Research Report
KTC-95-6

DEVELOPMENT OF AN ALTERNATE METHODOLOGY FOR IDENTIFYING HEAVY/COAL TRUCKS AND CALCULATING ESAL'S/AXLE AND AXLES/TRUCK

by

Jack A. Harison
Transportation Engineer II

David L. Allen
Transportation Engineer V

and

Jerry G. Pigman
Transportation Engineer V

Kentucky Transportation Center
College of Engineering
University of Kentucky
Lexington, Kentucky

in cooperation with

Kentucky Transportation Cabinet
Commonwealth of Kentucky

and

The Federal Highway Administration
U.S. Department of Transportation

The contents of this report reflect the views of the authors who are responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the University of Kentucky, the Kentucky Transportation Cabinet, nor the Federal Highway Administration. This report does not constitute a standard, specification, or regulation. The inclusion of manufacturer names and trade names is for identification purposes, and is not to be considered an endorsement.

May 1995

LIST OF TABLES

LIST OF FIGURES

1. Introduction

Accurate axleload data are essential in developing Equivalent Single Axleload (ESAL) forecasts for the design of pavements. With a high degree of inaccuracy, pavements may be over-designed, which results in inefficient use of construction funds, or the pavement may be under-designed resulting in premature failure and/or increased maintenance costs.

Existing methods used to calculate ESAL's within the Division of Planning may have become somewhat outdated as a result of newer data processing technologies and the significant increase in data availability due to recent WIM efforts. It has become apparent that significant revisions may be necessary to present programs that would include a more definitive and accurate method for reflecting effects of coal movement and a more flexible approach to accommodating evolving needs and future requirements.

In the last two decades, a number of improvements and refinements to the ESAL estimation process have be made. In 1990, Research Report KTC-90-11 was produced as documentation of a revised procedure for estimating ESAL's based on data collected by automated equipment in conformance with the Traffic Monitoring Guide. Primary changes were developed of an algorithm for identification of coal trucks based on analysis of weigh-in-motion data and a shift to use of the three-year cycle of classification and weight data.

Further improvements were made to the methodology in 1993 (Research Report KTC-93-7). These included enhancements to the accuracy of the calibration/estimation process, improvements in the appearance and utility of the ESAL table output, and reductions in the year-to-year variations in the estimations of parameters used in the estimation process. Appendix D of Research Report KTC-93-7 listed possible future revisions to the ESAL programs. One of the proposed revisions stated that "because coal movements place such a large burden on Kentucky's highway system, special emphasis is placed on them in the ESAL models. Current procedures suffer, however, in two very important respects. First, a highway segment can be identified as a coal-haul highway only when a manual classification count has been taken there. Segments not included in the manual classification program and those for which automatic classifiers are used cannot be identified as coal-haul highways and, hence, cannot be treated as such in the ESAL estimations. Second, the separation of weight data into normal and heavy/coal categories(without regard to type of highway on which it was collected) has screened overloaded and coal trucks from the traffic loading applied to non-coal highways. This results in an under estimate of the ESAL accumulations on these facilities." It was proposed in that report to use coal-haul road data to identify coal-haul highways.

This study was initiated to develop further enhancements to the ESAL calculation programs and estimation process. Objective Number 3 of this study was "to modify the current ESAL calculation procedures to provide more definitive and accurate methods for reflecting the effects of coal movement and a more flexible approach to accommodate evolving needs." This report details the efforts to fulfill that objective.

The distribution of coal hauled in terms of tonnage and mileage by functional class was investigated. The annual weight of coal hauled on a segment of a route was then classified into three weight categories -- low, medium, and high. The corresponding ESAL's/Axle and Axles/Truck were obtained from the ESAL database by matching the route name, milepoint and functional class. A computer program ("COALR") was developed to perform this analysis. From the results of an analysis of three years of coal-haul data (1990 through 1992), it was determined that a relationship exists between ESAL's/Axle, coal weight hauled on a particular route (W), and AADT of that route. An equation was developed to describe that relationship, and the development will be described later. Therefore, the value of ESAL's/Axle of a segment of a coal-haul route can be predicted if the AADT and W of that route are known. A computer program was developed to predict ESAL's/Axle of a coal-haul route segment.

2. Data Sources

The data used in this analysis are from the annual COAL-HAUL road database as maintained by the Coal-Haul Road System Section of the Division of Planning, the annual ESAL report, and HISTORIC.DBF. Variables in the available annual COAL-HAUL data are: County Number, Station Number, Route, Milepoints of the segment of the route, length of the route, and annual coal produced, hauled, impact, and the total weight. These data are matched with HISTORIC.DBF to obtained functional class codes. ESAL and AADT data are obtained from the Annual ESAL report which is the output of the EAL.CALC computer program (or EALCOMP program). The ESAL and AXLE values used are the weighted average of coal and non-coal truck ESAL's.

3. Route Classification by Weight, Function, and County

The data were classified based on weight classification, functional class, and county. It was arbitrarily decided to classify all coal-haul route segments into three weight categories. It was further decided to attempt to classify the route segments so that approximately 33 percent of the records or mileages would be in each weight category. That analysis yielded the following results:

1. Based on the number of records (1990-1992 data) :

   33.33 percent (1/3) of route segments hauled < 50,000 tons
   66.67 percent (2/3) of route segments hauled < 400,000 tons;

2. Based on mileage :

   33.33 percent (1/3) of coal-haul mileage hauled < 40,000 tons
   66.67 percent (2/3) of coal-haul mileage hauled < 220,000 tons.

It was eventually decided to adopt the following weight classifications:

LIGHT < 50,000 tons,
MEDIUM ≥ 50,000 and < 400,000 tons, and
HEAVY ≥ 400,000 tons.

Table 1 lists the results of that analysis, and Figure 1 shows the accumulative distribution of total annual coal hauled by number of records and by mileage (Columns 4 and 8 of Table 1 as a function of Column 1 of Table 1) for Weight and mileage distributions of 1990-1992 Kentucky coal-haul roads.

Functional Class codes numbers which were obtained from HISTORIC.DBF were not available for every route segment. Therefore, records with no functional class code are classified as "UNC". Tables 2 through 5, Figures 2 through 5, and Figures 6 through 9 are the distributions of 1990 - 1992 Kentucky coal hauling mileage and ton-miles based on functional class codes. From those figures, it is clear that there is more coal-haul mileage in Functional Class 7, but there is more ton-miles of coal hauled in Functional Class 2.

4. Calculation of ESAL's/Axle and Axles/Truck

To compute ESAL's/Axle and Axles/Truck based on functional classes and established weight classification, a computer program, "COALR", was developed. COALR is, in reality, three programs (COALR1, COALR2, and COALR3). Appendix A is an explanation of the development of these programs, including input instructions and example output data. The ESAL's/axle and Axles/Truck for each weight classification and Functional Class 1,2,6,7,8, and 9 for the combined years of 1990 to 1992 coal-haul data are listed in Table 6. The last row of Table 6 is the results for the combined functional classes used in the analysis. These results are also shown graphically in Figures 10 and 11.

Figure 12 is a high-low plot of ESAL's/Axle for 1990-1992 combined data. The high and low values are representing the average ESAL's/Axle plus and minus one standard deviation, respectively. It can be seen some overlaps in ESAL's/Axle values occur between weight classifications because of variation of the available data. Figure 13 is the adjusted ESAL's/Axle for each weight category. In that plot, the boundary values of each weight category are added or subtracted by one half of the amount of overlap. Figure 13 suggests that the ranges of ESAL's/Axle for light, medium and heavy are < 0.325, 0.325 to 0.700, and greater and 0.700, respectively.

The comparisons between coal roads and non-coal roads by functional class for ESAL's/Axle and Axles/Truck are shown in Figures 14 and 15.

5. ESAL's/Axle as a Function of Weight Hauled and AADT

To investigate the relationship between ESAL's/Axle as a function of tons of coal hauled on a route segment and AADT, multi-variant regression analyses were performed. The resulting regression equations for each year from 1990 to 1992 are as follows :

DATA	REGRESSION EQUATIONS	N	R
1990	Log(ESALs)=-0.2072+0.1715*Log(W)-0.271 *Log(AADT)	91	0.68
1991	Log(ESALs)=-0.1839+0.3215*Log(W)-0.48*Log(AADT)	74	0.70
1992	Log(ESALs)=-0.5104+0.2248*Log(W)-0.2610*Log(AADT)	108	0.70
COMBINED	See Eqn.(2) and Eqn.(3) below		

Figures 16 through 18 are the plots regression lines overlying the data points. These figures suggest that a nonlinear relationship best represents the data. For combined data for the years of 1990 to 1992, the regression model was modified as follows :

$$\text{Log(ESAL/Axle)} = a[(W)^b] + A^*\text{Log(AADT)} + B. \qquad (1)$$

A series of regression analyses were performed using preassigned values of b. The values of constant b versus coefficient of correlation (R) and standard error of estimate of Y (SE(Y)) were then plotted as shown in Figure 19. It can be seen that b equal to 0.30 yields the highest R and the lowest SE(Y). The regression equations using b equal to 0.30 is:

$$\text{Log(ESAL/Axle)} = 0.00945(W)^{0.30} - 0.2666\text{Log(AADT)} + 0.2805 \qquad (2)$$

where $R = 0.74$, and
$N = 273$,

or:

$$\text{Log(ESAL/Axle*AADT}^{(0.2666)}) = 0.00945(W)^{0.30} + 0.2805.$$

Figures 20 and 21 show the regression lines with a ±1 standard error of estimate and the 95 percent confidence limits, respectively.

Figure 22 shows the plot of ESAL's/Axle as a function of percent of trucks with coal. Review of that figure shows that there were a large number of data points recorded as having zero coal trucks but, in fact, hauled a considerable amount of coal (note the large number of points located on the Y-axis). From 1992 classification data, there are 64 data points with zero coal trucks but hauled various amounts of coal as recorded in the 1992 coal-haul data. These 64 route segments are listed in Table 7. If these data points are excluded, a new regression analysis can be performed on the data resulting in revised regression constants for Equation 1.

$$\text{Log(ESAL/Axle)} = 0.06562(W)^{0.18} - 0.2284\text{Log(AADT)} + 0.0167 \qquad (3)$$

where $R = 0.75$, and
$N = 199$.

Figure 23 is the plot of Equation (3) overlaying the data points.

In the annual ESAL reports, it is assumed that if the number of trucks hauling coal is less than three percent of the total number of trucks the route segment is categorized as a non-coal haul road with an ESAL/Axle value approximately 0.25. Figure 23 is a plot of the accumulated distribution of 1990 to 1992 annual weight of coal hauled for route segments that are reported as having less than three percent coal trucks as reported in the annual ESAL report. That figure shows that approximately 50 percent of those route segments with less three percent coal trucks carry less than 50,000 tons of coal annually (Low category). The ESAL/Axle values of a route segment in the Low category are only slightly higher than the ESAL/Axle value of a non-coal haul road, consequently, calculated ESAL totals will be only slightly underestimated for these routes. However, 50 percent of these route segments carry more than 50,000 tons annually (Medium and High categories). Figure 24 shows that ESAL/Axle values estimated using current procedures can be seriously underestimated, thereby unterestimating ESAL totals for those routes. Table 7 lists the routes that were reported to be non-coal haul routes for the year of 1992 only, and also lists the tons of coal hauled on those routes.

6. Predicting Weight Category, Annual Tonnage and ESAL's of a Route

Equations (2) and (3) show that W is one of the variables required for estimating ESAL's/Axle. When there are no data available for a given route, Tables 8 and 9, which were developed from the 1990 through 1992 Kentucky coal-haul data, can be used to predict the weight category of a given route segment. The given route is matched to the same route (if it exists) in Table 8 to obtained the weight category. If there is no route match, Table 9, which is the weight distribution based on County Number, can be used to predict the weight category.

Table 10 is the predicted weight of annual coal hauled in terms of functional classes, and weight categories. This table was developed based on 1990 through 1992 data. Variable W (tons) can be predicted from this table after the weight category of a given route is known.

Table 11 is the ESAL's/Axle values as a function of W and AADT. This Table was derived using Equation (3).

Figure 25 is the block diagram showing the procedure for predicting EXAL's/Axle and Axles/Truck values for a given route. Using this procedure, a computer program entitled "EALEST" was developed. The source codes and a brief description of this program is also included in APPENDIX A.

7. Applications

In addition to presenting the statistics and qualitative and quantitative measures of the Kentucky coal-haul roads that are useful for information and planning purposes, this report also presents methods for predicting ESAL's/Axle and Axles/Truck values of a coal-haul road segments and non-coal haul roads having less than three percent coal trucks in Kentucky. Two basic procedures are presented.

1. If annual coal hauled (in Tons) is known or can be predicted, the ESAL's/Axle and Axles/Truck values can be obtained using Equation (3) or Table 11 and Table 12, respectively.

2. If annual coal hauled, W, is not available, and it can not be projected, the weight category L,M, or H of the given road segment (route name, county number, milepoints, and functional class) can be predicted using Tables 8 or 9. After deciding which weight category to be used, using

Table 10 to obtain W's for 50, 60, 70, 80, 90 and 100 percent reliability. Then follow the procedure in (1) above to obtain ESALs/Axle and Axles/Truck values. A computer program "ESALEST" can also be used for this procedure.

