=80,BLKSIZE=16000,RECFM=FB,DEN=4),DISP=(OLD,KEEP),
//  LABEL=(3,SL,,IN)
//GO.FT14F012 DD DSN=FWT.YR69,UNIT=3400-6,VOL=SER=23194,
//  DCB=(LRECL=80,BLKSIZE=16000,RECFM=FB,DEN=4),DISP=(OLD,KEEP),
//  LABEL=(2,SL,,IN)
//GO.FT15F001 DD DSN=CLASSUM.YR1983,UNIT=3400-6,VOL=SER=23235,
//  DCB=(LRECL=80,BLKSIZE=16000,RECFM=FB,DEN=4),DISP=(OLD,KEEP),
//  LABEL=(28,SL,,IN)
```

Figure 4.2 (cont.)

```
//GO.FT16F001 DD DSN=MEAN.STDDEV.YR83,UNIT=3400-6,VOL=SER=23195,
//  DCB=(LRECL=40,BLKSIZE=16000,RECFM=FB,DEN=4),DISP=(OLD,KEEP),
//  LABEL=(15,SL,,IN)
//GO.FT16F002 DD DSN=MEAN.STDDEV.YR82,UNIT=3400-6,VOL=SER=23195,
//  DCB=(LRECL=40,BLKSIZE=16000,RECFM=FB,DEN=4),DISP=(OLD,KEEP),
//  LABEL=(14,SL,,IN)
//GO.FT16F003 DD DSN=MEAN.STDDEV.YR81,UNIT=3400-6,VOL=SER=23195,
//  DCB=(LRECL=40,BLKSIZE=16000,RECFM=FB,DEN=4),DISP=(OLD,KEEP),
//  LABEL=(13,SL,,IN)
//GO.FT16F004 DD DSN=MEAN.STDDEV.YR80,UNIT=3400-6,VOL=SER=23195,
//  DCB=(LRECL=40,BLKSIZE=16000,RECFM=FB,DEN=4),DISP=(OLD,KEEP),
//  LABEL=(12,SL,,IN)
//GO.FT16F005 DD DSN=MEAN.STDDEV.YR79,UNIT=3400-6,VOL=SER=23195,
//  DCB=(LRECL=40,BLKSIZE=16000,RECFM=FB,DEN=4),DISP=(OLD,KEEP),
//  LABEL=(11,SL,,IN)
//GO.FT16F006 DD DSN=MEAN.STDDEV.YR78,UNIT=3400-6,VOL=SER=23195,
//  DCB=(LRECL=40,BLKSIZE=16000,RECFM=FB,DEN=4),DISP=(OLD,KEEP),
//  LABEL=(10,SL,,IN)
//GO.FT16F007 DD DSN=MEAN.STDDEV.YR77,UNIT=3400-6,VOL=SER=23195,
//  DCB=(LRECL=40,BLKSIZE=16000,RECFM=FB,DEN=4),DISP=(OLD,KEEP),
//  LABEL=(9,SL,,IN)
//GO.FT16F008 DD DSN=MEAN.STDDEV.YR76,UNIT=3400-6,VOL=SER=23195,
//  DCB=(LRECL=40,BLKSIZE=16000,RECFM=FB,DEN=4),DISP=(OLD,KEEP),
//  LABEL=(8,SL,,IN)
//GO.FT16F009 DD DSN=MEAN.STDDEV.YR75,UNIT=3400-6,VOL=SER=23195,
//  DCB=(LRECL=40,BLKSIZE=16000,RECFM=FB,DEN=4),DISP=(OLD,KEEP),
//  LABEL=(7,SL,,IN)
//GO.FT16F010 DD DSN=MEAN.STDDEV.YR74,UNIT=3400-6,VOL=SER=23195,
//  DCB=(LRECL=40,BLKSIZE=16000,RECFM=FB,DEN=4),DISP=(OLD,KEEP),
//  LABEL=(6,SL,,IN)
//GO.FT16F011 DD DSN=MEAN.STDDEV.YR73,UNIT=3400-6,VOL=SER=23195,
//  DCB=(LRECL=40,BLKSIZE=16000,RECFM=FB,DEN=4),DISP=(OLD,KEEP),
//  LABEL=(5,SL,,IN)
//GO.FT16F012 DD DSN=MEAN.STDDEV.YR72,UNIT=3400-6,VOL=SER=23195,
//  DCB=(LRECL=40,BLKSIZE=16000,RECFM=FB,DEN=4),DISP=(OLD,KEEP),
//  LABEL=(4,SL,,IN)
//GO.FT16F013 DD DSN=MEAN.STDDEV.YR71,UNIT=3400-6,VOL=SER=23195,
//  DCB=(LRECL=40,BLKSIZE=16000,RECFM=FB,DEN=4),DISP=(OLD,KEEP),
//  LABEL=(3,SL,,IN)
//GO.FT16F014 DD DSN=MEAN.STDDEV.YR70,UNIT=3400-6,VOL=SER=23195,
//  DCB=(LRECL=40,BLKSIZE=16000,RECFM=FB,DEN=4),DISP=(OLD,KEEP),
//  LABEL=(2,SL,,IN)
//GO.FT16F015 DD DSN=MEAN.STDDEV.YR69,UNIT=3400-6,VOL=SER=23195,
//  DCB=(LRECL=40,BLKSIZE=16000,RECFM=FB,DEN=4),DISP=(OLD,KEEP),
//  LABEL=(1,SL,,IN)
/*
```

Figure 4.3 EAL CALC Program Listing

```
      INTEGER NWANC(6),NWAC(6),WNC(14,6,16),WC(14,6,16),NWNC(14,6),NWC
     +(14,6),WANC(6,16),WAC(6,16),A,YEAR,N,AADT,AADTC,FRCOAL,GA,
     +NWANCA(6),NWACA(6),WNCA(14,6,16),WCA(14,6,16),NWNCA(14,6),NWCA
     +(14,6),WANCA(6,16),WACA(6,16),VNC(14),VC(14),RECNO,COU,STA,
     +FEDAID,COAL,NOSEAS,VTYP(14),COALV,NOTRUK,SUMVC2,NCOUNT(11,5,2,4),
     +DVOL(14),YR,P,NWC1(14,1),Z,NYR(15),VC1(14),VC2(14),VC3(14),SUMVC1,
     +DELVC(14),TRKLFT,SUMVC3,SUMVNC,SUMVC,NCONT(11,2,3),
     +NCON(11,2,3,25),NCOUN(11,5,2,4,25)
C
      REAL DA(6,16),AXPER(14,6),AXPERC(14,6),LA,CNTYR(11,5,2,4,25),
     +FNC(14,6,16),FC(14,6,16),FRC(14),TOTAL,CNTCYR(11,2,4,25),
     +FT,FR(14),MP,NOAXLE,MEAN(11,5,2,4),STD(11,5,2,4),COUNT(5,2,4),
     +MEANC(11,2,3),SUM(11,5,2,4),SUMC(11,2,3),CCOUNT(2,3),STDC(11,2,3),
     +SSQ(11,5,2,4),SSQC(11,2,3),MEANY(11,5,2,4,25),MEANCY(11,2,3,25),
     +DIFF(11,5,2,4,25),DIFFC(11,2,3,25),NOAXLC,COUNTC(5,2,4),COUN(5,2
     +,4)
C
      DOUBLE PRECISION RTE
C
C     ****************************************************************
C     * STATEMENTS 25 THRU 54  ARE DATA STATEMENTS TO ASSIGN DAMAGE    *
C     * FACTORS ACCORDING TO LOAD CATEGORY AND AXLE TYPE.              *
C     ****************************************************************
C
      DATA DA(1,1),DA(1,2),DA(1,3),DA(1,4),DA(1,5),DA(1,6),DA(1,7),DA(1,
     +8),DA(1,9),DA(1,10),DA(1,11),DA(1,12),DA(1,13),DA(1,14),DA(1,15),
     +DA(1,16)
     +/.0001,.003,.0138,.0387,.0855,.163,.281,.451,.685,.997,1.40,1.91,
     +2.55,3.33,4.27,5.39/
      DATA DA(2,1),DA(2,2),DA(2,3),DA(2,4),DA(2,5),DA(2,6),DA(2,7),DA(2,
     +8),DA(2,9),DA(2,10),DA(2,11),DA(2,12),DA(2,13),DA(2,14),DA(2,15)
     +,DA(2,16)
     +/.0004,.0027,.012,.0406,.1130,.277,.613,1.25,2.41,4.40,7.68,12.9,
     +21.1,33.5,51.9,78.6/
      DATA DA(3,1),DA(3,2),DA(3,3),DA(3,4),DA(3,5),DA(3,6),DA(3,7),DA(3,
     +8),DA(3,9),DA(3,10),DA(3,11),DA(3,12),DA(3,13),DA(3,14),DA(3,15),
     +DA(3,16)
     +/.0007,.0029,.0113,.0359,.0966,.231,.502,1.02,1.94,3.52,6.14,10.3,
     +16.8,26.8,41.5,63.0/
      DATA DA(4,1),DA(4,2),DA(4,3),DA(4,4),DA(4,5),DA(4,6),DA(4,7),DA(4,
     +8),DA(4,9),DA(4,10),DA(4,11),DA(4,12),DA(4,13),DA(4,14),DA(4,15),
     +DA(4,16)
     +/.0007,.0029,.0115,.0363,.097,.23,.497,.998,1.89,3.41,5.91,9.89,
     +16.,25.3,39.1,59./
      DATA DA(5,1),DA(5,2),DA(5,3),DA(5,4),DA(5,5),DA(5,6),DA(5,7),DA(5,
     +8),DA(5,9),DA(5,10),DA(5,11),DA(5,12),DA(5,13),DA(5,14),DA(5,15),
     +DA(5,16)
     +/.0006,.0029,.0115,.0366,.098,.232,.502,1.01,1.90,3.43,5.92,9.88,
     +16.,25.2,38.7,58.3/
      DATA DA(6,1),DA(6,2),DA(6,3),DA(6,4),DA(6,5),DA(6,6),DA(6,7),DA(6,
     +8),DA(6,9),DA(6,10),DA(6,11),DA(6,12),DA(6,13),DA(6,14),DA(6,15),
```

Figure 4.3 (cont.)

```
     +DA(6,16)                                                          52
     +/.05,.12,.28,.66,1.57,3.73,8.88,21.1,50.2,119.,284.,676.,1607.,   53
     +3822.,9090.,21619./                                               54
C                                                                       55
C     ****************************************************************  56
C     * STATEMENTS 61 THRU 90 ARE DATA STATEMENTS TO ASSIGN AXLELOAD   *  57
C     * DISTRIBUTION FACTORS TO BUSSES.                                *  58
C     ****************************************************************  59
C                                                                       60
      DATA FNC(4,1,1),FNC(4,1,2),FNC(4,1,3),FNC(4,1,4),FNC(4,1,5),      61
     +FNC(4,1,6),FNC(4,1,7),FNC(4,1,8),FNC(4,1,9),FNC(4,1,10),          62
     +FNC(4,1,11),FNC(4,1,12),FNC(4,1,13),FNC(4,1,14),FNC(4,1,15),      63
     +FNC(4,1,16)/.0046,.0344,.0796,.1403,.1352,.1706,.1859,.1807,.0401 64
     +,.0173,.0043,.0012,.0044,.0014,.0,.0/                             65
      DATA FNC(4,2,1),FNC(4,2,2),FNC(4,2,3),FNC(4,2,4),FNC(4,2,5),      66
     +FNC(4,2,6),FNC(4,2,7),FNC(4,2,8),FNC(4,2,9),FNC(4,2,10),          67
     +FNC(4,2,11),FNC(4,2,12),FNC(4,2,13),FNC(4,2,14),FNC(4,2,15),      68
     +FNC(4,2,16)/.0192,.1181,.1920,.1492,.1092,.1615,.1679,.0762,.0054 69
     +,.0011,.0001,.0,.0,.0,.0,.0/                                      70
      DATA FNC(4,6,1),FNC(4,6,2),FNC(4,6,3),FNC(4,6,4),FNC(4,6,5),      71
     +FNC(4,6,6),FNC(4,6,7),FNC(4,6,8),FNC(4,6,9),FNC(4,6,10),          72
     +FNC(4,6,11),FNC(4,6,12),FNC(4,6,13),FNC(4,6,14),FNC(4,6,15),      73
     +FNC(4,6,16)/.0228,.1282,.2086,.2037,.1605,.1194,.1058,.0471,.0032 74
     +,.0007,.0,.0,.0,.0,.0,.0/                                         75
      DATA FNC(5,1,1),FNC(5,1,2),FNC(5,1,3),FNC(5,1,4),FNC(5,1,5),      76
     +FNC(5,1,6),FNC(5,1,7),FNC(5,1,8),FNC(5,1,9),FNC(5,1,10),          77
     +FNC(5,1,11),FNC(5,1,12),FNC(5,1,13),FNC(5,1,14),FNC(5,1,15),      78
     +FNC(5,1,16)/.0046,.0344,.0796,.1403,.1352,.1706,.1859,.1807,.0401 79
     +,.0173,.0043,.0012,.0044,.0014,.0,.0/                             80
      DATA FNC(5,2,1),FNC(5,2,2),FNC(5,2,3),FNC(5,2,4),FNC(5,2,5),      81
     +FNC(5,2,6),FNC(5,2,7),FNC(5,2,8),FNC(5,2,9),FNC(5,2,10),          82
     +FNC(5,2,11),FNC(5,2,12),FNC(5,2,13),FNC(5,2,14),FNC(5,2,15),      83
     +FNC(5,2,16)/.0192,.1181,.1920,.1492,.1092,.1615,.1679,.0762,.0054 84
     +,.0011,.0001,.0,.0,.0,.0,.0/                                      85
      DATA FNC(5,6,1),FNC(5,6,2),FNC(5,6,3),FNC(5,6,4),FNC(5,6,5),      86
     +FNC(5,6,6),FNC(5,6,7),FNC(5,6,8),FNC(5,6,9),FNC(5,6,10),          87
     +FNC(5,6,11),FNC(5,6,12),FNC(5,6,13),FNC(5,6,14),FNC(5,6,15),      88
     +FNC(5,6,16)/.0228,.1282,.2086,.2037,.1605,.1194,.1058,.0471,.0032 89
     +,.0007,.0,.0,.0,.0,.0,.0/                                         90
C                                                                       91
C     ****************************************************************  92
C     * STATEMENTS 97 THRU 104 ARE DATA STATEMENTS TO ASSIGN THE NUMBER*  93
C     * OF AXLES OF A GIVEN AXLE TYPE TO BUSSES.                       *  94
C     ****************************************************************  95
C                                                                       96
      DATA AXPER(4,1),AXPER(4,2),AXPER(4,3),AXPER(4,4),AXPER(4,5),AXPER 97
     +(4,6)/1.,1.,.0,.0,.0,2./                                          98
      DATA AXPER(5,1),AXPER(5,2),AXPER(5,3),AXPER(5,4),AXPER(5,5),AXPER 99
     +(5,6)/1.,1.7,.0,.0,.0,2.7/                                       100
      DATA AXPERC(4,1),AXPERC(4,2),AXPERC(4,3),AXPERC(4,4),AXPERC(4,5), 101
     +AXPERC(4,6)/1.,1.,.0,.0,.0,2./                                   102
      DATA AXPERC(5,1),AXPERC(5,2),AXPERC(5,3),AXPERC(5,4),AXPERC(5,5), 103
     +AXPERC(5,6)/1.,1.7,.0,.0,.0,2.7/                                 104
```

Figure 4.3 (cont.)