It should be noted that better results will be obtained if W (in Tons) is known and using Equation (3) or Table 11 to obtain ESAL's/Axle value (procedure 1 above), as opposed to using Table 8 and Table 9 (or Computer program ESALEST) which give W in L, M, or H categories, remembering that ranges of L, M, and H are 0 to 49,999 tons, 50,000 to 399,999 tons and 400,000 tons and greater, respectively. In this case, some judgements are required to decide which percentile within the weight category range are more appropriate to represent the given route segment.

8. Recommendations

It is recommended that the procedure developed during this study be used for calculating ESAL's/Axle on known coal-haul roads and on roads that are reported to be non-coal haul by the criterion of having the percent of coal trucks at three percent or less.

Table 1. Kentucky Coal-Haul Roads by Total Annual Tons Hauled

WEIGHT RANGE	# OF REC.	%	% CUMM.	LENGTH (MILES)	CUMM. (MILES)	%	% CUMM.
0	0	.00	0.00	.0	.0	.00	.00
2,500	537	7.49	7.49	1431.0	1431.0	8.30	8.30
5,000	234	3.26	10.75	591.7	2022.7	3.43	11.73
10,000	337	4.70	15.44	1120.3	3143.0	6.50	18.23
15,000	233	3.25	18.69	710.5	3853.5	4.12	22.35
20,000	174	2.43	21.12	468.0	4321.5	2.71	25.07
40,000	589	8.21	29.33	1753.1	6074.6	10.17	35.24
60,000	443	6.18	35.50	1389.5	7464.1	8.06	43.30
80,000	332	4.63	40.13	896.6	8360.7	5.20	48.50
100,000	246	3.43	43.56	514.3	8875.0	2.98	51.48
120,000	223	3.11	46.67	536.2	9411.2	3.11	54.59
140,000	188	2.62	49.29	507.7	9918.9	2.95	57.54
160,000	212	2.96	52.24	539.7	10458.6	3.13	60.67
180,000	190	2.65	54.89	469.4	10928.0	2.72	63.39
200,000	145	2.02	56.91	397.5	11325.5	2.31	65.70
220,000	120	1.67	58.59	243.6	11569.1	1.41	67.11
240,000	84	1.17	59.76	217.6	11786.7	1.26	68.37
260,000	96	1.34	61.10	240.2	12026.9	1.39	69.77
280,000	90	1.25	62.35	163.8	12190.7	.95	70.72
300,000	81	1.13	63.48	181.8	12372.5	1.05	71.77
500,000	713	9.94	73.42	1418.1	13790.6	8.23	80.00
750,000	469	6.54	79.96	860.5	14651.1	4.99	84.99
1,000,000	373	5.20	85.15	645.5	15296.6	3.74	88.73
1,250,000	239	3.33	88.49	438.7	15735.3	2.54	91.28
1,500,000	194	2.70	91.19	320.5	16055.8	1.86	93.14
1,750,000	140	1.95	93.14	221.4	16277.2	1.28	94.42
2,000,000	95	1.32	94.47	160.2	16437.4	.93	95.35
2,250,000	90	1.25	95.72	181.6	16619.0	1.05	96.40
2,500,000	54	.75	96.47	82.1	16701.1	.48	96.88
2,750,000	32	.45	96.92	48.2	16749.3	.28	97.16
3,000,000	23	.32	97.24	51.4	16800.7	.30	97.46
3,250,000	22	.31	97.55	41.6	16842.3	.24	97.70
3,500,000	12	.17	97.71	17.3	16859.6	.10	97.80
3,750,000	17	.24	97.95	34.0	16893.6	.20	98.00
4,000,000	10	.14	98.09	12.0	16905.6	.07	98.07
4,250,000	15	.21	98.30	22.6	16928.2	.13	98.20
4,500,000	11	.15	98.45	17.6	16945.8	.10	98.30
5,000,000	14	.20	98.65	24.1	16969.9	.14	98.44
5,250,000	7	.10	98.75	8.4	16978.3	.05	98.49
5,500,000	7	.10	98.84	15.3	16993.6	.09	98.58
6,750,000	11	.15	99.00	13.3	17006.9	.08	98.65
7,000,000	4	.06	99.05	17.6	17024.5	.10	98.76
7,250,000	2	.03	99.08	.4	17024.9	.00	98.76
7,500,000	3	.04	99.12	2.5	17027.4	.01	98.77
7,750,000	8	.11	99.23	28.9	17056.3	.17	98.94
8,500,000	7	.10	99.33	20.1	17076.4	.12	99.06
9,500,000	12	.17	99.50	41.4	17117.8	.24	99.30
9,750,000	3	.04	99.54	5.2	17123.0	.03	99.33
10,000,000	0	.00	99.54	.0	17123.0	.00	99.33
10,250,000	4	.06	99.60	10.3	17133.3	.06	99.39
10,500,000	2	.03	99.62	3.9	17137.2	.02	99.41
10,750,000	2	.03	99.65	11.7	17148.9	.07	99.48
11,000,000	2	.03	99.68	9.3	17158.2	.05	99.53
11,500,000	12	.17	99.85	37.4	17195.6	.22	99.75
12,000,000	4	.06	99.90	10.5	17206.1	.06	99.81
12,500,000	2	.03	99.93	11.7	17217.8	.07	99.88
13,000,000	3	.04	99.97	8.4	17226.2	.05	99.93
13,500,000	2	.03	100.00	12.8	17239.0	.07	100.00
TOTAL(3 YRS)	7174			17239.0			

AV LENGTH/YR 5746.3

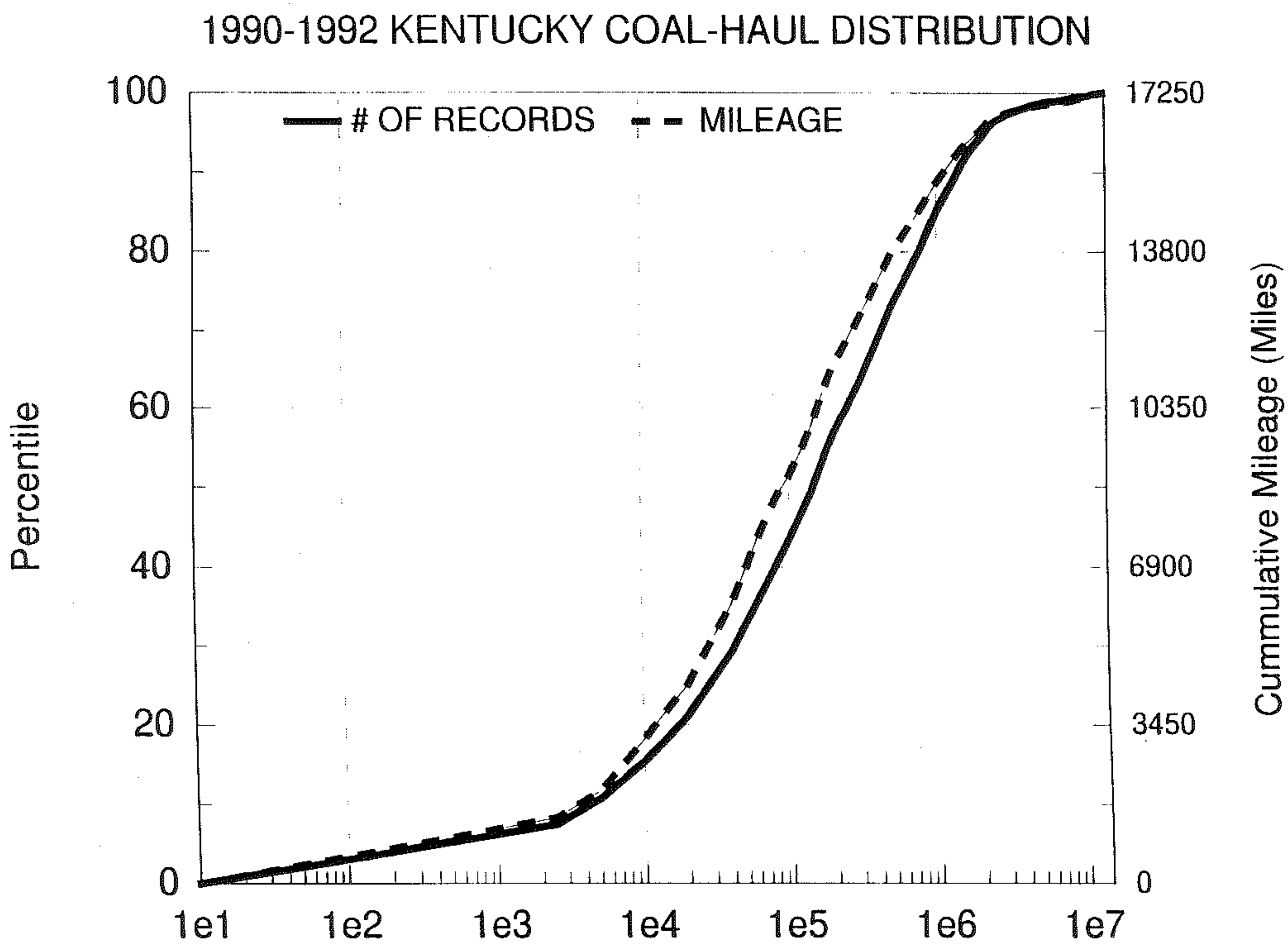


Figure 1. Kentucky Coal-Haul Road Distribution by Tons

Table 2. Kentucky Coal-Haul Roads by Functional Class (1990)

FUNC. CLS	LENGTH (MILES)				TON-MILE (IN MILLIONS)			
	LIGHT	MEDIUM	HEAVY	TOTAL	LIGHT	MEDIUM	HEAVY	TOTAL
1	205.3	203.5	2.9	411.7	5.420	24.733	1.991	32.144
2	278.6	523.5	390.1	1192.2	3.027	81.872	1229.195	1314.093
6	343.6	274.9	104.8	723.3	4.063	45.153	206.393	255.609
7	593.5	660.6	425.5	1679.6	12.278	111.557	574.777	698.612
8	278.4	259.1	207.6	745.1	4.462	44.429	191.408	240.298
9	50.3	36.1	30.8	117.2	.605	6.092	37.262	43.959
11	84.9	30.1	1.5	116.5	.974	3.885	1.340	6.199
12	29.5	9.5	10.2	49.2	.810	2.047	7.746	10.603
14	91.5	128.0	27.0	246.5	1.356	18.444	19.519	39.318
16	83.3	70.5	49.2	203.0	1.237	11.079	40.389	52.705
17	5.5	5.5	.6	11.6	.069	.879	.349	1.297
19	1.7			1.7	.075			.075
UNC	228.2	188.9	80.9	498.0	4.477	30.579	70.801	105.857
TOTAL	2274.3	2390.2	1331.1	5995.6	38.853	380.748	2381.169	2800.770

Table 3. Kentucky Coal-Haul Roads by Functional Class (1991)

FUNC. CLS	LENGTH (MILES)				TON-MILE (IN MILLIONS)			
	LIGHT	MEDIUM	HEAVY	TOTAL	LIGHT	MEDIUM	HEAVY	TOTAL
1	145.9	250.0	2.9	398.8	3.417	29.081	1.617	34.115
2	341.7	374.6	400.9	1117.2	5.691	62.326	1,084.701	1,152.718
6	338.8	219.3	91.6	649.7	6.488	43.417	180.824	230.729
7	626.3	685.6	355.8	1667.7	10.940	114.099	447.167	572.206
8	284.8	216.0	173.4	674.2	4.285	35.777	188.679	228.741
9	44.7	30.7	27.2	102.6	.898	5.388	30.675	36.962
11	95.7	37.2	1.5	134.4	1.555	5.409	1.329	8.293
12	18.3	9.5	12.1	39.9	.301	1.665	12.122	14.088
14	113.0	100.3	33.4	246.7	1.996	13.781	23.658	39.435
16	77.3	53.1	32.4	162.8	1.221	9.915	25.085	36.220
17	5.0	7.0	2.7	14.7	.057	.499	1.604	2.161
19	3.4			3.4	.069			.069
UNC	187.2	206.4	126.7	520.3	2.753	30.814	109.678	143.246
TOTAL	2282.1	2189.7	1260.6	5732.4	39.672	352.172	2,107.138	2,498.982

Table 4. Kentucky Coal-Haul Roads by Functional Class (1992)