```
C                                                                       105
C     ***********************************************************       106
C     * STATEMENTS 110 THRU 231 INITIALIZE VARIBLES AND ARRAYS.  *      107
C     ***********************************************************       108
C                                                                       109
      DATA DD/'STA'/                                                    110
      IYEAR=0                                                           111
      NYEAR=0                                                           112
      P=0                                                               113
      N=0                                                               114
      N6=0                                                              115
      M1=0                                                              116
      IFF=1                                                             117
      DO 30 I=1,11                                                      118
      DO 25 J=1,5                                                       119
      DO 20 K=1,2                                                       120
      DO 15 L=1,4                                                       121
      DO 10 M=1,25                                                      122
      MEANY(I,J,K,L,M)=0.                                               123
      NCOUN(I,J,K,L,M)=0.                                               124
      DIFF(I,J,K,L,M)=0.                                                125
      CNTYR(I,J,K,L,M)=0.                                               126
      CNTCYR(I,K,L,M)=0.                                                127
   10 CONTINUE                                                          128
   15 CONTINUE                                                          129
   20 CONTINUE                                                          130
   25 CONTINUE                                                          131
   30 CONTINUE                                                          132
      DO 50 I=1,11                                                      133
      DO 45 J=1,2                                                       134
      DO 40 K=1,3                                                       135
      DO 35 L=1,25                                                      136
      MEANCY(I,J,K,L)=0.                                                137
      DIFFC(I,J,K,L)=0.                                                 138
      NCON(I,J,K,L)=0.                                                  139
   35 CONTINUE                                                          140
   40 CONTINUE                                                          141
   45 CONTINUE                                                          142
   50 CONTINUE                                                          143
      DO 55 I=1,15                                                      144
      NYR(I)=0.                                                         145
   55 CONTINUE                                                          146
      DO 75 I=1,11                                                      147
      DO 70 J=1,5                                                       148
      DO 65 K=1,2                                                       149
      DO 60 L=1,4                                                       150
      COUNT(J,K,L)=0.                                                   151
      NCOUNT(I,J,K,L)=0.                                                152
      COUN(J,K,L)=0.                                                    153
      COUNTC(J,K,L)=0.                                                  154
      SUM(I,J,K,L)=0.                                                   155
      SSQ(I,J,K,L)=0.                                                   156
      STD(I,J,K,L)=0.                                                   157
      MEAN(I,J,K,L)=0.                                                  158
```

Figure 4.3 (cont.)

```
 60 CONTINUE                                                    159
 65 CONTINUE                                                    160
 70 CONTINUE                                                    161
 75 CONTINUE                                                    162
    DO 90 I=1,11                                                163
    DO 85 J=1,2                                                 164
    DO 80 K=1,3                                                 165
    CCOUNT(J,K)=0.                                              166
    SUMC(I,J,K)=0.                                              167
    NCONT(I,J,K)=0.                                             168
    SSQC(I,J,K)=0.                                              169
    MEANC(I,J,K)=0.                                             170
    STDC(I,J,K)=0.                                              171
 80 CONTINUE                                                    172
 85 CONTINUE                                                    173
 90 CONTINUE                                                    174
    DO 95 J=1,6                                                 175
    NWANC(J)=0.                                                 176
    NWAC(J)=0.                                                  177
    NWANCA(J)=0.                                                178
    NWACA(J)=0.                                                 179
 95 CONTINUE                                                    180
    DO 110 L=1,16                                               181
    DO 105 K=1,6                                                182
    DO 100 J=1,14                                               183
    WNC(J,K,L)=0.                                               184
    WC(J,K,L)=0.                                                185
    FC(J,K,L)=0.                                                186
    WNCA(J,K,L)=0.                                              187
    WCA(J,K,L)=0.                                               188
100 CONTINUE                                                    189
105 CONTINUE                                                    190
110 CONTINUE                                                    191
    DO 125 L=1,16                                               192
    DO 120 K=1,6                                                193
    DO 115 J=1,3                                                194
    FNC(J,K,L)=0.                                               195
115 CONTINUE                                                    196
120 CONTINUE                                                    197
125 CONTINUE                                                    198
    DO 140 L=1,16                                               199
    DO 135 K=1,6                                                200
    DO 130 J=6,14                                               201
    FNC(J,K,L)=0.                                               202
130 CONTINUE                                                    203
135 CONTINUE                                                    204
140 CONTINUE                                                    205
    DO 155 L=1,16                                               206
    DO 150 K=3,5                                                207
    DO 145 J=4,5                                                208
    FNC(J,K,L)=0.                                               209
145 CONTINUE                                                    210
150 CONTINUE                                                    211
155 CONTINUE                                                    212
```

Figure 4.3 (cont.)

```
      DO 165 K=1,6                                                      213
      DO 160 J=1,14                                                     214
      NWC1(J,1)=0                                                       215
      NWNC(J,K)=0.                                                      216
      NWC(J,K)=0.                                                       217
      NWNCA(J,K)=0.                                                     218
      NWCA(J,K)=0.                                                      219
  160 CONTINUE                                                          220
  165 CONTINUE                                                          221
      DO 175 K=1,16                                                     222
      DO 170 J=1,6                                                      223
      WANC(J,K)=0.                                                      224
      WAC(J,K)=0.                                                       225
      WANCA(J,K)=0.                                                     226
      WACA(J,K)=0.                                                      227
  170 CONTINUE                                                          228
  175 CONTINUE                                                          229
  180 CONTINUE                                                          230
C                                                                       231
C     ****************************************************************  232
C     * STATEMENTS 237 THRU 307 READ THE AXLELOAD DISTRIBUTIONS FROM   *  233
C     * A MAGNETIC TAPE PRODUCED BY THE PROGRAM LOADOMTR SUMMARY.      *  234
C     ****************************************************************  235
C                                                                       236
      N=IYEAR-NYEAR                                                     237
      IF(N.GT.8)GO TO190                                                238
      DO 185 I=3,14                                                     239
      READ (14,4000) (NWNC(I,J),J=1,6)                                  240
 4000 FORMAT(T15,6I6)                                                   241
  185 CONTINUE                                                          242
  190 CONTINUE                                                          243
      IF (N.LE.8)GO TO 200                                              244
      DO 195 J=1,12                                                     245
      READ (14,4125) A                                                  246
  195 CONTINUE                                                          247
  200 CONTINUE                                                          248
      READ (14,4025) NYEAR,(NWANC(J),J=1,6)                             249
      IF(N.EQ.0) IYEAR=NYEAR                                            250
      NYEAR=NYEAR-1                                                     251
 4025 FORMAT(I2,T15,6I6)                                                252
      IF(N.GT.8) GO TO 210                                              253
      DO 205 I=3,14                                                     254
      READ (14,4050) (NWC(I,J),J=1,6)                                   255
 4050 FORMAT(T15,6I6)                                                   256
  205 CONTINUE                                                          257
      IF (N.LE.8)GO TO 220                                              258
  210 DO 215 J=1,12                                                     259
      READ (14,4125) A                                                  260
  215 CONTINUE                                                          261
  220 CONTINUE                                                          262
      READ (14,4075) (NWAC(J),J=1,6)                                    263
      IF (N.GT.8)GO TO 235                                              264
 4075 FORMAT(T15,6I6)                                                   265
      DO 230 I=3,14                                                     266
```

Figure 4.3 (cont.)

```
      DO 225 J=1,6                                                        267
      READ (14,4100) (WNC(I,J,K),K=1,8)                                   268
 4100 FORMAT(T15,8I6)                                                     269
      READ (14,4100) (WNC(I,J,K),K=9,16)                                  270
  225 CONTINUE                                                            271
  230 CONTINUE                                                            272
      IF (N.LE.8)GO TO 245                                                273
  235 CONTINUE                                                            274
      DO 240 I=1,144                                                      275
      READ (14,4125) A                                                    276
  240 CONTINUE                                                            277
 4125 FORMAT (I2)                                                         278
  245 CONTINUE                                                            279
      DO 250 J=1,6                                                        280
      READ (14,4150) (WANC(J,K),K=1,8)                                    281
 4150 FORMAT(T15,8I6)                                                     282
      READ (14,4150) (WANC(J,K),K=9,16)                                   283
  250 CONTINUE                                                            284
      IF(N.LE.8)GO TO 260                                                 285
      DO 255 I=1,144                                                      286
      READ (14,4125,END=290) A                                            287
  255 CONTINUE                                                            288
      GO TO 275                                                           289
  260 CONTINUE                                                            290
      DO 270 I=3,14                                                       291
      DO 265 J=1,6                                                        292
      READ (14,4175) (WC(I,J,K),K=1,8)                                    293
 4175 FORMAT(T15,T15,8I6)                                                 294
      READ (14,4175) (WC(I,J,K),K=9,16)                                   295
  265 CONTINUE                                                            296
  270 CONTINUE                                                            297
  275 CONTINUE                                                            298
      DO 280 J=1,6                                                        299
      READ (14,4200) (WAC(J,K),K=1,8)                                     300
 4200 FORMAT(T15,8I6)                                                     301
      READ (14,4200) (WAC(J,K),K=9,16)                                    302
  280 CONTINUE                                                            303
      DO 285 J=1,3                                                        304
      READ (14,4125,END=290) A                                            305
  285 CONTINUE                                                            306
  290 CONTINUE                                                            307
C                                                                         308
C     ************************************************************      309
C     * STATEMENTS 316 THRU 463 CALCULATE NUMBERS OF AXLES OF EACH  *     310
C     * AXLE TYPE FOR EACH VEHICLE WHICH OVER 10 VEHICLES WERE WEIGHED.*  311
C     * FOR THOSE WHICH LESS THAN 10 VEHICLES WERE WEIGHED PRESELECTED *  312
C     * DISTRIBUTIONS WILL BE USED.                                  *     313
C     ************************************************************      314
C                                                                         315
      P=P+1                                                               316
      IF (P.NE.1) GOTO 430                                                317
      DO 425 I=6,14                                                       318
      DO 420 J=1,6                                                        319
      IF (NWNC(I,1).LT.10)GO TO 295                                       320
```

Figure 4.3 (cont.)

```
      AXPER(I,J)=FLOAT(NWNC(I,J))/FLOAT(NWNC(I,1))                          321
      GO TO 350                                                             322
  295 CONTINUE                                                              323
      GO TO (300,300,300,300,300,305,310,315,320,325,330,335,340,345),I     324
  300 CONTINUE                                                              325
  305 AXPER(6,1)=1.                                                         326
      AXPER(6,2)=1.                                                         327
      AXPER(6,3)=0.                                                         328
      AXPER(6,4)=0.                                                         329
      AXPER(6,5)=0.                                                         330
      AXPER(6,6)=2.                                                         331
      GO TO 350                                                             332
  310 AXPER(7,1)=1.                                                         333
      AXPER(7,2)=0.                                                         334
      AXPER(7,3)=1.                                                         335
      AXPER(7,4)=0.                                                         336
      AXPER(7,5)=0.                                                         337
      AXPER(7,6)=3.                                                         338
      GO TO 350                                                             339
  315 AXPER(8,1)=1.                                                         340
      AXPER(8,2)=0.                                                         341
      AXPER(8,3)=0.                                                         342
      AXPER(8,4)=1.                                                         343
      AXPER(8,5)=0.                                                         344
      AXPER(8,6)=4.                                                         345
      GO TO 350                                                             346
  320 AXPER(9,1)=1.                                                         347
      AXPER(9,2)=1.                                                         348
      AXPER(9,3)=1.                                                         349
      AXPER(9,4)=0.                                                         350
      AXPER(9,5)=0.                                                         351
      AXPER(9,6)=4.                                                         352
      GO TO 350                                                             353
  325 AXPER(10,1)=1.                                                        354
      AXPER(10,2)=0.046                                                     355
      AXPER(10,3)=1.977                                                     356
      AXPER(10,4)=0.                                                        357
      AXPER(10,5)=0.                                                        358
      AXPER(10,6)=5.                                                        359
      GO TO 350                                                             360
  330 AXPER(11,1)=1.                                                        361
      AXPER(11,2)=0.008                                                     362
      AXPER(11,3)=1.002                                                     363
      AXPER(11,4)=0.996                                                     364
      AXPER(11,5)=0.                                                        365
      AXPER(11,6)=6.                                                        366
      GO TO 350                                                             367
  335 AXPER(12,1)=1.                                                        368
      AXPER(12,2)=3.990                                                     369
      AXPER(12,3)=0.005                                                     370
      AXPER(12,4)=0.                                                        371
      AXPER(12,5)=0.                                                        372
      AXPER(12,6)=5.                                                        373
      GO TO 350                                                             374
```

Figure 4.3 (cont.)

```
  340 AXPER(13,1)=1.                                                              375
      AXPER(13,2)=1.4                                                             376
      AXPER(13,3)=0.8                                                             377
      AXPER(13,4)=0.                                                              378
      AXPER(13,5)=0.                                                              379
      AXPER(13,6)=6.                                                              380
      GO TO 350                                                                   381
  345 AXPER(14,1)=1.                                                              382
      AXPER(14,2)=2.0                                                             383
      AXPER(14,3)=2.0                                                             384
      AXPER(14,4)=0.                                                              385
      AXPER(14,5)=0.                                                              386
      AXPER(14,6)=7.                                                              387
  350 CONTINUE                                                                    388
      IF (NWC(I,1).GT.10)GO TO 410                                                389
      IF (NWNC(I,1).LT.10)GO TO 355                                               390
      AXPERC(I,J)=FLOAT(NWNC(I,J))/FLOAT(NWNC(I,1))                               391
      GO TO 415                                                                   392
  355 CONTINUE                                                                    393
      GO TO (360,360,360,360,360,365,370,375,380,385,390,395,400,405),I           394
  360 CONTINUE                                                                    395
  365 AXPERC(6,1)=1.                                                              396
      AXPERC(6,2)=1.                                                              397
      AXPERC(6,3)=0.                                                              398
      AXPERC(6,4)=0.                                                              399
      AXPERC(6,5)=0.                                                              400
      AXPERC(6,6)=2.                                                              401
      GO TO 415                                                                   402
  370 AXPERC(7,1)=1.                                                              403
      AXPERC(7,2)=0.                                                              404
      AXPERC(7,3)=1.                                                              405
      AXPERC(7,4)=0.                                                              406
      AXPERC(7,5)=0.                                                              407
      AXPERC(7,6)=3.                                                              408
      GO TO 415                                                                   409
  375 AXPERC(8,1)=1.                                                              410
      AXPERC(8,2)=0.                                                              411
      AXPERC(8,3)=0.                                                              412
      AXPERC(8,4)=1.                                                              413
      AXPERC(8,5)=0.                                                              414
      AXPERC(8,6)=4.                                                              415
      GO TO 415                                                                   416
  380 AXPERC(9,1)=1.                                                              417
      AXPERC(9,2)=1.                                                              418
      AXPERC(9,3)=1.                                                              419
      AXPERC(9,4)=0.                                                              420
      AXPERC(9,5)=0.                                                              421
      AXPERC(9,6)=4.                                                              422
      GO TO 415                                                                   423
  385 AXPERC(10,1)=1.                                                             424
      AXPERC(10,2)=0.046                                                          425
      AXPERC(10,3)=1.977                                                          426
      AXPERC(10,4)=0.                                                             427
      AXPERC(10,5)=0.                                                             428
```

Figure 4.3 (cont.)

```
      AXPERC(10,6)=5.                                                    429
      GO TO 415                                                          430
  390 AXPERC(11,1)=1.                                                    431
      AXPERC(11,2)=0.008                                                 432
      AXPERC(11,3)=1.002                                                 433
      AXPERC(11,4)=0.996                                                 434
      AXPERC(11,5)=0.                                                    435
      AXPERC(11,6)=6.                                                    436
      GO TO 415                                                          437
  395 AXPERC(12,1)=1.                                                    438
      AXPERC(12,2)=3.990                                                 439
      AXPERC(12,3)=0.005                                                 440
      AXPERC(12,4)=0.                                                    441
      AXPERC(12,5)=0.                                                    442
      AXPERC(12,6)=5.                                                    443
      GO TO 415                                                          444
  400 AXPERC(13,1)=1.                                                    445
      AXPERC(13,2)=1.4                                                   446
      AXPERC(13,3)=0.8                                                   447
      AXPERC(13,4)=0.                                                    448
      AXPERC(13,5)=0.                                                    449
      AXPERC(13,6)=6.                                                    450
      GO TO 415                                                          451
  405 AXPERC(14,1)=1.                                                    452
      AXPERC(14,2)=2.0                                                   453
      AXPERC(14,3)=2.0                                                   454
      AXPERC(14,4)=0.                                                    455
      AXPERC(14,5)=0.                                                    456
      AXPERC(14,6)=7.                                                    457
      GO TO 415                                                          458
  410 AXPERC(I,J)=FLOAT(NWC(I,J))/FLOAT(NWC(I,1))                        459
  415 CONTINUE                                                           460
  420 CONTINUE                                                           461
  425 CONTINUE                                                           462
  430 CONTINUE                                                           463
C                                                                        464
C     ********************************************************************465
C     * STATEMENTS 471 THRU 523 SUM THE AXLELOAD DISTRIBUTIONS OVER    *  466
C     * PAST YEARS UNTIL 200 OF EACH AXLE TYPE FOR EACH VEHICLE TYPE   *  467
C     * HAVE BEEN WEIGHED OR EIGHT YEARS OF DATA HAVE BEEN EXHAUSTED.  *  468
C     ********************************************************************469
C                                                                        470
      DO 465 J=1,14                                                      471
      DO 460 K=1,6                                                       472
      IF(NWNCA(J,K).LT.200)GO TO 435                                     473
      GO TO 460                                                          474
  435 CONTINUE                                                           475
      IF (N.GT.8) GO TO 445                                              476
      DO 440 L=1,16                                                      477
      WNCA(J,K,L)=WNC(J,K,L)+WNCA(J,K,L)                                 478
  440 CONTINUE                                                           479
      NWNCA(J,K)=NWNC(J,K)+NWNCA(J,K)                                    480
  445 CONTINUE                                                           481
      DO 450 L=1,16                                                      482
```

Figure 4.3 (cont.)

```
      WANCA(K,L)=WANC(K,L)+WANCA(K,L)                                    483
  450 CONTINUE                                                           484
      NWANCA(K)=NWANC(K)+NWANCA(K)                                       485
  455 CONTINUE                                                           486
  460 CONTINUE                                                           487
  465 CONTINUE                                                           488
      IF (N.GT.8) GO TO 475                                              489
      DO 470 J=1,14                                                      490
      NWC1(J,1)=NWC1(J,1)+NWC(J,1)                                       491
  470 CONTINUE                                                           492
  475 CONTINUE                                                           493
      DO 500 J=1,14                                                      494
      DO 495 K=1,6                                                       495
      IF(NWCA(J,K).GE.200)GO TO 495                                      496
      IF (N.GT.8) GO TO 485                                              497
      DO 480 L=1,16                                                      498
      WCA(J,K,L)=WC(J,K,L)+WCA(J,K,L)                                    499
  480 CONTINUE                                                           500
      NWCA(J,K)=NWC(J,K)+NWCA(J,K)                                       501
  485 CONTINUE                                                           502
      NWACA(K)=NWAC(K)+NWACA(K)                                          503
      DO 490 L=1,16                                                      504
      WACA(K,L)=WAC(K,L)+WACA(K,L)                                       505
  490 CONTINUE                                                           506
  495 CONTINUE                                                           507
  500 CONTINUE                                                           508
      DO 505 I=1,6                                                       509
      DO 505 J=1,16                                                      510
      WACA(I,J)=WACA(I,J)/14                                             511
      WANCA(I,J)=WANCA(I,J)/14                                           512
  505 CONTINUE                                                           513
      DO 510 I=1,6                                                       514
      NWACA(I)=NWACA(I)/14                                               515
      NWANCA(I)=NWANCA(I)/14                                             516
  510 CONTINUE                                                           517
      IF(N.EQ.20.OR.NYEAR.EQ.68)GO TO 520                                518
      DO 515 I=3,14                                                      519
      IF(NWNCA(I,1).LT.200) GO TO 180                                    520
      IF(NWCA(I,1).LT.200) GO TO 180                                     521
  515 CONTINUE                                                           522
  520 CONTINUE                                                           523
C                                                                        524
C     ****************************************************************   525
C     * STATEMENTS 530 THRU 550 CONVERT AXLELOAD DISTRIBUTIONS IN    *   526
C     * NUMBERS OF AXLES TO AXLELOAD DISTRIBUTIONS IN FRACTIONS.     *   527
C     ****************************************************************   528
C                                                                        529
      DO 555 I=6,14                                                      530
      DO 550 J=1,5                                                       531
      DO 545 K=1,16                                                      532
      IF(NWNCA(I,J).LT.200) GO TO 525                                    533
      FNC(I,J,K)=FLOAT(WNCA(I,J,K))/FLOAT(NWNCA(I,J))                    534
      GO TO 530                                                          535
  525 IF (NWANCA(J).EQ.0) GO TO 530                                      536
```

Figure 4.3 (cont.)

```
      FNC(I,J,K)=0.                                                    537
      FNC(I,J,K)=FLOAT(WANCA(J,K))/FLOAT(NWANCA(J))                    538
  530 CONTINUE                                                         539
      IF(NWCA(I,J).LT.200) GO TO 535                                   540
      FC(I,J,K)=FLOAT(WCA(I,J,K))/FLOAT(NWCA(I,J))                     541
      GO TO 540                                                        542
  535 IF (NWACA(J).EQ.0) GO TO 540                                     543
      FC(I,J,K)=0.                                                     544
      FC(I,J,K)=FLOAT(WACA(J,K))/FLOAT(NWACA(J))                       545
  540 CONTINUE                                                         546
  545 CONTINUE                                                         547
  550 CONTINUE                                                         548
  555 CONTINUE                                                         549
  560 CONTINUE                                                         550
C                                                                      551
C     ******************************************************************552
C     * STATEMENTS 557 THRU 583 INITIALIZE VARIABLES WHICH MUST BE     *553
C     * INITIALIZED FOR EACH INDIVIDUAL CLASSIFICATION STATION.        *554
C     ******************************************************************555
C                                                                      556
      CHECK=0                                                          557
      NOTRUK=0                                                         558
      NOCTRK=0                                                         559
      FT=0                                                             560
      SUMVNC=0                                                         561
      RNOAXC=0                                                         562
      EALCT=0                                                          563
      EALC=0                                                           564
      NOAXLC=0                                                         565
      EALT=0                                                           566
      EALCTA=0                                                         567
      EALTAX=0                                                         568
      TEAL=0                                                           569
      TEALT=0                                                          570
      TEALCT=0                                                         571
      FCT=0                                                            572
      RNOAX=0                                                          573
      NOAXLE=0                                                         574
      DO 565 I=1,14                                                    575
      FRC(I)=0                                                         576
      FR(I)=0                                                          577
      DVOL(I)=0                                                        578
      VC(I)=0                                                          579
      VNC(I)=0                                                         580
      SUMVC=0                                                          581
  565 CONTINUE                                                         582
  570 CONTINUE                                                         583
C                                                                      584
C     ******************************************************************585
C     * STATEMENTS 590 THRU 601 READ CLASSIFICATION DATA FROM          *586
C     * A MAGNETIC TAPE PRODUCED BY THE PROGRAM CLASS SUMMARY.         *587
C     ******************************************************************588
C                                                                      589
      READ(15,4225,END=780)COU,DD1,STA,RTE,MP,YR,AADT,FEDAID           590
```

Figure 4.3 (cont.)