FUNC. CLS	LENGTH (MILES)				TON-MILE (IN MILLIONS)			
	LIGHT	MEDIUM	HEAVY	TOTAL	LIGHT	MEDIUM	HEAVY	TOTAL
1	213.3	164.5	15.2	393.0	3.567	30.775	7.269	41.610
2	315.6	420.1	488.2	1223.9	4.785	77.167	1,323.288	1,405.240
6	305.7	180.4	99.8	585.9	5.438	33.567	232.605	271.611
7	716.1	532.6	406.0	1654.7	10.731	98.571	484.788	594.089
8	238.6	217.8	170.5	626.9	3.344	38.089	173.949	215.381
9	28.0	46.1	25.6	99.7	.402	6.619	33.983	41.005
11	69.6	39.8	5.5	114.9	1.250	6.545	3.445	11.240
12	11.7	17.0	9.7	38.4	.028	3.318	13.260	16.606
14	124.8	82.5	34.7	242.0	2.667	13.100	37.123	52.890
16	36.5	64.7	33.2	134.4	.512	10.196	30.331	41.039
17	9.4	3.2		12.6	.221	.914		1.135
19	1.7			1.7	.060			.060
UNC	156.4	146.0	80.9	383.3	2.380	26.380	71.189	99.949
TOTAL	2227.4	1914.7	1369.3	5511.4	35.384	345.241	2,411.230	2,791.856

Table 5. Kentucky Coal-Haul Roads by Functional Class (1990-1992)

FUNC. CLS	LENGTH (MILES)				TON-MILE (IN MILLIONS)			
	LIGHT	MEDIUM	HEAVY	TOTAL	LIGHT	MEDIUM	HEAVY	TOTAL
1	564.5	618.0	21.0	1203.5	12.403	84.589	10.877	107.869
2	935.9	1318.2	1279.2	3533.3	13.502	221.365	3637.184	3872.051
6	988.1	674.6	296.2	1958.9	15.990	122.137	619.822	757.949
7	1935.9	1878.8	1187.3	5002.0	33.949	324.226	1506.732	1864.907
8	801.8	692.9	551.5	2046.2	12.091	118.295	554.035	684.420
9	123.0	112.9	83.6	319.5	1.905	18.100	101.921	121.926
11	250.2	107.1	8.5	365.8	3.779	15.839	6.113	25.731
12	59.5	36.0	32.0	127.5	1.139	7.031	33.127	41.297
14	329.3	310.8	95.1	735.2	6.019	45.325	80.299	131.643
16	197.1	188.3	114.8	500.2	2.970	31.190	95.804	129.965
17	19.9	15.7	3.3	38.9	.347	2.292	1.954	4.592
19	6.8	.0	.0	6.8	.205	.000	.000	.205
UNC	571.8	541.3	288.5	1401.6	9.611	87.773	251.668	349.052
TOTAL	6783.8	6494.6	3961.0	17239.4	113.909	1078.162	6899.537	8091.608

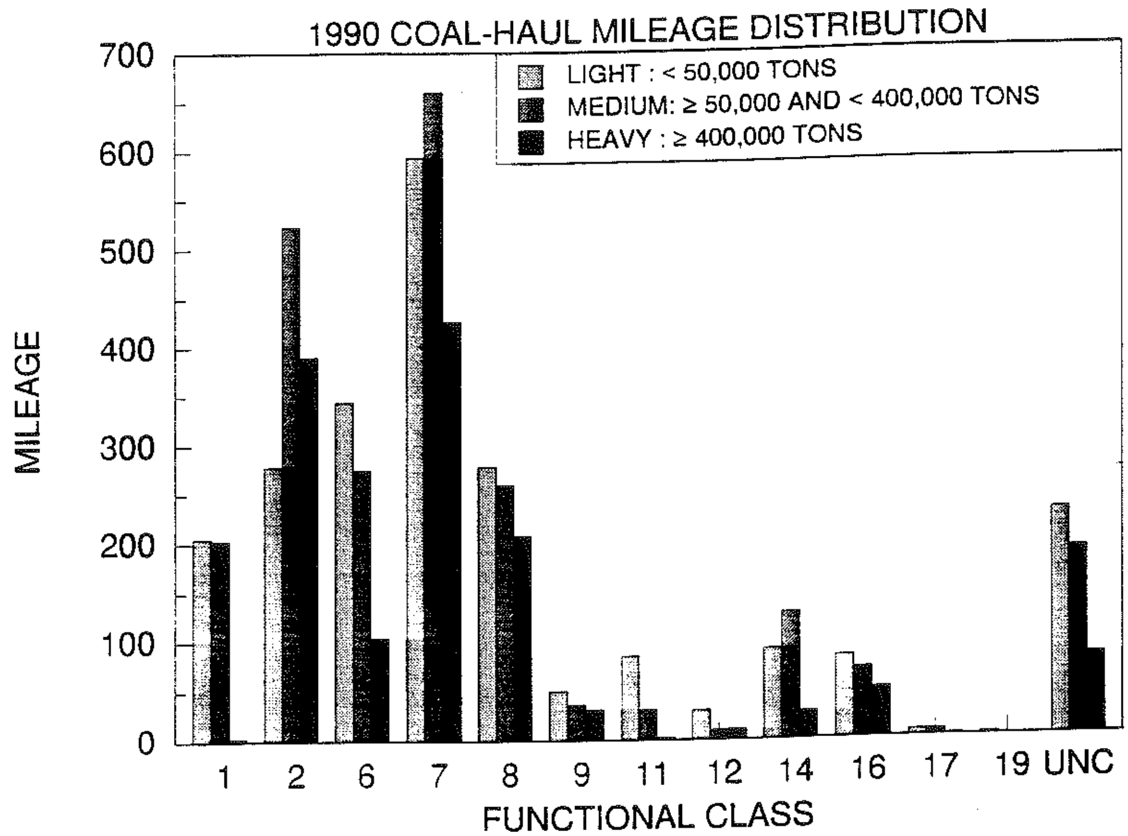


Figure 2. 1990 Coal-Haul Mileage Distribution

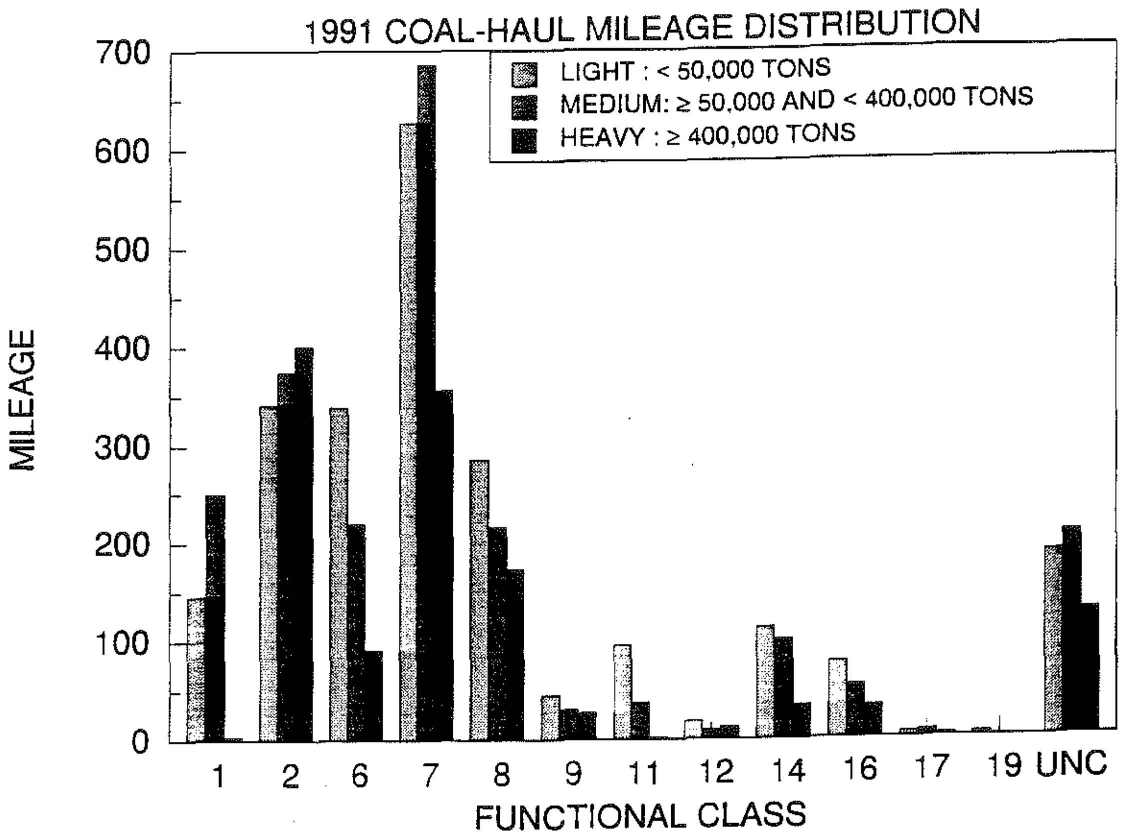


Figure 3. 1991 Coal-Haul Mileage Distribution

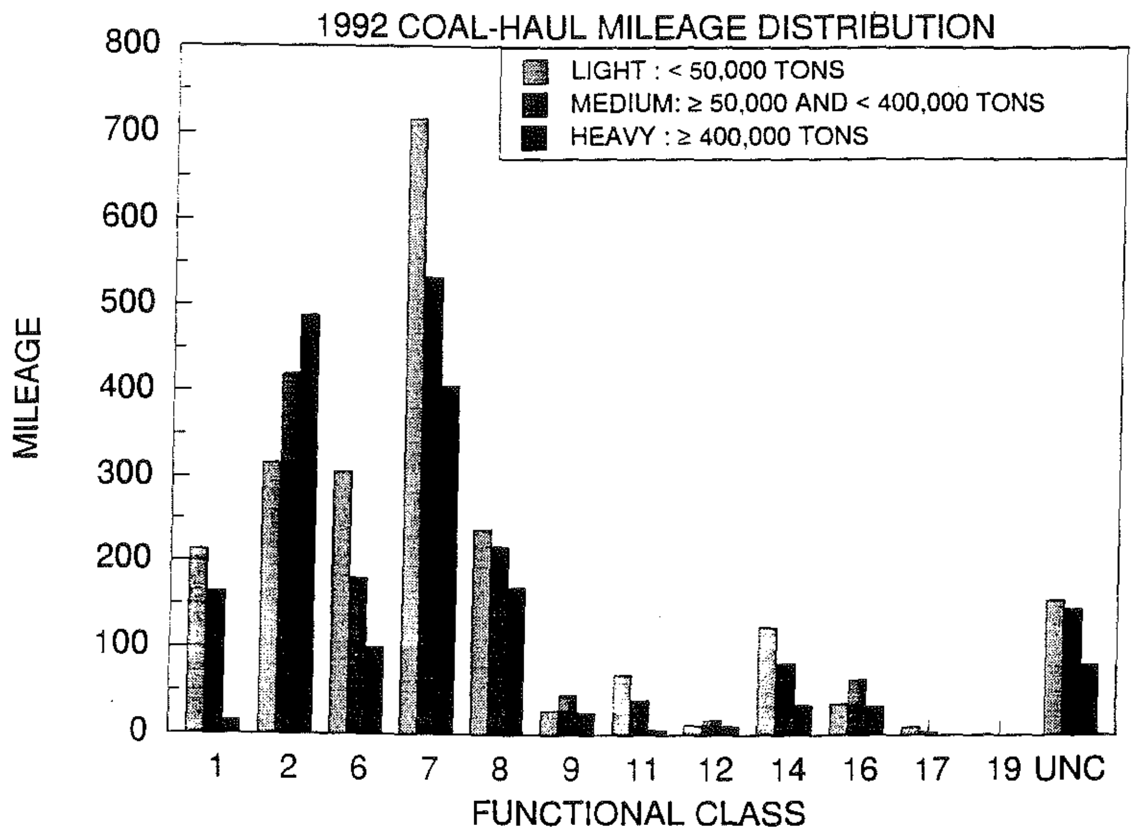


Figure 4. 1992 Coal-Haul Mileage Distribution

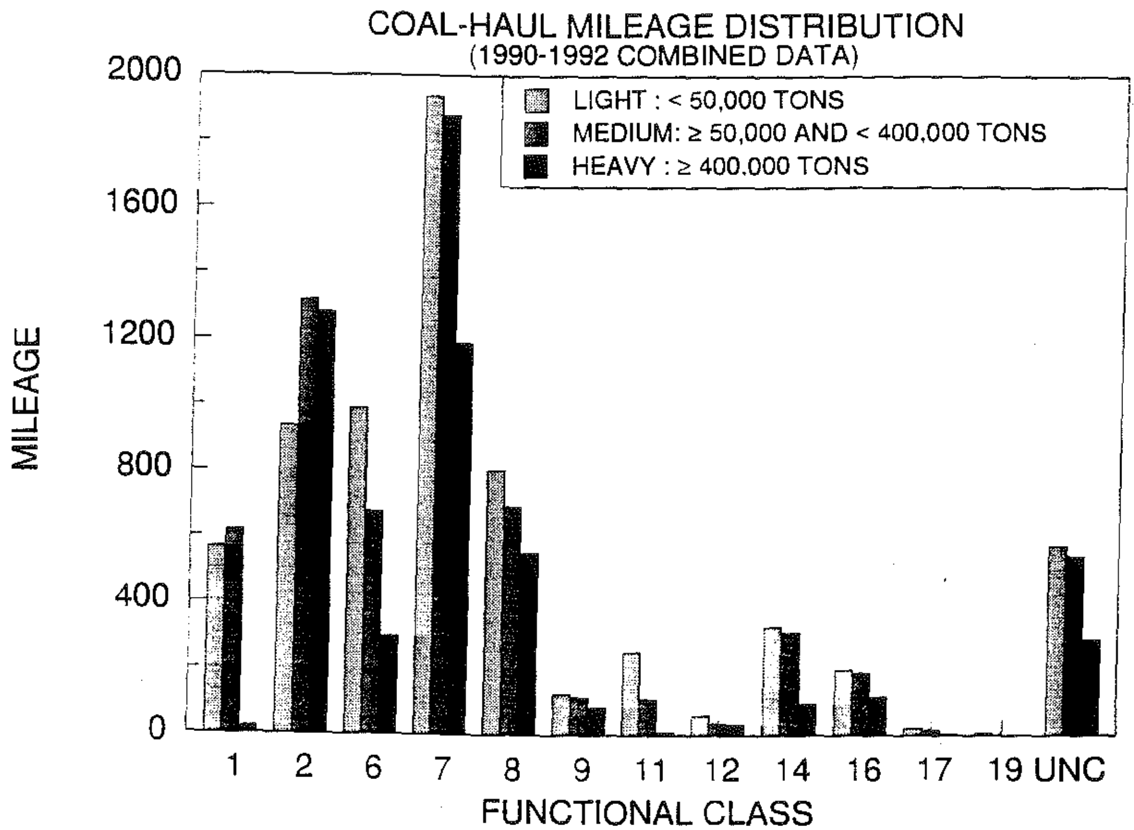


Figure 5. 1990-1992 Coal-Haul Mileage Distribution

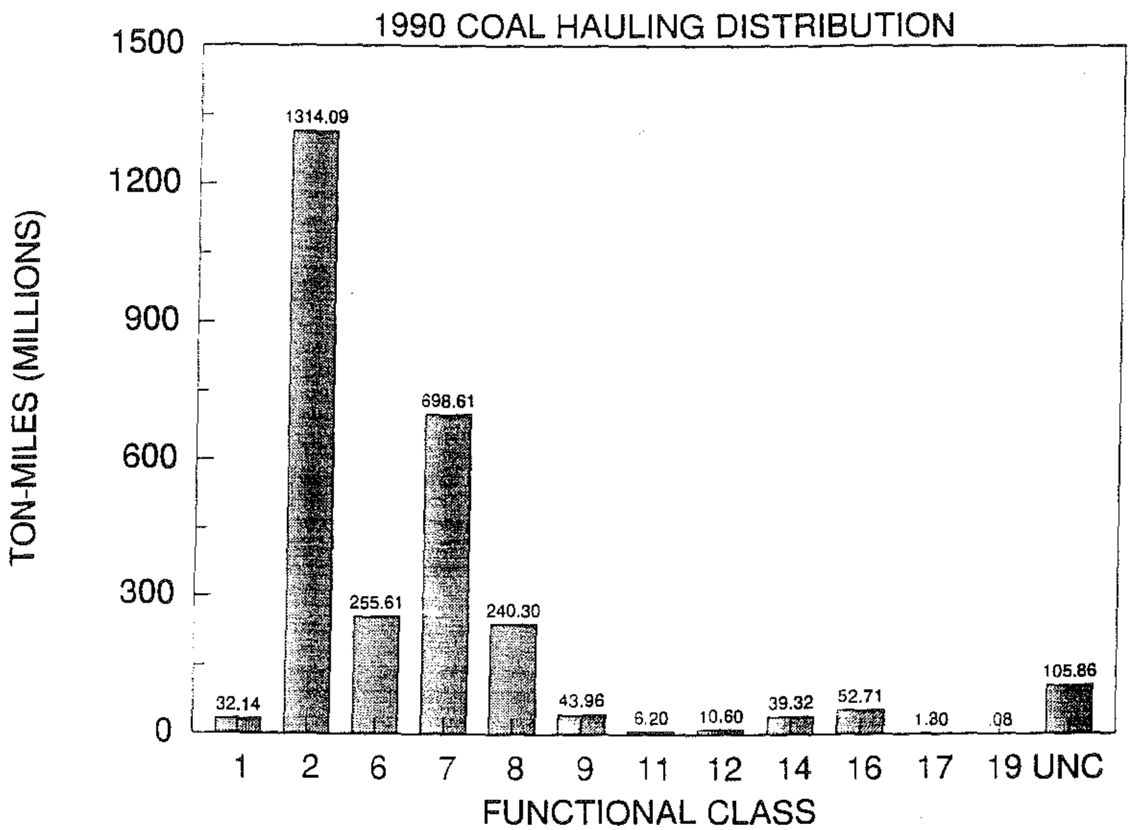


Figure 6. 1990 Coal-Haul Distribution by Tons

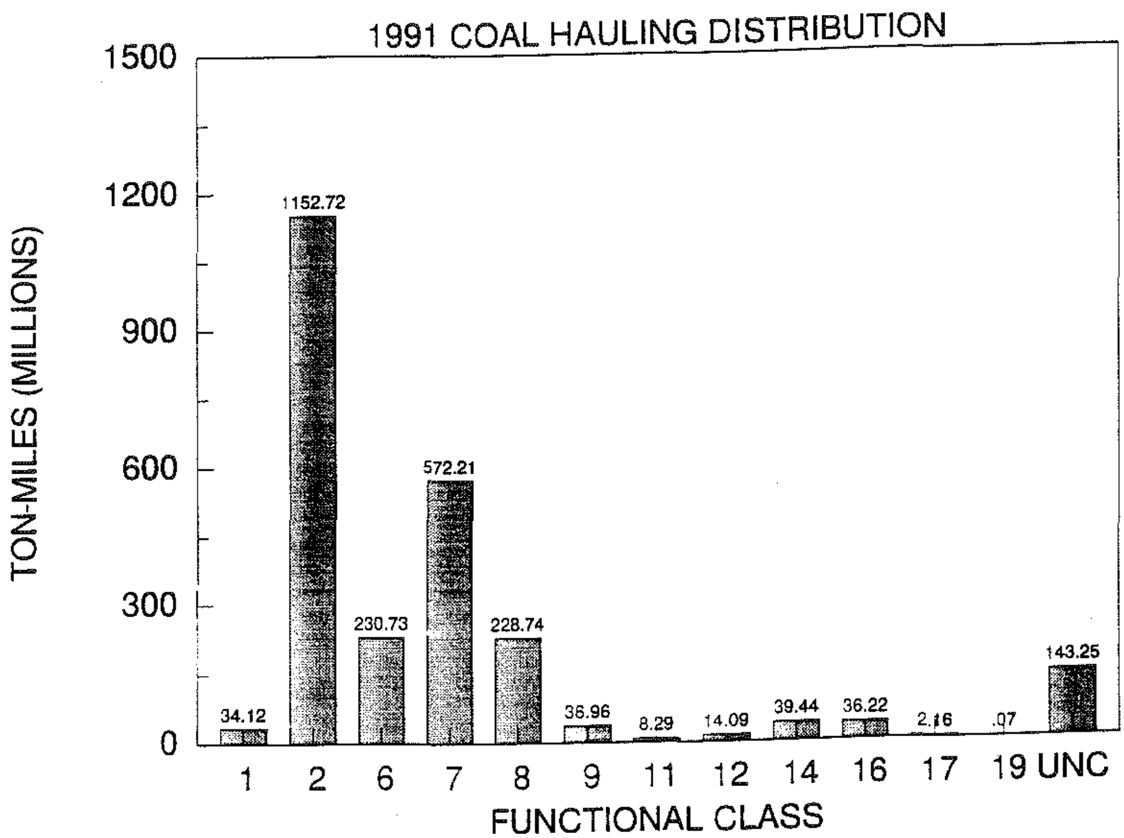


Figure 7. 1991 Coal-Haul Distribution by Tons

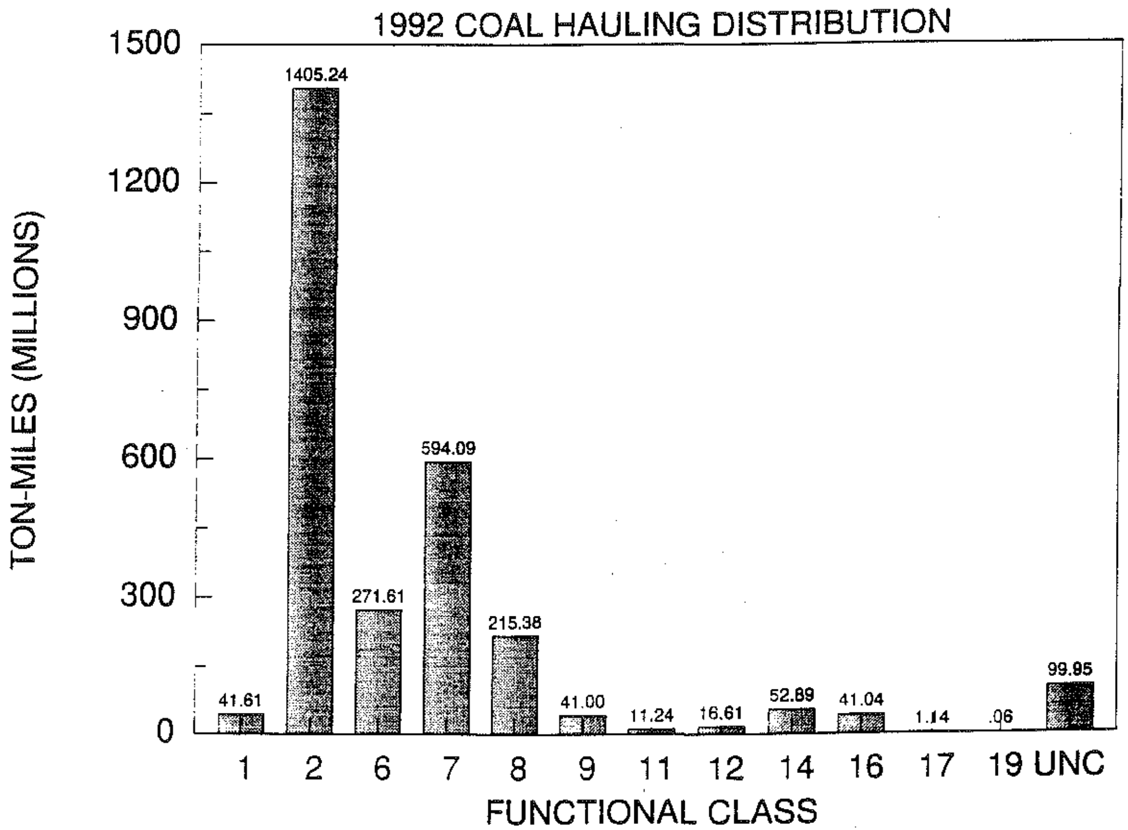


Figure 8. 1992 Coal-Haul Distribution by Tons

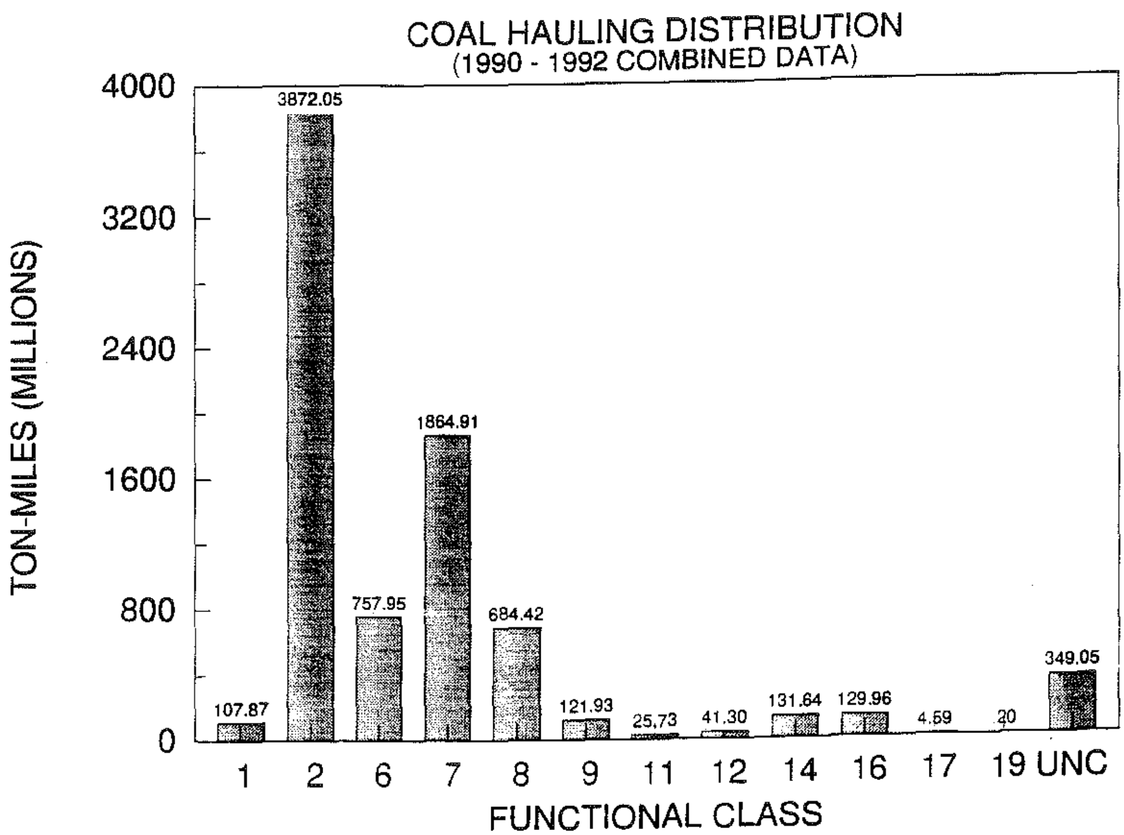


Figure 9. 1990-1992 Coal-Haul Distribution by Tons

Table 6. Axles/Truck and ESAL's/Axle Distributions (1990-1992)