```
 4225 FORMAT(T4,I3,A3,A3,T16,A8,T27,F6.3,T35,I2,T41,I6,T55,I1)              591
      IF(DD1.EQ.DD)GO TO 580                                               592
      DO 575 I=1,5                                                         593
      READ(15,4125) A                                                      594
  575 CONTINUE                                                             595
      GO TO 560                                                            596
  580 DO 585 I=1,4                                                         597
      READ(15,4125) A                                                      598
  585 CONTINUE                                                             599
      READ(15,4250) RECNO,(VTYP(I),I=1,14),COALV,TOTAL                     600
 4250 FORMAT(I1,T8,I4,I6,I5,2I4,I5,3I4,I5,5I4,T74,F6.0)                    601
C                                                                          602
C     ***********************************************************          603
C     * STATEMENTS 607 THRU 609 DETECT ERRORS IN INPUT.         *          604
C     ***********************************************************          605
C                                                                          606
      IF(FEDAID.EQ.8)FEDAID=5                                              607
      IF(COU.EQ.0.OR.COU.GT.120.OR.FEDAID.GT.5.OR.AADT.LE.                 608
     +0.OR.FEDAID.EQ.0) GO TO 710                                          609
C                                                                          610
C     ***********************************************************          611
C     * STATEMENTS 615 THRU 672 CALCULATE THE TRAFFIC PARAMETERS *          612
C     * NECCESARY TO CALCULATE EAL'S.                           *          613
C     ***********************************************************          614
C                                                                          615
      TOTAL=ABS(TOTAL)                                                     616
      DO 590 I=4,14                                                        617
      NOTRUK=NOTRUK+VTYP(I)                                                618
      NOCTRK=NOCTRK+NWC1(I,1)                                              619
  590 CONTINUE                                                             620
      DO 595 I=1,14                                                        621
      FR(I)=FLOAT(VTYP(I))/TOTAL                                           622
      DVOL(I)=FR(I)*AADT+0.5                                               623
  595 CONTINUE                                                             624
      IF(NOTRUK.EQ.0) GO TO600                                             625
      FCT=FLOAT(COALV)/NOTRUK                                              626
  600 CONTINUE                                                             627
      FT=FLOAT(NOTRUK)/TOTAL                                               628
      COALV=COALV*AADT/TOTAL                                               629
      IF(COALV.EQ.0) GO TO 660                                             630
      DO 605 I=1,14                                                        631
      FRC(I)=(FLOAT(NWC1(I,1)))/(FLOAT(NOCTRK))                            632
      VC(I)=FRC(I)*COALV+0.5                                               633
  605 CONTINUE                                                             634
      SUMVC1=0                                                             635
      SUMVC2=0                                                             636
      SUMVC3=0                                                             637
      TRKLFT=0                                                             638
      DO 610 I=1,14                                                        639
      DELVC(I)=0                                                           640
  610 CONTINUE                                                             641
      DO 615 I=6,14                                                        642
      VC1(I)=MIN0(VC(I),DVOL(I))                                           643
      SUMVC1=SUMVC1+VC1(I)                                                 644
```

Figure 4.3 (cont.)

```
  615 CONTINUE                                                          645
      CHECK=(COALV-SUMVC1)/FLOAT(COALV)                                 646
      IF(CHECK.LE..0001)GO TO 635                                       647
      DO 620 I=6,14                                                     648
      DELVC(I)=(COALV-SUMVC1)*FLOAT(VC(I))/COALV                        649
      VC2(I)=VC1(I)+DELVC(I)                                            650
      VC3(I)=MIN0(VC2(I),DVOL(I))                                       651
      SUMVC3=SUMVC3+VC3(I)                                              652
  620 CONTINUE                                                          653
      CHECK=(COALV-SUMVC3)/FLOAT(COALV)                                 654
      IF(CHECK.LE..0001)GO TO 645                                       655
      DO 625 I=6,14                                                     656
      TRKLFT=TRKLFT+DVOL(I)-VC3(I)                                      657
  625 CONTINUE                                                          658
      DO 630 I=6,14                                                     659
      DELVC(I)=(COALV-SUMVC3)*FLOAT(DVOL(I)-VC3(I))/TRKLFT              660
      VC(I)=VC3(I)+DELVC(I)                                             661
  630 CONTINUE                                                          662
      GO TO 655                                                         663
  635 DO 640 I=6,14                                                     664
      VC(I)=VC1(I)                                                      665
  640 CONTINUE                                                          666
      GO TO 655                                                         667
  645 DO 650 I=6,14                                                     668
      VC(I)=VC2(I)                                                      669
  650 CONTINUE                                                          670
  655 CONTINUE                                                          671
  660 CONTINUE                                                          672
C                                                                       673
C     ****************************************************************  674
C     * STATEMENTS 679 THRU 715 DISTRIBUTE THE COAL TRUCK VOLUME TO THE*  675
C     * APPROPRIATE VEHICLE TYPES.                                   *  676
C     ****************************************************************  677
C                                                                       678
      DO 665 I=1,14                                                     679
      VNC(I)=DVOL(I)-VC(I)                                              680
  665 CONTINUE                                                          681
      DO 670 I=4,14                                                     682
      SUMVNC=SUMVNC+VNC(I)                                              683
      SUMVC=SUMVC+VC(I)                                                 684
  670 CONTINUE                                                          685
      DO 685 I=4,14                                                     686
      DO 680 J=1,5                                                      687
      DO 675 K=1,16                                                     688
      EALCT=EALCT+VC(I)*FC(I,J,K)*AXPERC(I,J)*DA(J,K)                   689
      EALT=EALT+VNC(I)*FNC(I,J,K)*AXPER(I,J)*DA(J,K)                    690
  675 CONTINUE                                                          691
  680 CONTINUE                                                          692
  685 CONTINUE                                                          693
      EALC=(((VNC(2)+VNC(3))*0.005)*365)/1000.                          694
      DO 690 I=4,14                                                     695
      NOAXLC=NOAXLC+VC(I)*AXPERC(I,6)                                   696
      NOAXLE=NOAXLE+VNC(I)*AXPER(I,6)                                   697
  690 CONTINUE                                                          698
```

Figure 4.3 (cont.)

```
      IF(SUMVC.GT.0)GOTO 695                                                699
      RNOAXC=0                                                              700
      EALCTA=0                                                              701
      GO TO 700                                                             702
  695 RNOAXC=NOAXLC/SUMVC                                                   703
      EALCTA=EALCT/NOAXLC                                                   704
  700 CONTINUE                                                              705
      IF(SUMVNC.GT.0)GO TO 705                                              706
      RNOAX=0                                                               707
      EALTA=0                                                               708
      GO TO 710                                                             709
  705 RNOAX=NOAXLE/SUMVNC                                                   710
      EALTAX=EALT/NOAXLE                                                    711
  710 CONTINUE                                                              712
      EALCT=EALCT*365/1000                                                  713
      EALT=EALT*365/1000                                                    714
      TEAL=EALT+EALCT+EALC                                                  715
C                                                                           716
C     ************************************************************************717
C     * STATEMENTS 722 THRU 843 PRINT OUT THE TRAFFIC PARAMETERS FOR   *    718
C     * EACH CLASSIFICATION STATION.                                   *    719
C     ************************************************************************720
C                                                                           721
      N6=N6+1                                                               722
      IF(IFF.EQ.1) GO TO 735                                                723
      IF(N6.NE.1) GO TO 715                                                 724
      WRITE(6,4275)                                                         725
 4275 FORMAT('1',T51,'VARIABLES AND CODES DEFINED')                         726
      WRITE(6,6175)                                                         727
      WRITE(6,4300)                                                         728
 4300 FORMAT(T54,'NON-COAL-HAULING ROADS')                                  729
      WRITE(6,4325)                                                         730
 4325 FORMAT(T40,'COAL TRUCKS COMPRISE LESS THAN 1.0( OF THE TRUCK VOLUM    731
     +E')                                                                   732
      WRITE(6,6175)                                                         733
      WRITE(6,4350)                                                         734
 4350 FORMAT(T50,' FA  - FEDERAL AID CODES')                                735
      WRITE(6,4375)                                                         736
 4375 FORMAT(T56,' 1 - INTERSTATE')                                         737
      WRITE(6,4400)                                                         738
 4400 FORMAT(T56,' 2 - FEDERAL AID PRIMARY')                                739
      WRITE(6,4425)                                                         740
 4425 FORMAT(T56,' 3 - FEDERAL AID URBAN')                                  741
      WRITE(6,4450)                                                         742
 4450 FORMAT(T56,' 4 - FEDERAL AID SECONDARY')                              743
      WRITE(6,4475)                                                         744
 4475 FORMAT(T56,' 5 - NON-FEDERAL AID')                                    745
      WRITE(6,6175)                                                         746
      WRITE(6,4500)                                                         747
 4500 FORMAT(T50,' GA  - GEOGRAPHIC AREA CODES')                            748
      WRITE(6,4525)                                                         749
 4525 FORMAT(T56,' 1 - WEST (HIGHWAY DISTRICTS 1,2)')                       750
      WRITE(6,4550)                                                         751
 4550 FORMAT(T56,' 2 - SOUTH-CENTRAL (HIGHWAY DISTRICTS 3,4,8)')            752
```

Figure 4.3 (cont.)

```
      WRITE(6,4575)                                                    753
 4575 FORMAT(T56,' 3 - NORTH-CENTRAL (HIGHWAY DISTRICTS 5,6,7)')       754
      WRITE(6,4600)                                                    755
 4600 FORMAT(T56,' 4 - EAST (HIGHWAY DISTRICTS 9,10,11,12)')           756
      WRITE(6,6175)                                                    757
      WRITE(6,4625)                                                    758
 4625 FORMAT(T50,' VOL - VOLUME CODES')                                759
      WRITE(6,4650)                                                    760
 4650 FORMAT(T56,' 1 - LESS THAN 5000 AADT')                           761
      WRITE(6,4675)                                                    762
 4675 FORMAT(T56,' 2 - 5000 OR MORE AADT')                             763
      WRITE(6,6175)                                                    764
      WRITE(6,4700)                                                    765
 4700 FORMAT(T56,'COAL-HAULING ROADS')                                 766
      WRITE(6,4725)                                                    767
 4725 FORMAT(T40,'COAL TRUCKS COMPRISE 1.0( OR MORE OF THE TRUCK VOLUME'  768
     +)                                                                769
      WRITE(6,6175)                                                    770
      WRITE(6,4750)                                                    771
 4750 FORMAT(T50,' CT  - COAL-HAULING ROAD CODES')                     772
      WRITE(6,4775)                                                    773
 4775 FORMAT(T56,' 1 - COAL TRUCKS COMPRISE 1.0-4.99( OF THE TRUCK VOLUM  774
     +E')                                                              775
      WRITE(6,4800)                                                    776
 4800 FORMAT(T56,' 2 - COAL TRUCKS COMPRISE 5.0-14.99( OF THE TRUCK VOLU  777
     +ME')                                                             778
      WRITE(6,4825)                                                    779
 4825 FORMAT(T56,' 3 - COAL TRUCKS COMPRISE MORE THAN 15.0( OF THE TRUCK  780
     + VOLUME')                                                        781
      WRITE(6,6175)                                                    782
      WRITE(6,4625)                                                    783
      WRITE(6,4650)                                                    784
      WRITE(6,4675)                                                    785
      WRITE(6,6175)                                                    786
      WRITE(6,4850)                                                    787
 4850 FORMAT(T48,'INDIVIDUAL CLASSIFICATION STATIONS')                 788
      WRITE(6,6175)                                                    789
      WRITE(6,4875)                                                    790
 4875 FORMAT(T50,' DIR')                                               791
      WRITE(6,4900)                                                    792
 4900 FORMAT(T50,' OPR -DIRECTIONAL OPERATION CODES')                  793
      WRITE(6,4925)                                                    794
 4925 FORMAT(T56,' 1 - ONE-WAY OPERATION')                             795
      WRITE(6,4950)                                                    796
 4950 FORMAT(T56,' 2 - TWO-WAY OPERATION')                             797
      WRITE(6,6175)                                                    798
      WRITE(6,4975)                                                    799
 4975 FORMAT(T50,' FED')                                               800
      WRITE(6,5000)                                                    801
 5000 FORMAT(T50,' AID - FEDERAL AID CODES')                           802
      WRITE(6,4375)                                                    803
      WRITE(6,4400)                                                    804
      WRITE(6,4425)                                                    805
      WRITE(6,4450)                                                    806
```

Figure 4.3 (cont.)