FUNC. CLASS		LIGHT		MEDIUM		HEAVY	
		AXL/TRK	ESAL/AXL	AXL/TRK	ESAL/AXL	AXL/TRK	ESAL/AXL
1	AVG.	4.454	0.186	4.421	0.197	4.140	0.212
	STD.	0.158	0.013	0.133	0.041	0.134	0.023
	N	18	18	18	18	2	2
2	AVG.	3.697	0.327	3.562	0.435	3.914	1.028
	STD.	0.483	0.133	0.425	0.208	0.592	0.442
	N	14	14	29	29	39	39
6	AVG.	3.270	0.329	3.512	0.335	4.369	0.943
	STD.	0.542	0.168	0.474	0.203	0.643	0.316
	N	31	31	24	24	12	12
7	AVG.	3.053	0.462	3.164	0.704	3.883	1.100
	STD.	0.537	0.290	0.484	0.440	0.623	0.440
	N	26	26	32	32	25	25
8	AVG.	2.804	0.478	3.309	0.774	3.965	1.382
	STD.	0.568	0.289	0.666	0.386	0.914	0.524
	N	7	7	8	8	5	5
9	AVG.	3.742	0.212	2.353	0.375		
	STD.	0.000	0.000	0.000	0.000		
	N	1	1	1	1		
COM-BINED	AVG.	3.464	0.347	3.547	0.476	3.979	1.039
	STD.	0.711	0.220	0.610	0.366	0.629	0.445
	N	97	97	112	112	84	84

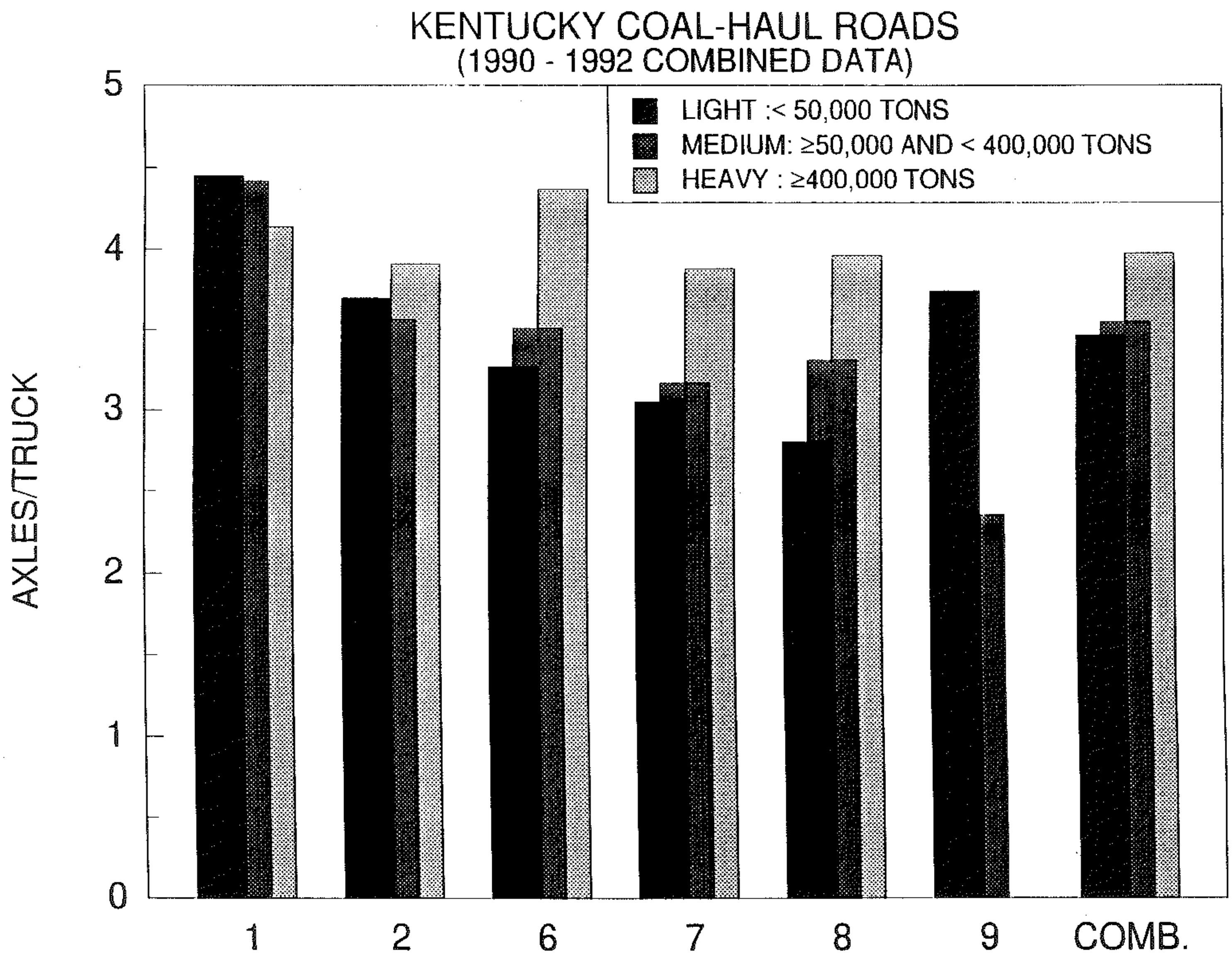


Figure 10. Axles/Truck by Functional Class

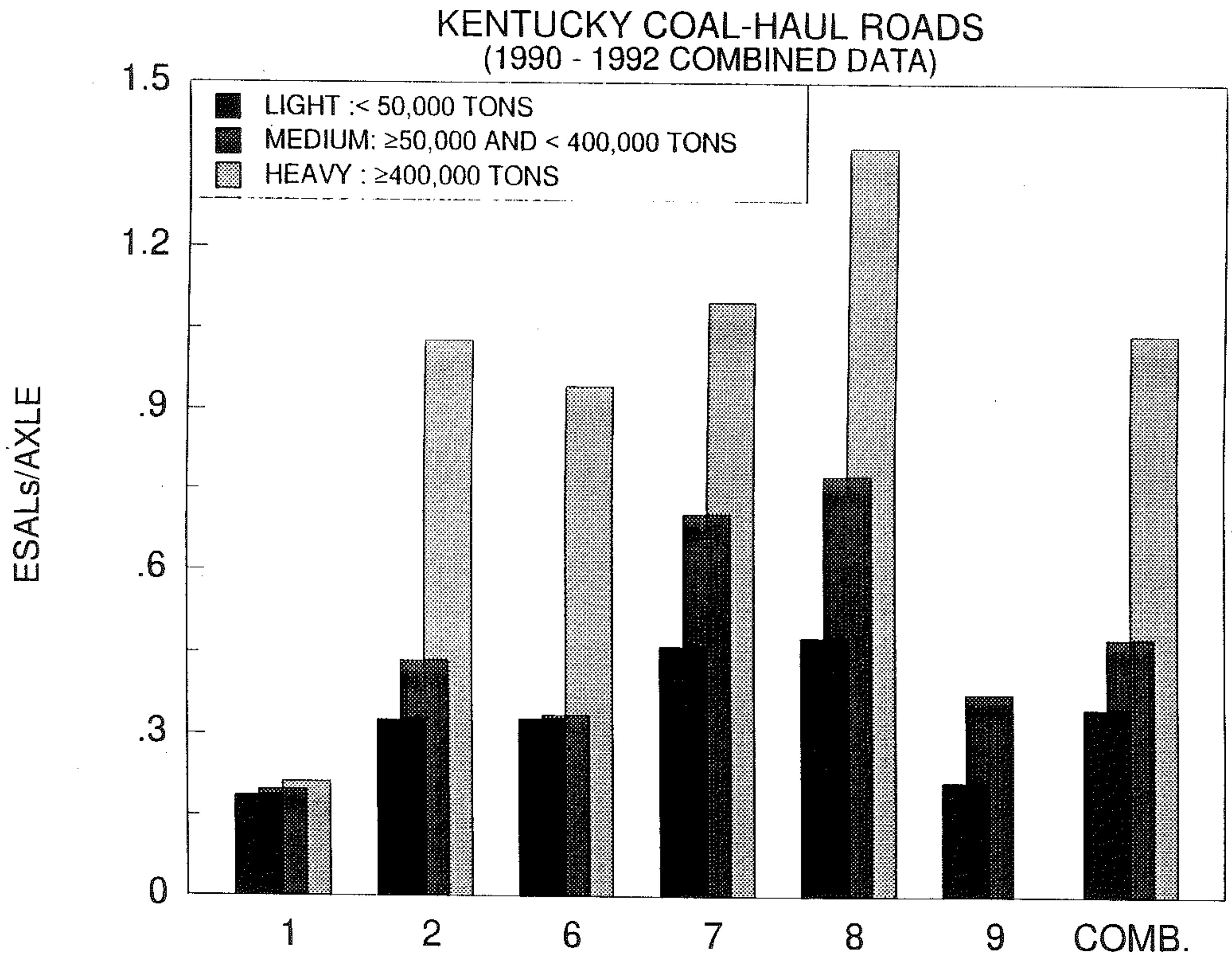


Figure 11. ESAL's/Axle by Functional Class

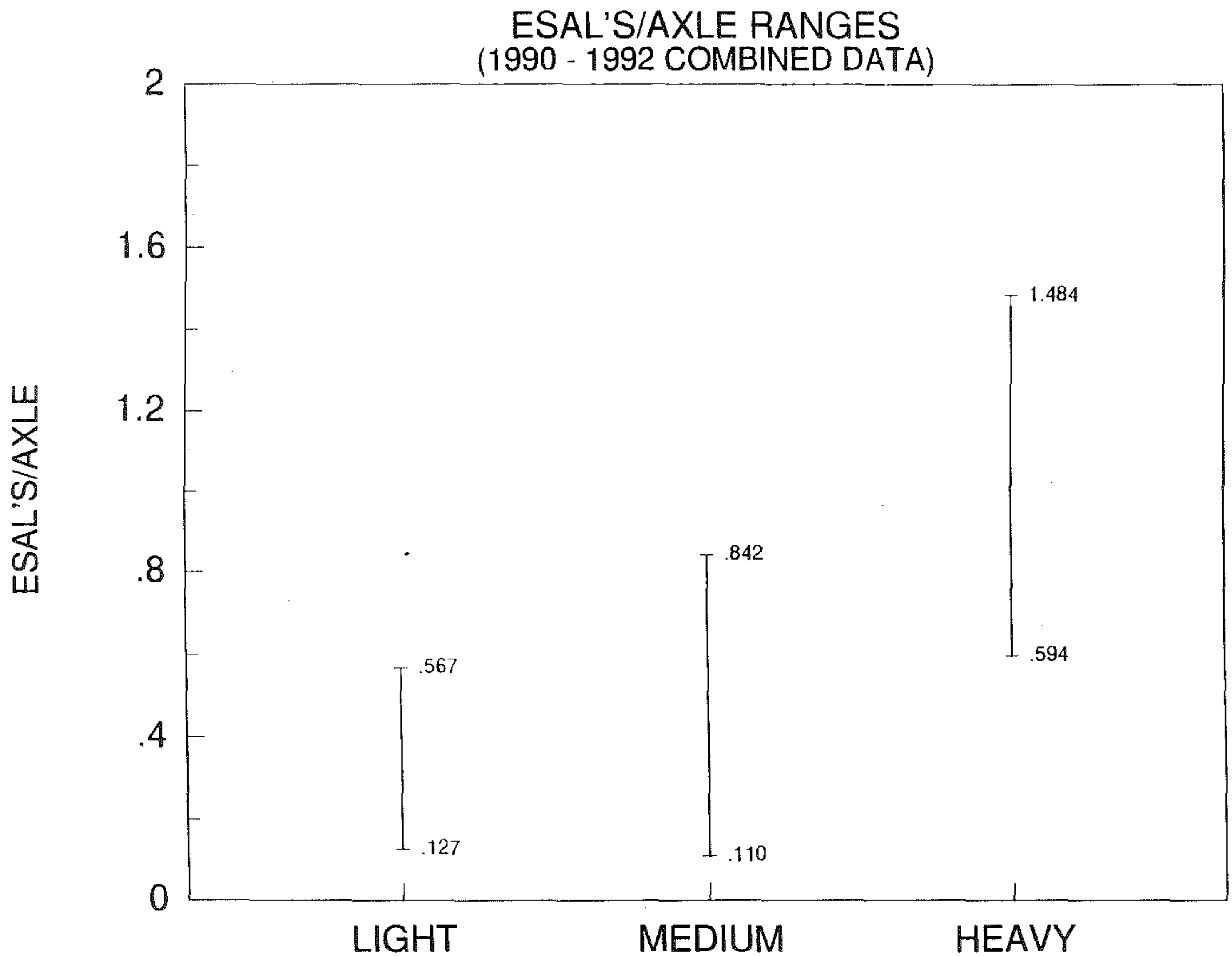


Figure 12. Range of ESAL's/Axle by Weight Class

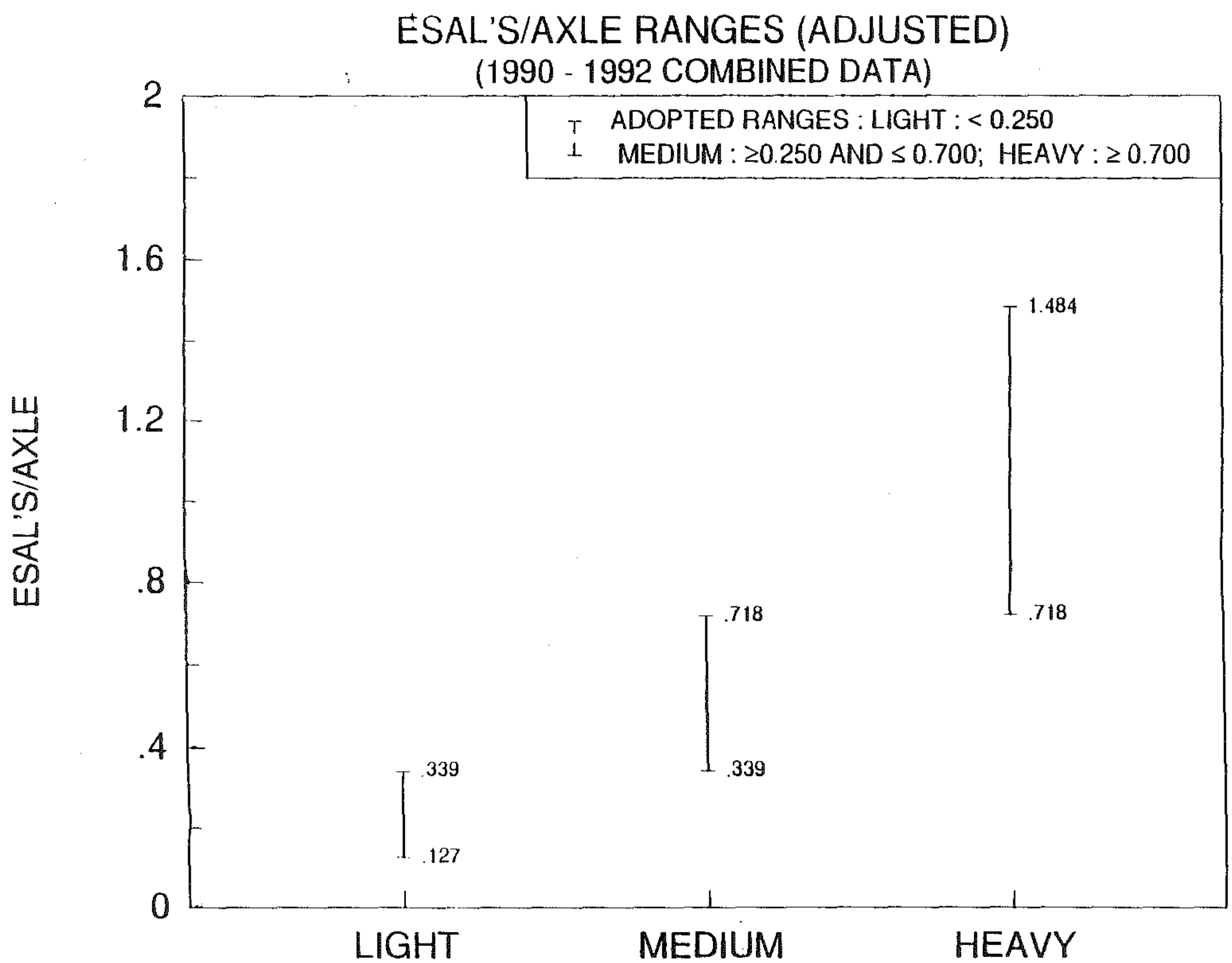


Figure 13. Adjusted Range of ESAL's/Axle by Weight Class

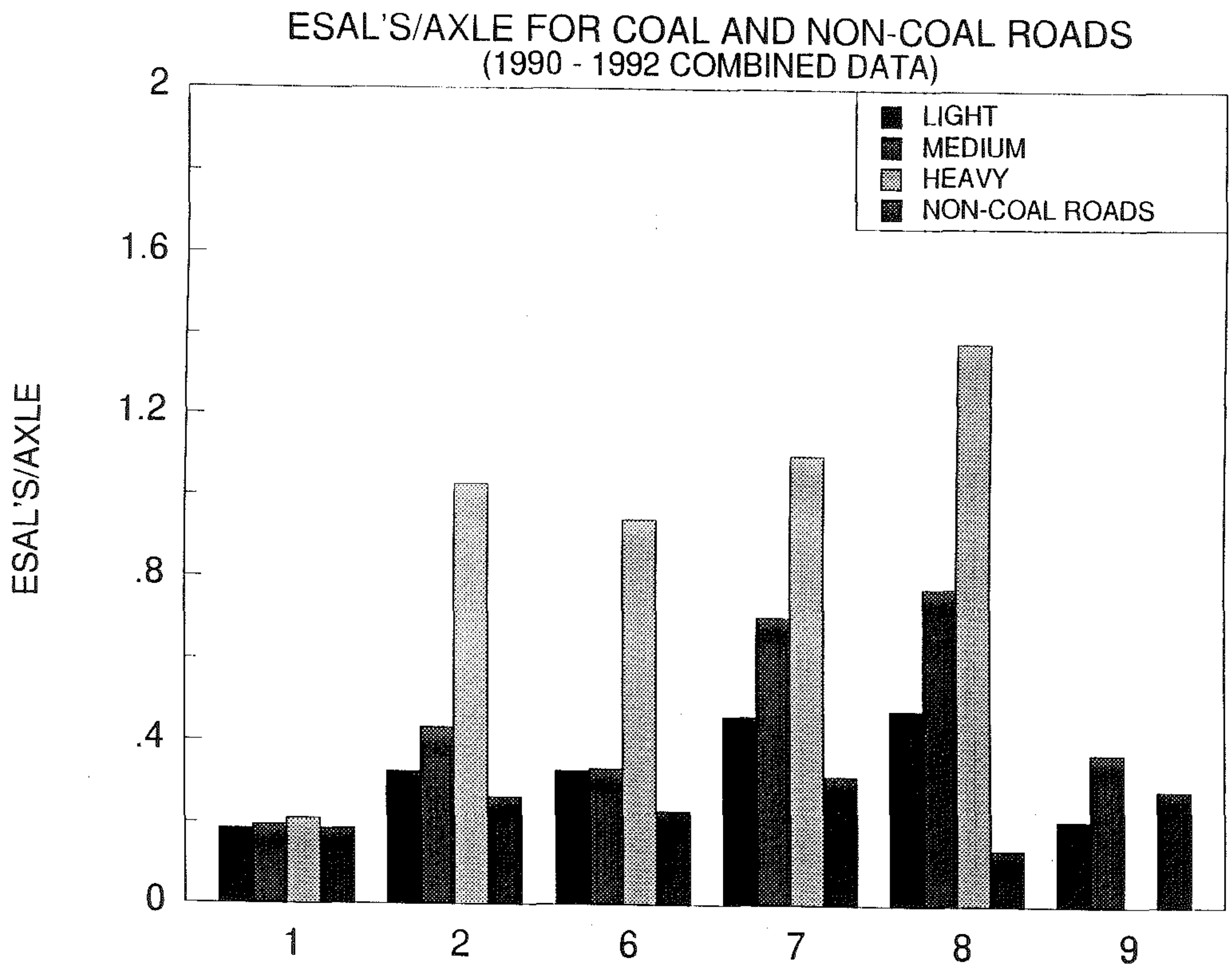


Figure 14. ESAL's/Axle for Coal and Non-Coal Roads by Functional Class

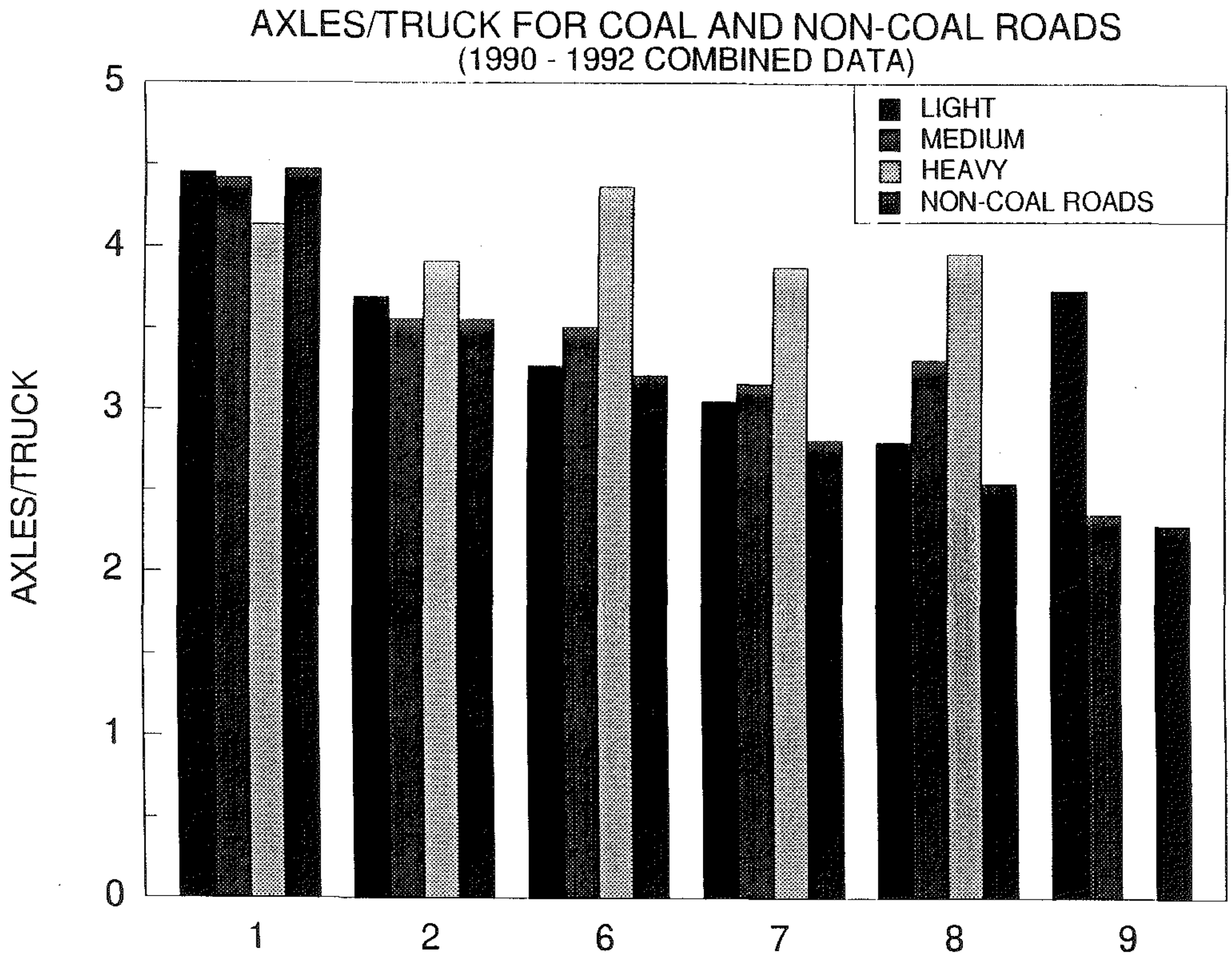


Figure 15. Axles/Truck for Coal and Non-Coal Roads by Functional Class