```
      WRITE(6,4475)                                                    807
  715 CONTINUE                                                         808
      M1=M1+1                                                          809
      IF(M1.EQ.50)M1=0                                                 810
      IF(M1.NE.1) GO TO 720                                            811
      WRITE(6,5025)                                                    812
 5025 FORMAT('1',T35,'EAL TRAFFIC PARAMETERS FOR INDIVIDUAL CLASSIFICATI  813
     +ON STATIONS')                                                    814
      WRITE(6,5050) YR                                                 815
 5050 FORMAT(T63,'19',I2)                                              816
      WRITE(6,6175)                                                    817
      WRITE(6,5075)                                                    818
 5075 FORMAT(T43,'FRACT',T50,'AXLES',T56,'AXLES',T62,'EAL''S/',T69,'EAL'  819
     +'S/',T81,'2-DIRECTION EAL''S IN 1000''S')                        820
      WRITE (6,5100)                                                   821
 5100 FORMAT(T43,'OF TRK',T51,'PER',T57,'PER',T63,'NON',T70,'COAL')     822
      WRITE (6,5125)                                                   823
 5125 FORMAT(T20,'MILE',T26,'FED',T36,'TRUCK',T44,                      824
     +'WITH',T51,'NON',T56,'COAL',T63,'COAL',T70,'TRUCK',T77,'4-TIRE',  825
     +T85,'NON-COAL',T97,'COAL')                                       826
      WRITE (6,5150)                                                   827
 5150 FORMAT(T2,'COU',T6,'STA',T11,'ROUTE',T20,'POINT'                  828
     +,T26,'AID',T30,'AADT',T36,'FRACT',T44,'COAL',T51,'COAL',         829
     +T56,'TRUCK',T63,'AXLE',T70,'AXLE',T76,'VEHICLES',T86,'TRUCKS',   830
     +T97,'TRUCKS',T107,'TOTAL')                                       831
  720 IF(COU.EQ.0.OR.COU.GT.120.OR.FEDAID.GT.5.OR.AADT.EQ.               832
     +0.OR.FEDAID.EQ.0) GO TO 725                                      833
      WRITE(6,5175)COU,STA,RTE,MP,FEDAID,AADT,FT,FCT,RNOAX,            834
     +RNOAXC,EALTAX,EALCTA,EALC,EALT,EALCT,TEAL                        835
 5175 FORMAT(T2,I3,T6,A3,T10,A8,T19,F6.1,T28,I1,T30,I6,                 836
     +T36,F6.3,T43,F6.3,T50,F5.3,T56,F5.3,T62,F6.3,T69,F6.3,T76,F7.0,  837
     +T85,F8.0,T95,F8.0,T105,F8.0)                                     838
      GO TO 730                                                        839
  725 WRITE(6,5200)COU,STA,RTE,MP,FEDAID,AADT                          840
 5200 FORMAT(T2,I3,T6,A3,T10,A8,T19,F6.1,T28,I1,T30,I6,                 841
     +T45,'**********')                                                842
      GO TO 560                                                        843
  730 CONTINUE                                                         844
  735 CONTINUE                                                         845
C                                                                      846
C     ***************************************************************  847
C     * STATEMENTS 852 THRU 888 DETERMINE WHICH CELL OF THE TWO OUTPUT *  848
C     * MATRICES THE CLASSIFICATION STATION BELONGS.                *  849
C     ***************************************************************  850
C                                                                      851
      IF(FCT.LT..01) FRCOAL=4                                          852
      IF(FCT.GE..01.AND.FCT.LT..05) FRCOAL=1                           853
      IF(FCT.GE..05.AND.FCT.LT..20) FRCOAL=2                           854
      IF(FCT.GE..20) FRCOAL=3                                          855
      FCT=FCT*100                                                      856
      FT=FT*100                                                        857
      IF(AADT.LT.5000)AADTC=1                                          858
      IF(AADT.GE.5000)AADTC=2                                          859
      IF(FEDAID.EQ.8)FEDAID=5                                          860
```

Figure 4.3 (cont.)

```
      IF(COU.EQ.4.OR.COU.EQ.17.OR.COU.EQ.18.OR.COU.EQ.20.OR.COU.EQ.24.      861
     +OR.COU.EQ.28.OR.COU.EQ.30.OR.COU.EQ.38.OR.COU.EQ.42.OR.COU.EQ.46.     862
     +OR.COU.EQ.51.OR.COU.EQ.53.OR.COU.EQ.54.OR.COU.EQ.70.OR.COU.EQ.72.     863
     +OR.COU.EQ.73.OR.COU.EQ.75.OR.COU.EQ.79.OR.COU.EQ.89.OR.COU.EQ.92.     864
     +OR.COU.EQ.111.OR.COU.EQ.113.OR.COU.EQ.117) GA=1                       865
      IF(COU.EQ.1.OR.COU.EQ.2.OR.COU.EQ.5.OR.COU.EQ.14.OR.COU.EQ.16.        866
     +OR.COU.EQ.23.OR.COU.EQ.27.OR.COU.EQ.29.OR.COU.EQ.31.OR.COU.EQ.43.     867
     +OR.COU.EQ.44.OR.COU.EQ.47.OR.COU.EQ.50.OR.COU.EQ.62.OR.COU.EQ.69.     868
     +OR.COU.EQ.71.OR.COU.EQ.74.OR.COU.EQ.78.OR.COU.EQ.82.OR.COU.EQ.85.     869
     +OR.COU.EQ.86.OR.COU.EQ.90.OR.COU.EQ.100.OR.COU.EQ.102.OR.COU.EQ.      870
     +104.OR.COU.EQ.107.OR.COU.EQ.109.OR.COU.EQ.110.OR.COU.EQ.114.OR.       871
     +COU.EQ.115.OR.COU.EQ.116) GA=2                                        872
      IF(COU.EQ.3.OR.COU.EQ.8.OR.COU.EQ.9.OR.COU.EQ.11.OR.COU.EQ.12.        873
     +OR.COU.EQ.15.OR.COU.EQ.19.OR.COU.EQ.21.OR.COU.EQ.25.OR.COU.EQ.34.     874
     +OR.COU.EQ.37.OR.COU.EQ.39.OR.COU.EQ.40.OR.COU.EQ.41.OR.COU.EQ.49.     875
     +OR.COU.EQ.52.OR.COU.EQ.56.OR.COU.EQ.57.OR.COU.EQ.59.OR.COU.EQ.76.     876
     +OR.COU.EQ.84.OR.COU.EQ.87.OR.COU.EQ.93.OR.COU.EQ.94.OR.COU.EQ.96.     877
     +OR.COU.EQ.101.OR.COU.EQ.105.OR.COU.EQ.106.OR.COU.EQ.108.OR.           878
     +COU.EQ.112.OR.COU.EQ.120) GA=3                                        879
      IF(COU.EQ.6.OR.COU.EQ.7.OR.COU.EQ.10.OR.COU.EQ.13.OR.COU.EQ.22.       880
     +OR.COU.EQ.26.OR.COU.EQ.32.OR.COU.EQ.33.OR.COU.EQ.35.OR.COU.EQ.36.     881
     +OR.COU.EQ.45.OR.COU.EQ.48.OR.COU.EQ.55.OR.COU.EQ.58.OR.COU.EQ.60.     882
     +OR.COU.EQ.61.OR.COU.EQ.63.OR.COU.EQ.64.OR.COU.EQ.65.OR.COU.EQ.66.     883
     +OR.COU.EQ.67.OR.COU.EQ.68.OR.COU.EQ.77.OR.COU.EQ.80.OR.COU.EQ.81.     884
     +OR.COU.EQ.83.OR.COU.EQ.88.OR.COU.EQ.91.OR.COU.EQ.95.OR.               885
     +COU.EQ.97.OR.COU.EQ.98.OR.COU.EQ.99.OR.COU.EQ.103.OR.                 886
     +COU.EQ.118.OR.COU.EQ.119) GA=4                                        887
      IF (FRCOAL.NE.4) GOTO 760                                             888
C                                                                           889
C     ***********************************************************************890
C     * STATEMENTS 895 THRU 926 CALCULATE THE SUMS AND THE SUM OF THE  *    891
C     * SQUARES FOR THOSE STATIONS WHICH ARE NON-COAL-HAUL STATONS.    *    892
C     ***********************************************************************893
C                                                                           894
      DO 755 I=1,5                                                          895
      DO 750 J=1,2                                                          896
      DO 745 K=1,4                                                          897
      IF (FEDAID.NE.I.OR.AADTC.NE.J.OR.GA.NE.K) GO TO 745                   898
      COUN(I,J,K)=COUN(I,J,K)+1                                             899
      IF(FCT.LT..00001)GO TO 740                                            900
      COUNTC(I,J,K)=COUNTC(I,J,K)+1                                         901
  740 CONTINUE                                                              902
      SUM(1,I,J,K)=SUM(1,I,J,K)+AADT                                        903
      SSQ(1,I,J,K)=SSQ(1,I,J,K)+AADT**2                                     904
      SUM(2,I,J,K)=SUM(2,I,J,K)+FT                                          905
      SSQ(2,I,J,K)=SSQ(2,I,J,K)+FT**2                                       906
      SUM(3,I,J,K)=SUM(3,I,J,K)+FCT                                         907
      SSQ(3,I,J,K)=SSQ(3,I,J,K)+FCT**2                                      908
      SUM(4,I,J,K)=SUM(4,I,J,K)+RNOAX                                       909
      SSQ(4,I,J,K)=SSQ(4,I,J,K)+RNOAX**2                                    910
      SUM(5,I,J,K)=SUM(5,I,J,K)+RNOAXC                                      911
      SSQ(5,I,J,K)=SSQ(5,I,J,K)+RNOAXC**2                                   912
      SUM(6,I,J,K)=SUM(6,I,J,K)+EALTAX                                      913
      SSQ(6,I,J,K)=SSQ(6,I,J,K)+EALTAX**2                                   914
```

Figure 4.3 (cont.)

```
      SUM(7,I,J,K)=SUM(7,I,J,K)+EALCTA                                  915
      SSQ(7,I,J,K)=SSQ(7,I,J,K)+EALCTA**2                               916
      SUM(8,I,J,K)=SUM(8,I,J,K)+EALC                                    917
      SSQ(8,I,J,K)=SSQ(8,I,J,K)+EALC**2                                 918
      SUM(9,I,J,K)=SUM(9,I,J,K)+EALT                                    919
      SSQ(9,I,J,K)=SSQ(9,I,J,K)+EALT**2                                 920
      SUM(10,I,J,K)=SUM(10,I,J,K)+EALCT                                 921
      SSQ(10,I,J,K)=SSQ(10,I,J,K)+EALCT**2                              922
      SUM(11,I,J,K)=SUM(11,I,J,K)+TEAL                                  923
      SSQ(11,I,J,K)=SSQ(11,I,J,K)+TEAL**2                               924
  745 CONTINUE                                                          925
  750 CONTINUE                                                          926
  755 CONTINUE                                                          927
      GO TO 775                                                         928
  760 CONTINUE                                                          929
C                                                                       930
C     ****************************************************************  931
C     * STATEMENTS 936 THRU 966 CALCULATE THE SUMS AND THE SUM OF THE *  932
C     * SQUARES FOR THOSE STATIONS WHICH ARE COAL-HAUL STATONS.       *  933
C     ****************************************************************  934
C                                                                       935
      DO 770 I=1,2                                                      936
      DO 765 J=1,3                                                      937
      IF (AADTC.NE.I.OR.FRCOAL.NE.J) GO TO 765                          938
      CCOUNT(I,J)=CCOUNT(I,J)+1                                         939
      SUMC(1,I,J)=SUMC(1,I,J)+AADT                                      940
      SSQC(1,I,J)=SSQC(1,I,J)+AADT**2                                   941
      SUMC(2,I,J)=SUMC(2,I,J)+FT                                        942
      SSQC(2,I,J)=SSQC(2,I,J)+FT**2                                     943
      SUMC(3,I,J)=SUMC(3,I,J)+FCT                                       944
      SSQC(3,I,J)=SSQC(3,I,J)+FCT**2                                    945
      SUMC(4,I,J)=SUMC(4,I,J)+RNOAX                                     946
      SSQC(4,I,J)=SSQC(4,I,J)+RNOAX**2                                  947
      SUMC(5,I,J)=SUMC(5,I,J)+RNOAXC                                    948
      SSQC(5,I,J)=SSQC(5,I,J)+RNOAXC**2                                 949
      SUMC(6,I,J)=SUMC(6,I,J)+EALTAX                                    950
      SSQC(6,I,J)=SSQC(6,I,J)+EALTAX**2                                 951
      SUMC(7,I,J)=SUMC(7,I,J)+EALCTA                                    952
      SSQC(7,I,J)=SSQC(7,I,J)+EALCTA**2                                 953
      SUMC(8,I,J)=SUMC(8,I,J)+EALC                                      954
      SSQC(8,I,J)=SSQC(8,I,J)+EALC**2                                   955
      SUMC(9,I,J)=SUMC(9,I,J)+EALT                                      956
      SSQC(9,I,J)=SSQC(9,I,J)+EALT**2                                   957
      SUMC(10,I,J)=SUMC(10,I,J)+EALCT                                   958
      SSQC(10,I,J)=SSQC(10,I,J)+EALCT**2                                959
      SUMC(11,I,J)=SUMC(11,I,J)+TEAL                                    960
      SSQC(11,I,J)=SSQC(11,I,J)+TEAL**2                                 961
  765 CONTINUE                                                          962
  770 CONTINUE                                                          963
  775 CONTINUE                                                          964
      GO TO 560                                                         965
  780 CONTINUE                                                          966
C                                                                       967
C     ****************************************************************  968
```

Figure 4.3 (cont.)

```
C     * STATEMENTS 973 THRU 993  CALCULATE THE MEANS AND STANDARD DEV- *     969
C     * IATIONS FOR EACH CELL IN THE NON-COAL-HAUL MATRIX.             *     970
C     ****************************************************************     971
C                                                                            972
      DO 815 I=1,11                                                         973
      DO 810 J=1,5                                                          974
      DO 805 K=1,2                                                          975
      DO 800 L=1,4                                                          976
      IF(I.EQ.3.OR.I.EQ.5.OR.I.EQ.7.OR.I.EQ.10)GOTO 785                     977
      COUNT(J,K,L)=COUN(J,K,L)                                              978
      GO TO 790                                                             979
  785 COUNT(J,K,L)=COUNTC(J,K,L)                                            980
  790 IF (COUNT(J,K,L).EQ.0.0)GO TO 800                                     981
      IF (COUNT(J,K,L).EQ.1.0)GO TO 795                                     982
      MEAN(I,J,K,L)=SUM(I,J,K,L)/COUNT(J,K,L)                               983
      STD(I,J,K,L)=(COUNT(J,K,L)*SSQ(I,J,K,L)-SUM(I,J,K,L)**2)/             984
     +                (COUNT(J,K,L)*(COUNT(J,K,L)-1.))                      985
      IF(STD(I,J,K,L).LT.0.001.AND.STD(I,J,K,L).GT.-.001)STD(I,J,K,L)=0.    986
      STD(I,J,K,L)=SQRT(ABS(STD(I,J,K,L)))                                  987
      GO TO 800                                                             988
  795 MEAN(I,J,K,L)=SUM(I,J,K,L)/COUNT(J,K,L)                               989
  800 CONTINUE                                                              990
  805 CONTINUE                                                              991
  810 CONTINUE                                                              992
  815 CONTINUE                                                              993
C                                                                           994
C     ****************************************************************     995
C     * STATEMENTS 1000 THRU 1014 CALCULATE THE MEANS AND STANDARD DEV-*     996
C     * IATIONS FOR EACH CELL IN THE COAL-HAUL MATRIX.                 *     997
C     ****************************************************************     998
C                                                                           999
      DO 835 I=1,11                                                        1000
      DO 830 J=1,2                                                         1001
      DO 825 K=1,3                                                         1002
      IF (CCOUNT(J,K).EQ.0.0)GO TO 825                                     1003
      IF (CCOUNT(J,K).EQ.1.0)GO TO 820                                     1004
      MEANC(I,J,K)=SUMC(I,J,K)/CCOUNT(J,K)                                 1005
      STDC(I,J,K)=(CCOUNT(J,K)*SSQC(I,J,K)-SUMC(I,J,K)**2)/                1006
     +                (CCOUNT(J,K)*(CCOUNT(J,K)-1.))                       1007
      IF(STDC(I,J,K).LT.0.001.AND.STDC(I,J,K).GT.-0.001)STDC(I,J,K)=0.     1008
      STDC(I,J,K)=SQRT(ABS(STDC(I,J,K)))                                   1009
      GO TO 825                                                            1010
  820 MEANC(I,J,K)=SUMC(I,J,K)/CCOUNT(J,K)                                 1011
  825 CONTINUE                                                             1012
  830 CONTINUE                                                             1013
  835 CONTINUE                                                             1014
C                                                                          1015
C     ****************************************************************     1016
C     * STATEMENTS 1022 THRU 1046 WRITE THE MEANS,NUMBER OF STATIONS   *     1017
C     * AND STANDARD DEVIATIONS OF THE TRAFFIC PARAMETERS FOR THE      *     1018
C     * CURRENT YEAR ON TAPE.                                          *     1019
C     ****************************************************************     1020
C                                                                          1021
      DO 875 I=1,11                                                        1022
```

Figure 4.3 (cont.)

```
      DO 860 J=1,5                                                        1023
      DO 855 K=1,2                                                        1024
      DO 850 L=1,4                                                        1025
      IF(I.EQ.3.OR.I.EQ.5.OR.I.EQ.7.OR.I.EQ.10)GOTO 840                   1026
      COUNT(J,K,L)=COUN(J,K,L)                                            1027
      GO TO 845                                                           1028
  840 COUNT(J,K,L)=COUNTC(J,K,L)                                          1029
  845 WRITE (16,5225) YR,I,J,K,L,COUNT(J,K,L),MEAN(I,J,K,L),STD(I,J,K,L)  1030
 5225 FORMAT(I2,4I1,F4.0,2F15.3)                                          1031
  850 CONTINUE                                                            1032
  855 CONTINUE                                                            1033
  860 CONTINUE                                                            1034
      DO 870 J=1,2                                                        1035
      DO 865 K=1,3                                                        1036
      WRITE (16,5250) YR,I,J,K,CCOUNT(J,K),MEANC(I,J,K),STDC(I,J,K)       1037
 5250 FORMAT(I2,3I1,1X,F4.0,2F15.3)                                       1038
  865 CONTINUE                                                            1039
  870 CONTINUE                                                            1040
  875 CONTINUE                                                            1041
      END FILE 16                                                         1042
      IF(YR.EQ.69) GO TO 1550                                             1043
      Z=0                                                                 1044
  880 CONTINUE                                                            1045
      Z=Z+1                                                               1046
C                                                                         1047
C     ************************************************************      1048
C     * STATEMENTS 1053 THRU 1072 READ THE MEANS OF THE TRAFFIC PARA-  *  1049
C     * METERS FOR 15 PREVIOUS YEARS.                                  *  1050
C     ************************************************************      1051
C                                                                         1052
      DO 910 I=1,11                                                       1053
      DO 895 J=1,5                                                        1054
      DO 890 K=1,2                                                        1055
      DO 885 L=1,4                                                        1056
      READ (16,5275) NYR(Z),CNTYR(I,J,K,L,Z),MEANY(I,J,K,L,Z)             1057
 5275 FORMAT(I2,T7,F4.0,T11,F15.3)                                        1058
  885 CONTINUE                                                            1059
  890 CONTINUE                                                            1060
  895 CONTINUE                                                            1061
      DO 905 J=1,2                                                        1062
      DO 900 K=1,3                                                        1063
      READ (16,5300) CNTCYR(I,J,K,Z),MEANCY(I,J,K,Z)                      1064
 5300 FORMAT(T7,F4.0,T11,F15.3)                                           1065
  900 CONTINUE                                                            1066
  905 CONTINUE                                                            1067
  910 CONTINUE                                                            1068
      END FILE 16                                                         1069
      IF(NYR(Z).EQ.69.OR.Z.EQ.15) GO TO 915                               1070
      GO TO880                                                            1071
  915 CONTINUE                                                            1072
```

Figure 4.3 (cont.)

```
C                                                                       1073
C     ****************************************************************  1074
C     * STATEMENTS 1080 THRU 1104 CALCULATE THE DIFFERENCES IN THE     *  1075
C     * TRAFFIC PARAMETERS FROM EACH OF THE 15 PREVIOUS YEARS TO THE   *  1076
C     * CURRENT YEAR.                                                  *  1077
C     ****************************************************************  1078
C                                                                       1079
      DO 965 I=1,11                                                     1080
      DO 940 J=1,5                                                      1081
      DO 935 K=1,2                                                      1082
      DO 930 L=1,4                                                      1083
      DO 925 M=1,15                                                     1084
      IF(COUNT(J,K,L).EQ.0.0.OR.CNTYR(I,J,K,L,M).EQ.0.0)GO TO 920       1085
      DIFF(I,J,K,L,M)=MEAN(I,J,K,L)-MEANY(I,J,K,L,M)                    1086
      GO TO 925                                                         1087
  920 DIFF(I,J,K,L,M)=1000000000000.                                    1088
  925 CONTINUE                                                          1089
  930 CONTINUE                                                          1090
  935 CONTINUE                                                          1091
  940 CONTINUE                                                          1092
      DO 960 J=1,2                                                      1093
      DO 955 K=1,3                                                      1094
      DO 950 L=1,15                                                     1095
      IF(CCOUNT(J,K).EQ.0.0.OR.CNTCYR(I,J,K,L).EQ.0.0)GO TO 945         1096
      DIFFC(I,J,K,L)=MEANC(I,J,K)-MEANCY(I,J,K,L)                       1097
      GO TO 950                                                         1098
  945 DIFFC(I,J,K,L)=1000000000000.                                     1099
  950 CONTINUE                                                          1100
  955 CONTINUE                                                          1101
  960 CONTINUE                                                          1102
  965 CONTINUE                                                          1103
      IF(IFF.EQ.1)GO TO 1250                                            1104
C                                                                       1105
C     ****************************************************************  1106
C     * STATEMENTS 1111 THRU 1550 PRINT THE MATRICES OF MEANS AND IN-  *  1107
C     * CREMENTS.                                                      *  1108
C     ****************************************************************  1109
C                                                                       1110
      DO 1115 I=1,11                                                    1111
      NO=0                                                              1112
      DO 1075 J=1,5                                                     1113
      DO 1070 K=1,2                                                     1114
      DO 1065 L=1,4                                                     1115
      NO=NO+1                                                           1116
      IF(NO.NE.1) GO TO 1030                                            1117
      GO TO (970,975,980,985,990,995,1000,1005,1010,1015,1020),I        1118
  970 WRITE(6,5325)                                                     1119
 5325 FORMAT('1',T51,'ANNUAL AVERAGE DAILY TRAFFIC')                    1120
      GO TO 1025                                                        1121
  975 WRITE(6,5350)                                                     1122
 5350 FORMAT('1',T58,'PERCENT TRUCKS')                                  1123
      GO TO 1025                                                        1124
  980 WRITE(6,5375)                                                     1125
 5375 FORMAT('1',T50,'PERCENT OF TRUCKS HAULING COAL')                  1126
```

Figure 4.3 (cont.)

```
      GO TO 1025                                                          1127
  985 WRITE(6,5400)                                                       1128
 5400 FORMAT('1',T49,'AXLES PER TRUCK (NON-COAL-HAULING)')                1129
      GO TO 1025                                                          1130
  990 WRITE(6,5425)                                                       1131
 5425 FORMAT('1',T50,'AXLES PER TRUCK (COAL-HAULING)')                    1132
      GO TO 1025                                                          1133
  995 WRITE(6,5450)                                                       1134
 5450 FORMAT('1',T45,'EAL''S PER TRUCK AXLE (NON-COAL-HAULING)')          1135
      GO TO 1025                                                          1136
 1000 WRITE(6,5475)                                                       1137
 5475 FORMAT('1',T47,'EAL''S PER TRUCK AXLE (COAL-HAULING)')              1138
      GO TO 1025                                                          1139
 1005 WRITE(6,5500)                                                       1140
 5500 FORMAT('1',T40,'2-DIRECTION EAL''S DUE TO 4-TIRED VEHICLES IN 1000  1141
     +''S')                                                               1142
      GO TO 1025                                                          1143
 1010 WRITE(6,5525)                                                       1144
 5525 FORMAT('1',T35,'2-DIRECTION EAL''S DUE TO NON-COAL-HAULING VEHICLE  1145
     +S IN 1000''S')                                                      1146
      GO TO 1025                                                          1147
 1015 WRITE(6,5550)                                                       1148
 5550 FORMAT('1',T38,'2-DIRECTION EAL''S DUE TO COAL-HAULING VEHICLES IN  1149
     + 1000''S')                                                          1150
      GO TO 1025                                                          1151
 1020 WRITE(6,5575)                                                       1152
 5575 FORMAT('1',T54,'TOTAL 2-DIRECTION EAL''S')                          1153
 1025 CONTINUE                                                            1154
      WRITE(6,6175)                                                       1155
      WRITE(6,5600)                                                       1156
 5600 FORMAT(T56,'NON-COAL-HAULING ROADS')                                1157
      WRITE(6,5625)                                                       1158
 5625 FORMAT(T4,'LOCAL',T20,'STD')                                        1159
      WRITE(6,5650)                                                       1160
 5650 FORMAT(' ','CONDITION',T13,'NO OF',' DEV',T59,'AVERAGE VALUE')      1161
      WRITE(6,5675) YR,YR,(NYR(N),N=1,14)                                 1162
 5675 FORMAT(' FA',T5,'VOL',T10,'GA',T13,'STAS.',I5,T29,I2,14I7)          1163
 1030 CONTINUE                                                            1164
      IF(I.EQ.3.OR.I.EQ.5.OR.I.EQ.7.OR.I.EQ.10)GOTO 1035                  1165
      COUNT(J,K,L)=COUN(J,K,L)                                            1166
      GO TO 1040                                                          1167
 1035 COUNT(J,K,L)=COUNTC(J,K,L)                                          1168
 1040 IF(MEAN(I,J,K,L).EQ.0.AND.COUNT(J,K,L).EQ.0.0)MEAN(I,J,K,L)=10000   1169
     +000000.                                                             1170
      DO 1045 M=1,14                                                      1171
      IF(MEANY(I,J,K,L,M).EQ.0.AND.CNTYR(I,J,K,L,M).EQ.0.)MEANY(I,J,K,L,  1172
     +M)=100000000.                                                       1173
 1045 CONTINUE                                                            1174
      GO TO (1050,1055,1055,1055,1055,1055,1055,1050,1050,1050,1050),I    1175
 1050 WRITE (6,5700)J,K,L,COUNT(J,K,L),STD(I,J,K,L),MEAN(I,J,K,L),(MEANY  1176
     +(I,J,K,L,M),M=1,14)                                                 1177
 5700 FORMAT(T3,I1,T7,I1,T11,I1,T14,F4.0,F8.0,15F7.0)                     1178
      GO TO 1060                                                          1179
 1055 WRITE (6,5725)J,K,L,COUNT(J,K,L),STD(I,J,K,L),MEAN(I,J,K,L),(MEANY  1180
```

Figure 4.3 (cont.)