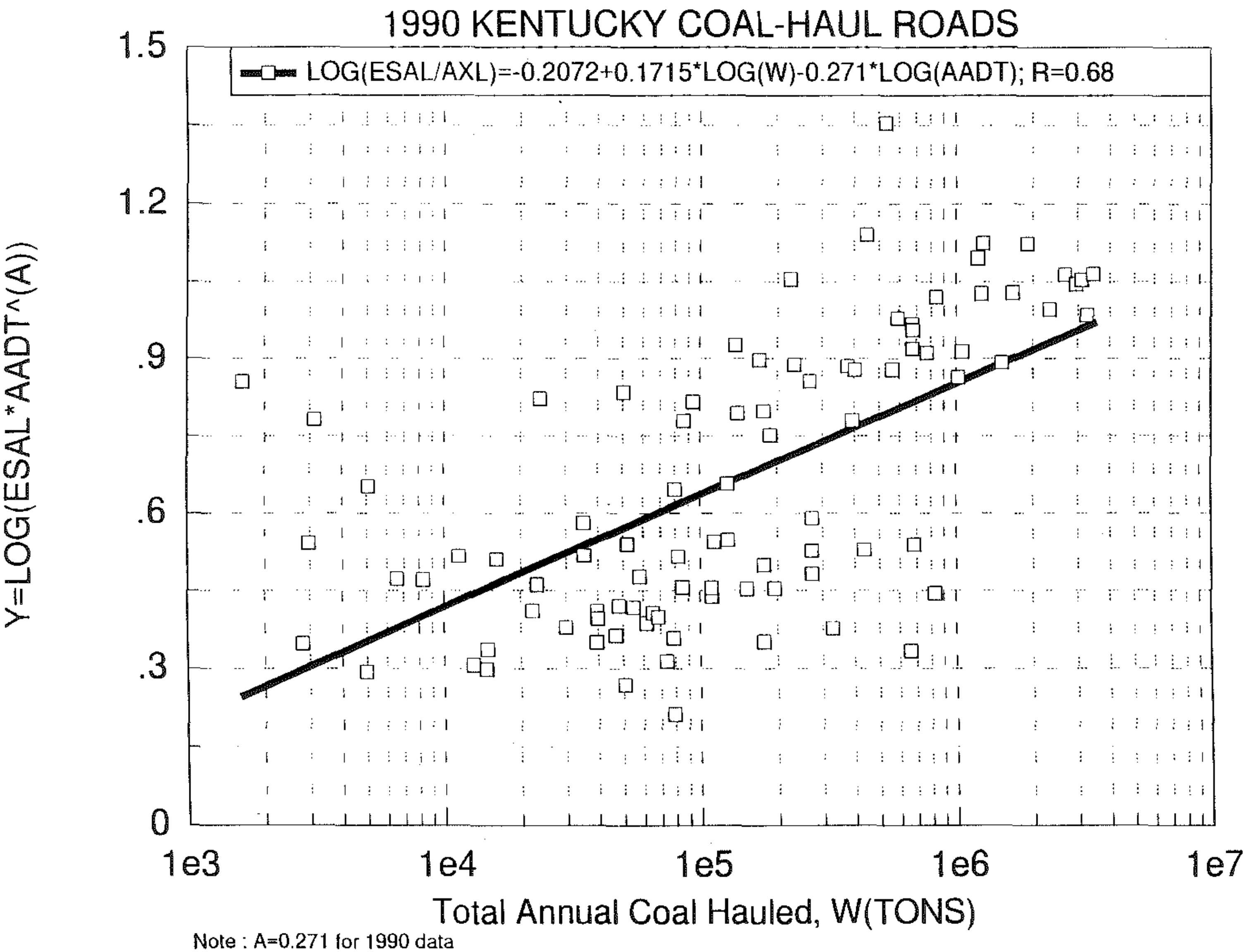
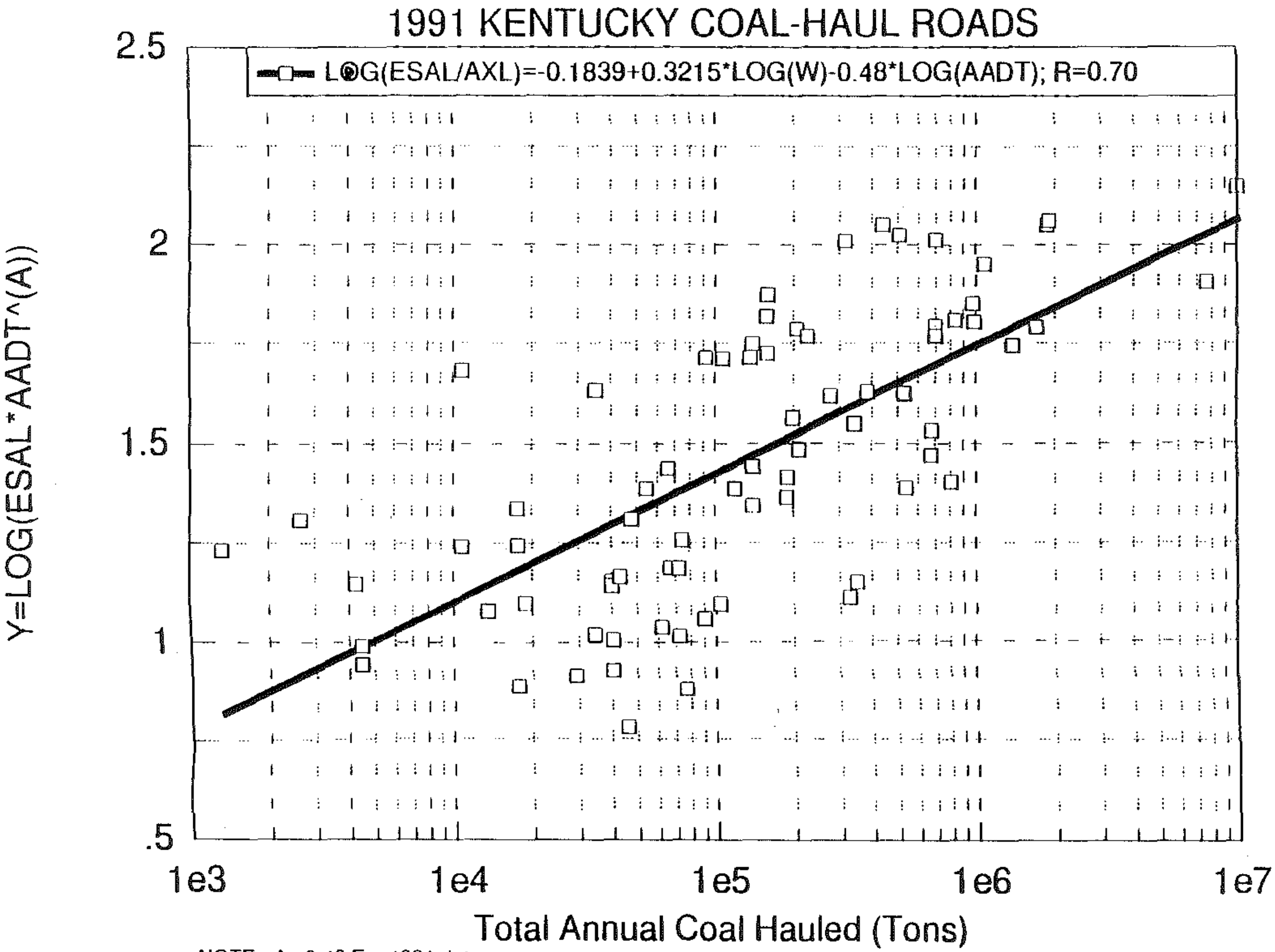
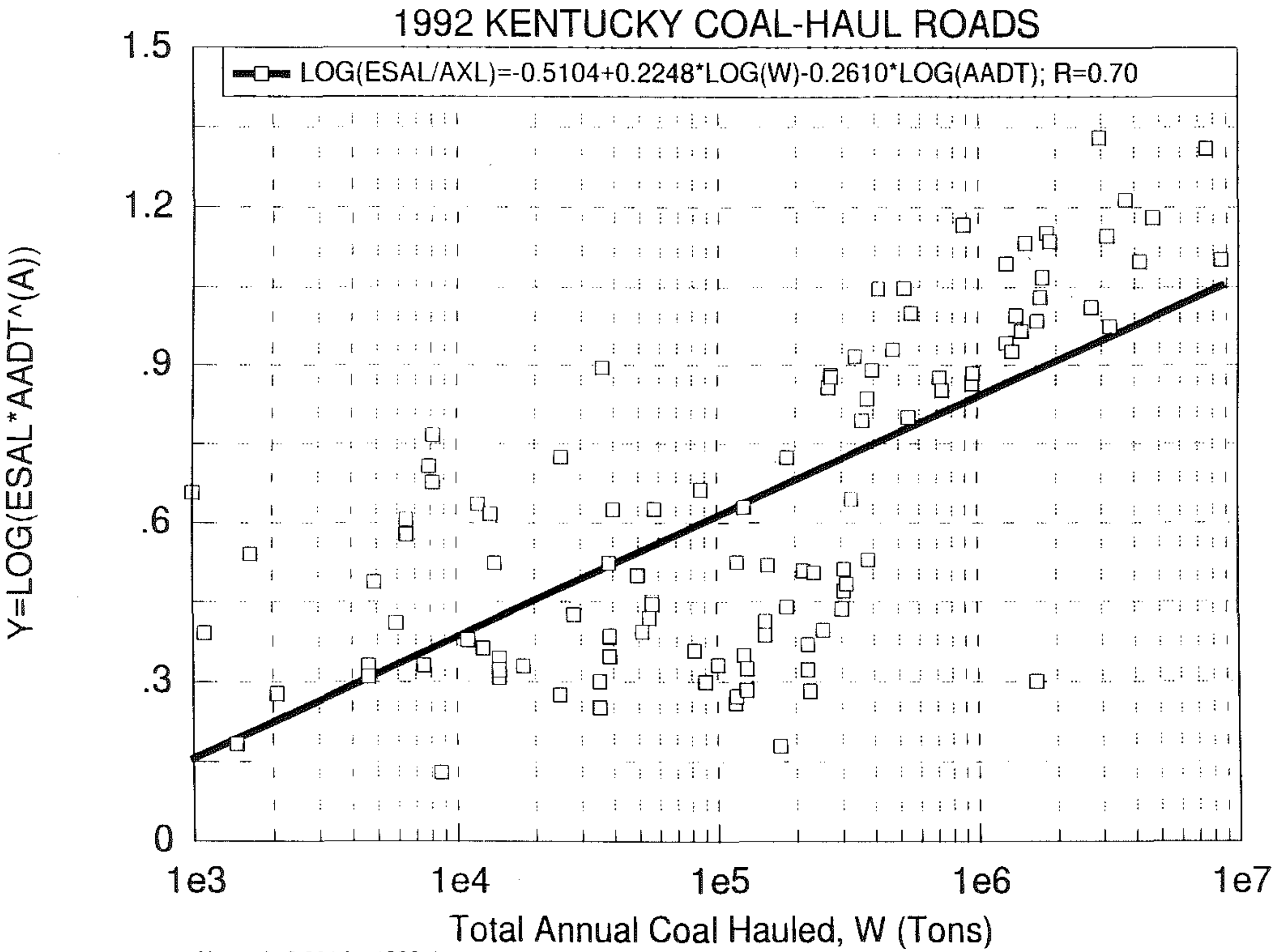


Figure 16. Relationship between ESAL's/Axle and Total Annual Coal Hauled For 1990



NOTE : A= 0.48 For 1991 data

Figure 17. Relationship between ESAL's/Axle and Total Annual Coal Hauled For 1991



Note : A=0.261 for 1992 data

Figure 18. Relationship between ESAL's/Axle and Total Annual Coal Hauled for 1992

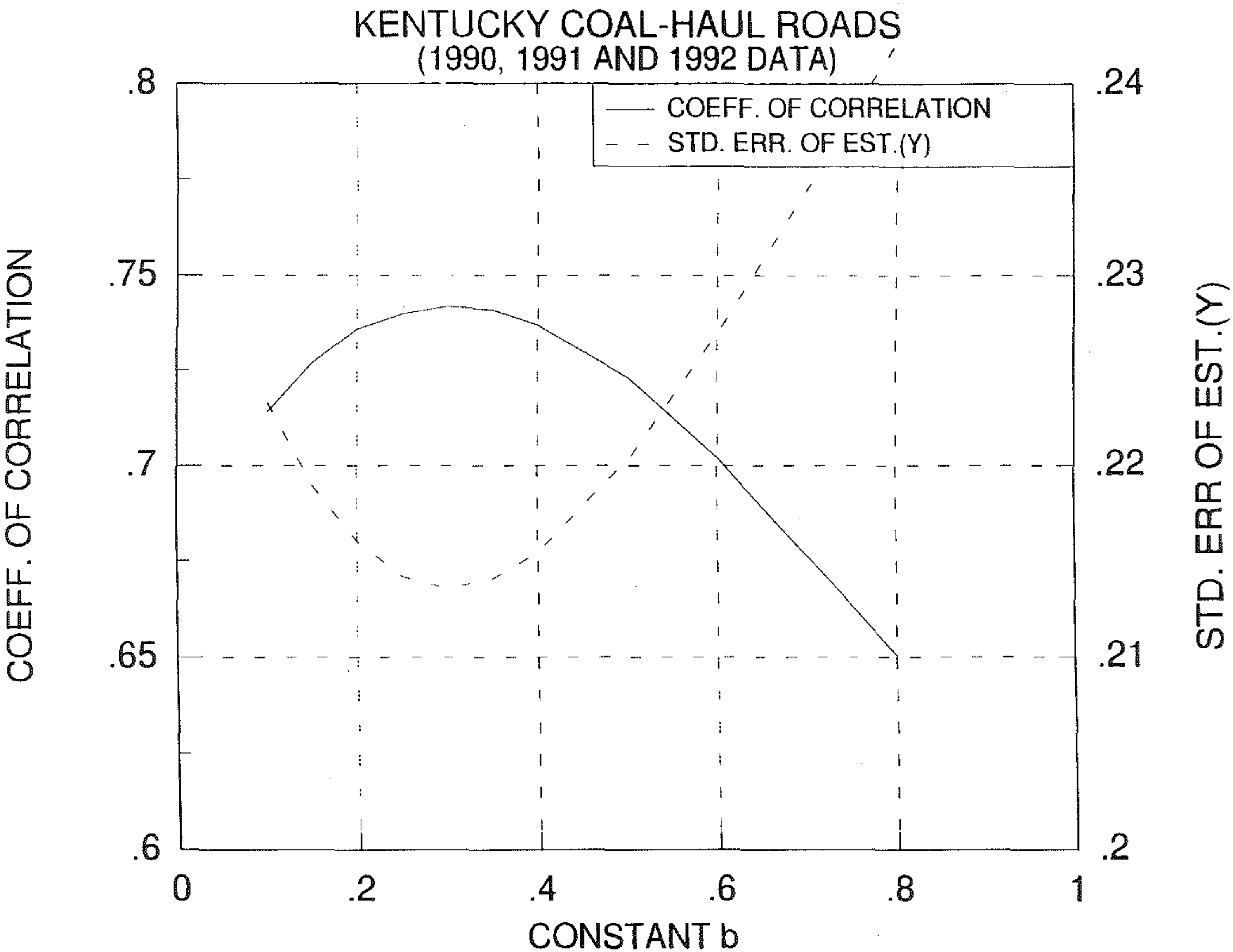


Figure 19. Relationship between Standard Error of the Estimate, Correlation Coefficient, and Regression Constant b