```
     +(I,J,K,L,M),M=1,14)                                                    1181
 5725 FORMAT(T3,I1,T7,I1,T11,I1,T14,F4.0,F8.3,15F7.3)                        1182
 1060 CONTINUE                                                               1183
 1065 CONTINUE                                                               1184
 1070 CONTINUE                                                               1185
 1075 CONTINUE                                                               1186
      NO1=0                                                                  1187
      DO 1110 J=1,2                                                          1188
      DO 1105 K=1,3                                                          1189
      NO1=NO1+1                                                              1190
      IF (NO1.NE.1) GO TO 1080                                               1191
      WRITE(6,6175)                                                          1192
      WRITE(6,5750)                                                          1193
 5750 FORMAT(T57,'COAL-HAULING ROADS')                                       1194
      WRITE(6,5625)                                                          1195
      WRITE(6,5650)                                                          1196
      WRITE(6,5775) YR,YR,(NYR(N),N=1,14)                                    1197
 5775 FORMAT(T5,'VOL',T9,'CT',T13,'STAS.',I5,T29,I2,14I7)                    1198
 1080 CONTINUE                                                               1199
      IF(MEANC(I,J,K).EQ.0.AND.CCOUNT(J,K).EQ.0.)MEANC(I,J,K)=100000000.     1200
      DO 1085 L=1,14                                                         1201
      IF(MEANCY(I,J,K,L).EQ.0.AND.CNTCYR(I,J,K,L).EQ.0.)MEANCY(I,J,K,L)=     1202
     +1000000000.                                                            1203
 1085 CONTINUE                                                               1204
      GO TO (1090,1095,1095,1095,1095,1095,1095,1090,1090,1090,1090),I       1205
 1090 WRITE (6,5800)J,K,CCOUNT(J,K),STDC(I,J,K),MEANC(I,J,K),(               1206
     +MEANCY(I,J,K,L),L=1,14)                                                1207
 5800 FORMAT(T7,I1,T10,I1,T16,F3.0,F8.0,15F7.0)                              1208
      GO TO 1100                                                             1209
 1095 WRITE (6,5825)J,K,CCOUNT(J,K),STDC(I,J,K),MEANC(I,J,K),(MEANCY         1210
     +(I,J,K,L),L=1,14)                                                      1211
 5825 FORMAT(T7,I1,T10,I1,T16,F3.0,F8.3,15F7.3)                              1212
 1100 CONTINUE                                                               1213
 1105 CONTINUE                                                               1214
 1110 CONTINUE                                                               1215
 1115 CONTINUE                                                               1216
      DO 1245 I=1,11                                                         1217
      NO=0                                                                   1218
      DO 1210 J=1,5                                                          1219
      DO 1205 K=1,2                                                          1220
      DO 1200 L=1,4                                                          1221
      NO=NO+1                                                                1222
      IF(NO.NE.1) GO TO 1180                                                 1223
      GO TO (1120,1125,1130,1135,1140,1145,1150,1155,1160,1165,1170),I       1224
 1120 WRITE(6,5850)                                                          1225
 5850 FORMAT('1',T44,'INCREMENTS OF ANNUAL AVERAGE DAILY TRAFFIC')           1226
      GO TO 1175                                                             1227
 1125 WRITE(6,5875)                                                          1228
 5875 FORMAT('1',T51,'INCREMENTS OF PERCENT TRUCK')                          1229
      GO TO 1175                                                             1230
 1130 WRITE(6,5900)                                                          1231
 5900 FORMAT('1',T42,'INCREMENTS OF PERCENT OF TRUCKS HAULING COAL')         1232
      GO TO 1175                                                             1233
 1135 WRITE(6,5925)                                                          1234
```

Figure 4.3 (cont.)

```
 5925 FORMAT('1',T41,'INCREMENTS OF AXLES PER TRUCK (NON-COAL-HAULING)')    1235
      GO TO 1175                                                           1236
 1140 WRITE(6,5950)                                                        1237
 5950 FORMAT('1',T43,'INCREMENTS OF AXLES PER TRUCK (COAL-HAULING)')       1238
      GO TO 1175                                                           1239
 1145 WRITE(6,5975)                                                        1240
 5975 FORMAT('1',T39,'INCREMENTS OF EAL''S PER TRUCK AXLE (NON-COAL-HAUL   1241
     +ING)')                                                               1242
      GO TO 1175                                                           1243
 1150 WRITE(6,6000)                                                        1244
 6000 FORMAT('1',T40,'INCREMENTS OF EAL''S PER TRUCK AXLE (COAL-HAULING)   1245
     +')                                                                   1246
      GO TO 1175                                                           1247
 1155 WRITE(6,6025)                                                        1248
 6025 FORMAT('1',T34,'INCREMENTS OF 2-DIRECTION EAL''S DUE TO 4-TIRED VE   1249
     +HICLES IN 1000''S')                                                  1250
      GO TO 1175                                                           1251
 1160 WRITE(6,6050)                                                        1252
 6050 FORMAT('1',T29,'INCREMENTS OF 2-DIRECTION EAL''S DUE TO NON-COAL-H   1253
     +AULING VEHICLES IN 1000''S')                                         1254
      GO TO 1175                                                           1255
 1165 WRITE(6,6075)                                                        1256
 6075 FORMAT('1',T30,'INCREMENTS OF 2-DIRECTION EAL''S DUE TO COAL-HAULI   1257
     +NG VEHICLES IN 1000''S')                                             1258
      GO TO 1175                                                           1259
 1170 WRITE(6,6100)                                                        1260
 6100 FORMAT('1',T46,'INCREMENTS OF TOTAL 2-DIRECTION EAL''S')             1261
 1175 CONTINUE                                                             1262
      WRITE(6,6125)                                                        1263
 6125 FORMAT(T46,'(MINUS MEANS A DECREASE THROUGH TIME)')                  1264
      WRITE(6,6150) YR                                                     1265
 6150 FORMAT(T57,'BASE YEAR IS',I3)                                        1266
      WRITE(6,6175)                                                        1267
 6175 FORMAT('0')                                                          1268
      WRITE(6,6200)                                                        1269
 6200 FORMAT(T54,'NON-COAL-HAULING ROADS')                                 1270
      WRITE(6,6225)                                                        1271
 6225 FORMAT(T4,'LOCAL')                                                   1272
      WRITE(6,6250)                                                        1273
 6250 FORMAT(' ','CONDITION',T54,'TIME INTERVAL IN YEARS')                 1274
      WRITE(6,6275)                                                        1275
 6275 FORMAT(' FA',T5,'VOL',T10,'GA',T15,'1',                              1276
     +T23,'2',T31,'3',T39,'4',T47,'5',T55,'6',T63,'7',T71,'8',T79,         1277
     +'9',T87,'10',T95,'11',T103,'12',T111,'13',T119,'14',T127,'15')       1278
 1180 CONTINUE                                                             1279
      GO TO (1185,1190,1190,1190,1190,1190,1190,1185,1185,1185,1185),I     1280
 1185 WRITE (6,6300)J,K,L,(DIFF(I,J,K,L,M),M=1,15)                         1281
 6300 FORMAT(T3,I1,T7,I1,T11,I1,15F8.0)                                    1282
      GO TO 1195                                                           1283
 1190 WRITE (6,6325)J,K,L,(DIFF(I,J,K,L,M),M=1,15)                         1284
 6325 FORMAT(T3,I1,T7,I1,T11,I1,15F8.3)                                    1285
 1195 CONTINUE                                                             1286
 1200 CONTINUE                                                             1287
 1205 CONTINUE                                                             1288
```

Figure 4.3 (cont.)

```
 1210 CONTINUE                                                          1289
      NO1=0                                                             1290
      DO 1240 J=1,2                                                     1291
      DO 1235 K=1,3                                                     1292
      NO1=NO1+1                                                         1293
      IF(NO1.NE.1)GO TO 1215                                            1294
      WRITE(6,6175)                                                     1295
      WRITE(6,6350)                                                     1296
 6350 FORMAT(T56,'COAL-HAULING ROADS')                                  1297
      WRITE(6,6225)                                                     1298
      WRITE(6,6250)                                                     1299
      WRITE(6,6375)                                                     1300
 6375 FORMAT(T5,'VOL',T10,'CT',T15,'1',                                 1301
     +T23,'2',T31,'3',T39,'4',T47,'5',T55,'6',T63,'7',T71,'8',T79,      1302
     +'9',T87,'10',T95,'11',T103,'12',T111,'13',T119,'14',T127,'15')    1303
 1215 CONTINUE                                                          1304
      GO TO (1220,1225,1225,1225,1225,1225,1225,1220,1220,1220,1220),I  1305
 1220 WRITE (6,6400)J,K,(DIFFC(I,J,K,L),L=1,15)                         1306
 6400 FORMAT(T7,I1,T11,I1,T12,15F8.0)                                   1307
      GO TO 1230                                                        1308
 1225 WRITE (6,6425)J,K,(DIFFC(I,J,K,L),L=1,15)                         1309
 6425 FORMAT(T7,I1,T11,I1,T12,15F8.3)                                   1310
 1230 CONTINUE                                                          1311
 1235 CONTINUE                                                          1312
 1240 CONTINUE                                                          1313
 1245 CONTINUE                                                          1314
 1250 CONTINUE                                                          1315
      DO 1265 I=1,11                                                    1316
      DO 1255 J=1,5                                                     1317
      DO 1255 K=1,2                                                     1318
      DO 1255 L=1,4                                                     1319
      IF(I.EQ.3.OR.I.EQ.5.OR.I.EQ.7.OR.I.EQ.10)COUNT(J,K,L)=COUNTC(J,K,L 1320
     +)                                                                 1321
      IF(I.NE.3.OR.I.NE.5.OR.I.NE.7.OR.I.NE.10)COUNT(J,K,L)=COUN(J,K,L) 1322
      NCOUNT(I,J,K,L)=(COUNT(J,K,L)+CNTYR(I,J,K,L,1)+CNTYR(I,J,K,L,2)+  1323
     +CNTYR(I,J,K,L,3)+CNTYR(I,J,K,L,4))                                1324
      IF(NCOUNT(I,J,K,L).EQ.0)MEAN(I,J,K,L)=100000000.                  1325
      IF(NCOUNT(I,J,K,L).NE.0)                                          1326
     +MEAN(I,J,K,L)=(MEAN(I,J,K,L)*COUNT(J,K,L)+MEANY(I,J,K,L,1)*CNTYR(I 1327
     +,J,K,L,1)+MEANY(I,J,K,L,2)*CNTYR(I,J,K,L,2)+MEANY(I,J,K,L,3)*CNTYR 1328
     +(I,J,K,L,3)+MEANY(I,J,K,L,4)*CNTYR(I,J,K,L,4))/NCOUNT(I,J,K,L)    1329
 1255 CONTINUE                                                          1330
      DO 1260 J=1,2                                                     1331
      DO 1260 K=1,3                                                     1332
      NCONT(I,J,K)=(CCOUNT(J,K)+CNTCYR(I,J,K,1)+CNTCYR(I,J,K,2)+        1333
     +CNTCYR(I,J,K,3)+CNTCYR(I,J,K,4))                                  1334
      IF(NCONT(I,J,K).EQ.0)MEANC(I,J,K)=100000000.                      1335
      IF(NCONT(I,J,K).NE.0)                                             1336
     +MEANC(I,J,K)=(MEANC(I,J,K)*CCOUNT(J,K)+MEANCY(I,J,K,1)*CNTCYR(I   1337
     +,J,K,1)+MEANCY(I,J,K,2)*CNTCYR(I,J,K,2)+MEANCY(I,J,K,3)*CNTCYR    1338
     +(I,J,K,3)+MEANCY(I,J,K,4)*CNTCYR(I,J,K,4))/NCONT(I,J,K)           1339
 1260 CONTINUE                                                          1340
 1265 CONTINUE                                                          1341
      M1=0                                                              1342
```

Figure 4.3 (cont.)

```
      M2=1                                                                1343
      M3=2                                                                1344
      M4=3                                                                1345
      M5=4                                                                1346
 1270 CONTINUE                                                            1347
      M1=M1+1                                                             1348
      M2=M2+1                                                             1349
      M3=M3+1                                                             1350
      M4=M4+1                                                             1351
      M5=M5+1                                                             1352
      DO 1275 I=1,11                                                      1353
      DO 1275 J=1,5                                                       1354
      DO 1275 K=1,2                                                       1355
      DO 1275 L=1,4                                                       1356
      NCOUN(I,J,K,L,M1)=(CNTYR(I,J,K,L,M1)+CNTYR(I,J,K,L,M2)+CNTYR(I,J,K  1357
     +,L,M3)+CNTYR(I,J,K,L,M4)+CNTYR(I,J,K,L,M5))                         1358
      IF(NCOUN(I,J,K,L,M1).EQ.0)MEANY(I,J,K,L,M1)=100000000.              1359
      IF(NCOUN(I,J,K,L,M1).NE.0)                                          1360
     +MEANY(I,J,K,L,M1)=(MEANY(I,J,K,L,M1)*CNTYR(I,J,K,L,M1)+MEANY(I,J,   1361
     +K,L,M2)*CNTYR(I,J,K,L,M2)+MEANY(I,J,K,L,M3)*CNTYR(I,J,K,L,M3)+MEAN  1362
     +Y(I,J,K,L,M4)*CNTYR(I,J,K,L,M4)+MEANY(I,J,K,L,M5)*CNTYR(I,J,K,L,M5  1363
     +))/NCOUN(I,J,K,L,M1)                                                1364
 1275 CONTINUE                                                            1365
      IF (M1.LT.16)GO TO 1270                                             1366
      M1=0                                                                1367
      M2=1                                                                1368
      M3=2                                                                1369
      M4=3                                                                1370
      M5=4                                                                1371
 1280 CONTINUE                                                            1372
      M1=M1+1                                                             1373
      M2=M2+1                                                             1374
      M3=M3+1                                                             1375
      M4=M4+1                                                             1376
      M5=M5+1                                                             1377
      DO 1285 I=1,11                                                      1378
      DO 1285 J=1,2                                                       1379
      DO 1285 K=1,3                                                       1380
      NCON(I,J,K,M1)=(CNTCYR(I,J,K,M1)+CNTCYR(I,J,K,M2)+CNTCYR(I,J,K,M3)  1381
     ++CNTCYR(I,J,K,M4)+CNTCYR(I,J,K,M5))                                 1382
      IF(NCON(I,J,K,M1).EQ.0)MEANCY(I,J,K,M1)=100000000.                  1383
      IF(NCON(I,J,K,M1).NE.0)                                             1384
     +MEANCY(I,J,K,M1)=(MEANCY(I,J,K,M1)*CNTCYR(I,J,K,M1)+MEANCY(I,J,     1385
     +K,M2)*CNTCYR(I,J,K,M2)+MEANCY(I,J,K,M3)*CNTCYR(I,J,K,M3)+MEANCY     1386
     +(I,J,K,M4)*CNTCYR(I,J,K,M4)+MEANCY(I,J,K,M5)*CNTCYR(I,J,K,M5)       1387
     +)/NCON(I,J,K,M1)                                                    1388
 1285 CONTINUE                                                            1389
      IF (M1.LT.16)GO TO 1280                                             1390
      DO 1310 I=1,11                                                      1391
      DO 1295 J=1,5                                                       1392
      DO 1295 K=1,2                                                       1393
      DO 1295 L=1,4                                                       1394
      DO 1295 M=1,15                                                      1395
      IF(NCOUNT(I,J,K,L).EQ.0.OR.NCOUN(I,J,K,L,M).EQ.0)                   1396
```

Figure 4.3 (cont.)

```
     +GO TO 1290                                                              1397
      DIFF(I,J,K,L,M)=MEAN(I,J,K,L)-MEANY(I,J,K,L,M)                          1398
      GO TO 1295                                                              1399
 1290 DIFF(I,J,K,L,M)=1000000000000.                                          1400
 1295 CONTINUE                                                                1401
      DO 1305 J=1,2                                                           1402
      DO 1305 K=1,3                                                           1403
      DO 1305 L=1,15                                                          1404
      IF(NCONT(I,J,K).EQ.0.OR.NCON(I,J,K,L).EQ.0)                             1405
     +GO TO 1300                                                              1406
      DIFFC(I,J,K,L)=MEANC(I,J,K)-MEANCY(I,J,K,L)                             1407
      GO TO 1305                                                              1408
 1300 DIFFC(I,J,K,L)=1000000000.                                              1409
 1305 CONTINUE                                                                1410
 1310 CONTINUE                                                                1411
      DO 1425 I=1,11                                                          1412
      NO=0                                                                    1413
      DO 1395 J=1,5                                                           1414
      DO 1395 K=1,2                                                           1415
      DO 1395 L=1,4                                                           1416
      NO=NO+1                                                                 1417
      IF(NO.NE.1) GO TO 1375                                                  1418
      GO TO (1315,1320,1325,1330,1335,1340,1345,1350,1355,1360,1365),I        1419
 1315 WRITE(6,5325)                                                           1420
      GO TO 1370                                                              1421
 1320 WRITE(6,5350)                                                           1422
      GO TO 1370                                                              1423
 1325 WRITE(6,5375)                                                           1424
      GO TO 1370                                                              1425
 1330 WRITE(6,5400)                                                           1426
      GO TO 1370                                                              1427
 1335 WRITE(6,5425)                                                           1428
      GO TO 1370                                                              1429
 1340 WRITE(6,5450)                                                           1430
      GO TO 1370                                                              1431
 1345 WRITE(6,5475)                                                           1432
      GO TO 1370                                                              1433
 1350 WRITE(6,5500)                                                           1434
      GO TO 1370                                                              1435
 1355 WRITE(6,5525)                                                           1436
      GO TO 1370                                                              1437
 1360 WRITE(6,5550)                                                           1438
      GO TO 1370                                                              1439
 1365 WRITE(6,5575)                                                           1440
 1370 CONTINUE                                                                1441
      WRITE(6,6175)                                                           1442
      WRITE(6,5600)                                                           1443
      WRITE(6,6450)                                                           1444
 6450 FORMAT(T4,'LOCAL')                                                      1445
      WRITE(6,6475)                                                           1446
 6475 FORMAT(' ','CONDITION',T57,'5-YEAR MOVING AVERAGE')                     1447
      WRITE(6,6500) YR,(NYR(N),N=1,14)                                        1448
 6500 FORMAT(' FA',T5,'VOL',T10,'GA',T29,I2,14I7)                             1449
 1375 CONTINUE                                                                1450
```

Figure 4.3 (cont.)

```
      GO TO (1380,1385,1385,1385,1385,1385,1385,1380,1380,1380,1380),I      1451
 1380 WRITE (6,6525)J,K,L,MEAN(I,J,K,L),(MEANY                              1452
     +(I,J,K,L,M),M=1,14)                                                   1453
 6525 FORMAT(T3,I1,T7,I1,T11,I1,T26,15F7.0)                                 1454
      GO TO 1390                                                            1455
 1385 WRITE (6,6550)J,K,L,MEAN(I,J,K,L),(MEANY                              1456
     +(I,J,K,L,M),M=1,14)                                                   1457
 6550 FORMAT(T3,I1,T7,I1,T11,I1,T26,15F7.3)                                 1458
 1390 CONTINUE                                                              1459
 1395 CONTINUE                                                              1460
      NO1=0                                                                 1461
      DO 1420 J=1,2                                                         1462
      DO 1420 K=1,3                                                         1463
      NO1=NO1+1                                                             1464
      IF (NO1.NE.1) GO TO 1400                                              1465
      WRITE(6,6175)                                                         1466
      WRITE(6,5750)                                                         1467
      WRITE(6,6450)                                                         1468
      WRITE(6,6475)                                                         1469
      WRITE(6,6575) YR,(NYR(N),N=1,14)                                      1470
 6575 FORMAT(T5,'VOL',T9,'CT',T29,I2,14I7)                                  1471
 1400 CONTINUE                                                              1472
      GO TO (1405,1410,1410,1410,1410,1410,1410,1405,1405,1405,1405),I      1473
 1405 WRITE (6,6600)J,K,MEANC(I,J,K),(                                      1474
     +MEANCY(I,J,K,L),L=1,14)                                               1475
 6600 FORMAT(T7,I1,T10,I1,T27,15F7.0)                                       1476
      GO TO 1415                                                            1477
 1410 WRITE (6,6625)J,K,MEANC(I,J,K),(MEANCY                                1478
     +(I,J,K,L),L=1,14)                                                     1479
 6625 FORMAT(T7,I1,T10,I1,T27,15F7.3)                                       1480
 1415 CONTINUE                                                              1481
 1420 CONTINUE                                                              1482
 1425 CONTINUE                                                              1483
      DO 1540 I=1,11                                                        1484
      NO=0                                                                  1485
      DO 1510 J=1,5                                                         1486
      DO 1510 K=1,2                                                         1487
      DO 1510 L=1,4                                                         1488
      NO=NO+1                                                               1489
      IF(NO.NE.1) GO TO 1490                                                1490
      GO TO (1430,1435,1440,1445,1450,1455,1460,1465,1470,1475,1480),I      1491
 1430 WRITE(6,5850)                                                         1492
      GO TO 1485                                                            1493
 1435 WRITE(6,5875)                                                         1494
      GO TO 1485                                                            1495
 1440 WRITE(6,5900)                                                         1496
      GO TO 1485                                                            1497
 1445 WRITE(6,5925)                                                         1498
      GO TO 1485                                                            1499
 1450 WRITE(6,5950)                                                         1500
      GO TO 1485                                                            1501
 1455 WRITE(6,5975)                                                         1502
      GO TO 1485                                                            1503
 1460 WRITE(6,6000)                                                         1504
```

Figure 4.3 (cont.)

```
      GO TO 1485                                                          1505
 1465 WRITE(6,6025)                                                       1506
      GO TO 1485                                                          1507
 1470 WRITE(6,6050)                                                       1508
      GO TO 1485                                                          1509
 1475 WRITE(6,6075)                                                       1510
      GO TO 1485                                                          1511
 1480 WRITE(6,6100)                                                       1512
 1485 CONTINUE                                                            1513
      WRITE(6,6650)                                                       1514
 6650 FORMAT(T31,'(MINUS MEANS A DECREASE THROUGH TIME BASED ON A 5-YEAR  1515
     + MOVING AVERAGE)')                                                  1516
      WRITE(6,6150) YR                                                    1517
      WRITE(6,6175)                                                       1518
      WRITE(6,6200)                                                       1519
      WRITE(6,6225)                                                       1520
      WRITE(6,6250)                                                       1521
      WRITE(6,6275)                                                       1522
 1490 CONTINUE                                                            1523
      GO TO (1495,1500,1500,1500,1500,1500,1500,1495,1495,1495,1495),I    1524
 1495 WRITE (6,6300)J,K,L,(DIFF(I,J,K,L,M),M=1,15)                        1525
      GO TO 1505                                                          1526
 1500 WRITE (6,6325)J,K,L,(DIFF(I,J,K,L,M),M=1,15)                        1527
 1505 CONTINUE                                                            1528
 1510 CONTINUE                                                            1529
      NO1=0                                                               1530
      DO 1535 J=1,2                                                       1531
      DO 1535 K=1,3                                                       1532
      NO1=NO1+1                                                           1533
      IF(NO1.NE.1)GO TO 1515                                              1534
      WRITE(6,6175)                                                       1535
      WRITE(6,6350)                                                       1536
      WRITE(6,6225)                                                       1537
      WRITE(6,6250)                                                       1538
      WRITE(6,6375)                                                       1539
 1515 CONTINUE                                                            1540
      GO TO (1520,1525,1525,1525,1525,1525,1525,1520,1520,1520,1520),I    1541
 1520 WRITE (6,6400)J,K,(DIFFC(I,J,K,L),L=1,15)                           1542
      GO TO 1530                                                          1543
 1525 WRITE (6,6425)J,K,(DIFFC(I,J,K,L),L=1,15)                           1544
 1530 CONTINUE                                                            1545
 1535 CONTINUE                                                            1546
 1540 CONTINUE                                                            1547
 1545 CONTINUE                                                            1548
 1550 CONTINUE                                                            1549
      STOP                                                                1550
      END                                                                 1551
```

TABLE 4.1 DAMAGE FACTORS BY AXLE TYPE AND LOAD INTERVAL

LOAD INTERVAL CODE	STEERING AXLES	OTHER SINGLE AXLES	TANDEM AXLES	TRIDEM AXLES	QUAD AXLES
1	0.0001	0.0004	0.0007	0.0007	0.0006
2	0.0030	0.0027	0.0029	0.0029	0.0029
3	0.0138	0.0120	0.0113	0.0115	0.0115
4	0.0387	0.406	0.0359	0.0363	0.0366
5	0.0855	0.1130	0.0966	0.0970	0.0980
6	0.163	0.277	0.231	0.230	0.232
7	0.281	0.613	0.502	0.497	0.502
8	0.451	1.25	1.02	0.998	1.01
9	0.685	2.41	1.94	1.89	1.90
10	0.997	4.40	3.52	3.41	3.43
11	1.40	7.68	6.14	5.91	5.92
12	1.91	12.9	10.3	9.89	9.88
13	2.55	21.1	16.8	16.0	16.0
14	3.33	33.5	26.8	25.3	25.2
15	4.27	51.9	41.5	39.1	38.7
16	5.39	78.6	63.0	59.0	58.3

TABLE 4.2 FRACTION OF BUS AXLES IN GIVEN LOAD CATEGORY

LOAD INTERVAL CODE	STEERING AXLES	OTHER SINGLE AXLES	TANDEM AXLES
1	0.0046	0.0192	0.0000
2	0.0344	0.1181	0.0000
3	0.0796	0.1920	0.0000
4	0.1403	0.1492	0.0000
5	0.1352	0.1092	0.0000
6	0.1706	0.1615	0.0000
7	0.1859	0.1679	0.0000
8	0.1807	0.0762	0.0000
9	0.0401	0.0054	0.0000
10	0.0173	0.0011	0.0000
11	0.0043	0.0002	0.0000
12	0.0012	0.0000	0.0000
13	0.0044	0.0000	0.0000
14	0.0014	0.0000	0.0000
15	0.0000	0.0000	0.0000
16	0.0000	0.0000	0.0000

TABLE 4.3 AXLE CONFIGURATIONS

VEHICLE TYPE	NUMBER OF STEERING AXLES	NUMBER OF OTHER SINGLE AXLES	NUMBER OF TANDEM AXLES	NUMBER OF TRIDEM AXLES	NUMBER OF QUAD AXLES
Motorcycles	1	1	0	0	0
Passenger Cars	1	1	0	0	0
Other 2-Axle 4-Tire Vehicles	1	1	0	0	0
School Busses	1	1	0	0	0
Other Busses	1	1.7	0	0	0
SINGLE UNIT					
2-Axle, 6 Tire	1	1	0	0	0
3-Axle	1	0	1	0	0
4- or More Axle	1	0	0	1	0
SINGLE TRAILER					
4 or Less Axle	1	1	1	0	0
5- Axle	1	0.046	1.977	0	0
6 or More Axle	1	0.008	1.002	.996	0
MULTIPLE TRAILER					
5 or Less Axle	1	3.990	.005	0	0
6 Axle	1	1.4	0.8	0	0
7 or More Axle	1	2.0	2.0	0	0