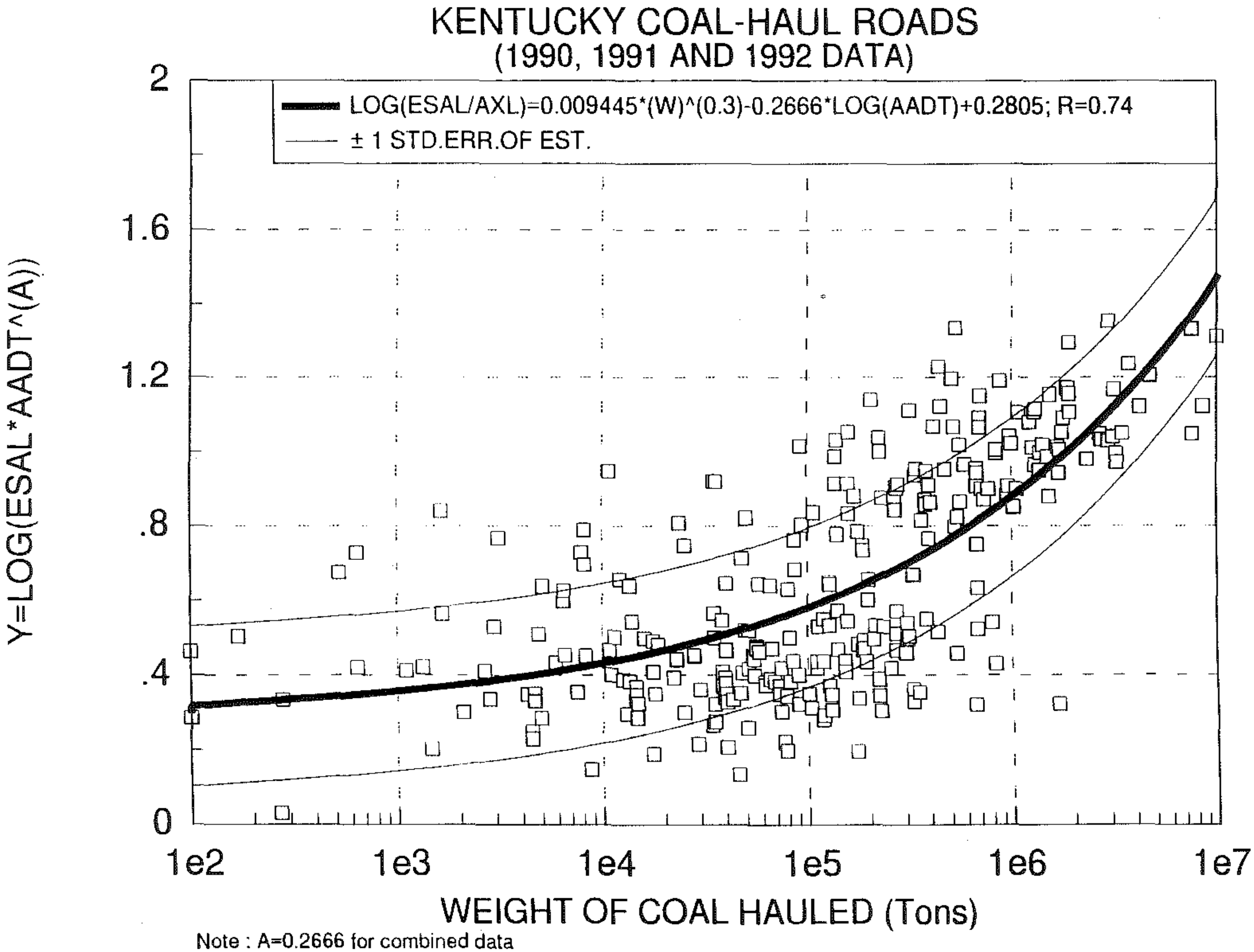


Figure 20. Relationship between ESAL's/Axle and Weight of Coal Hauled for 1990 through 1992

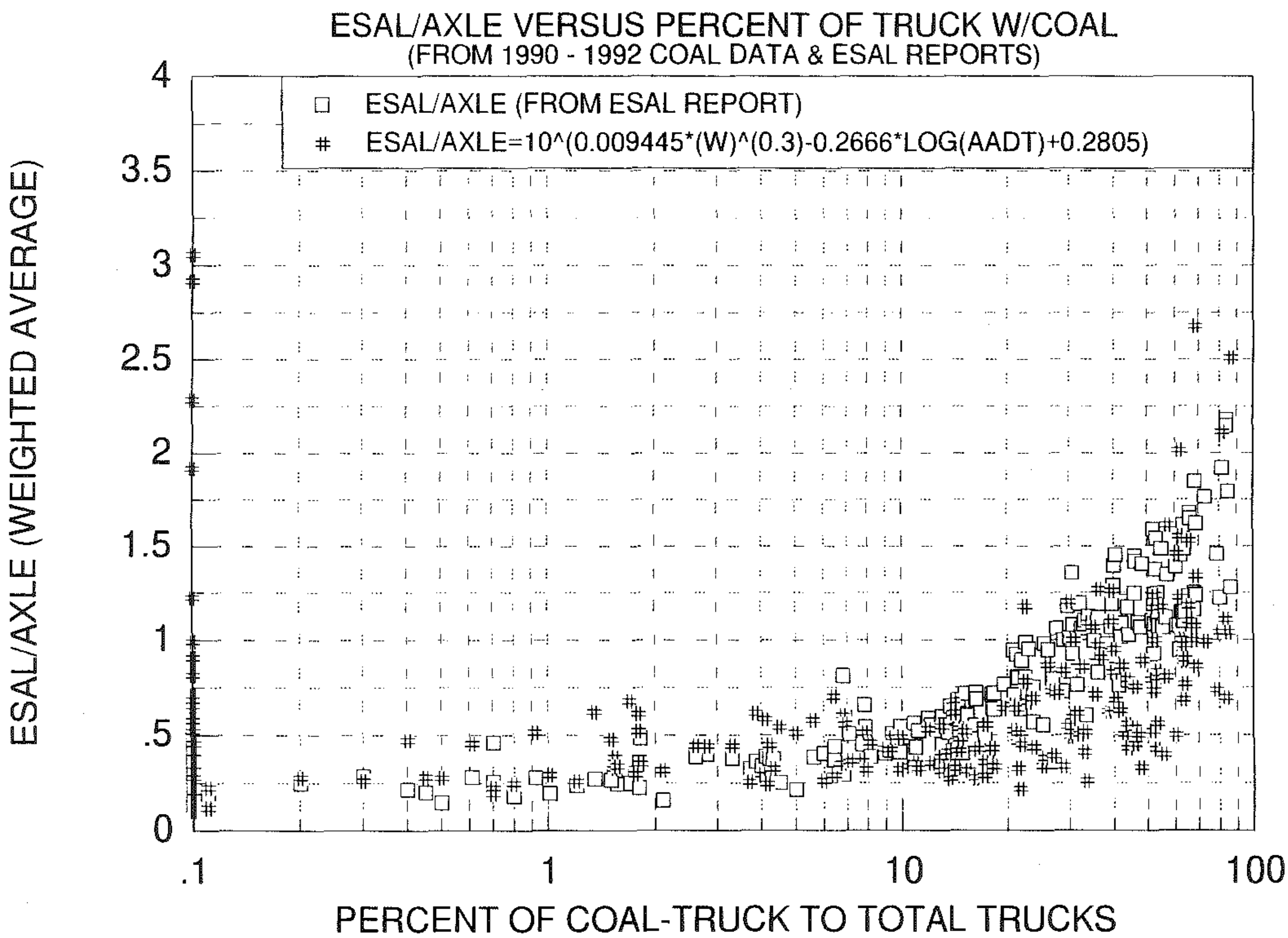
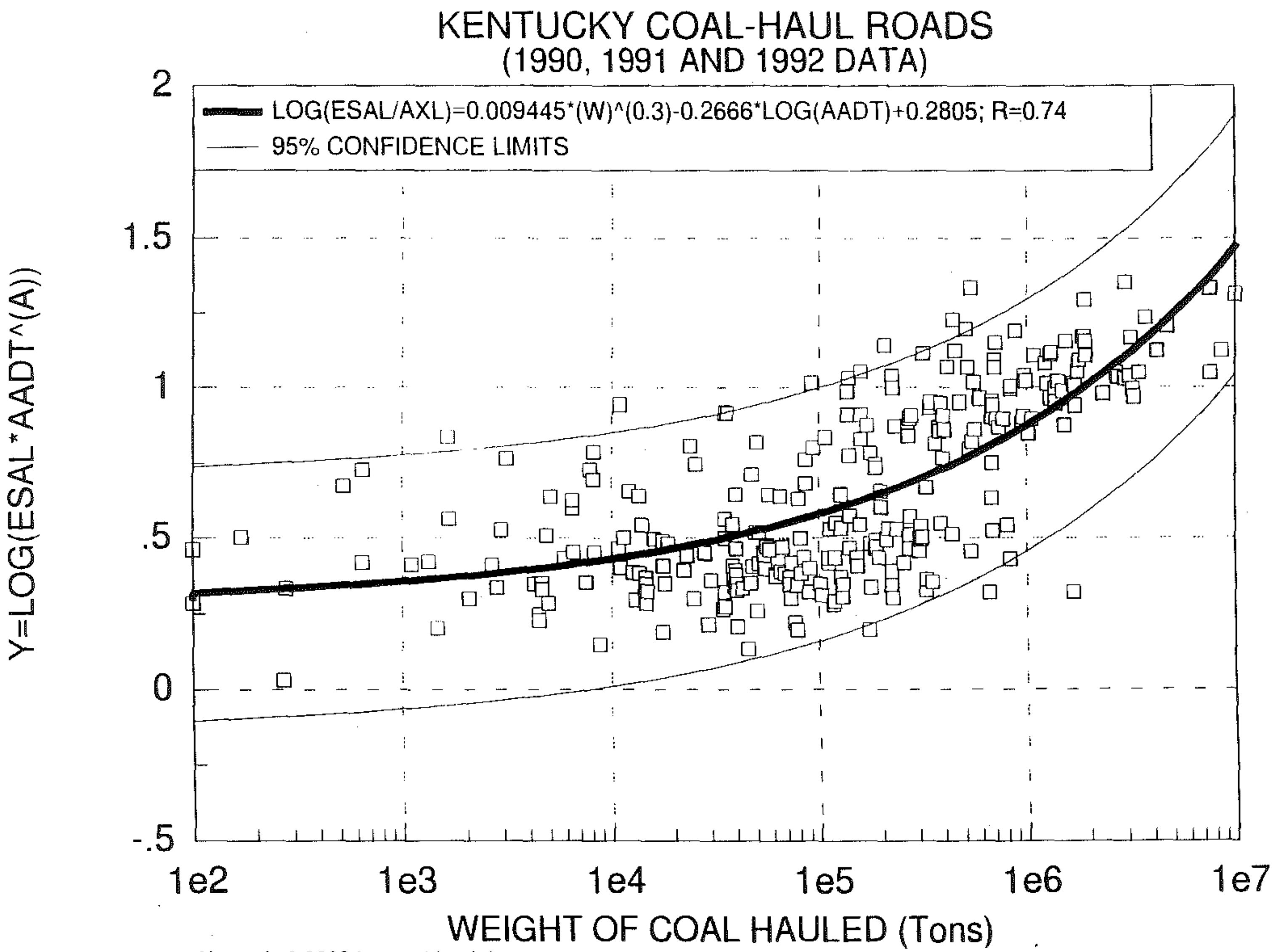
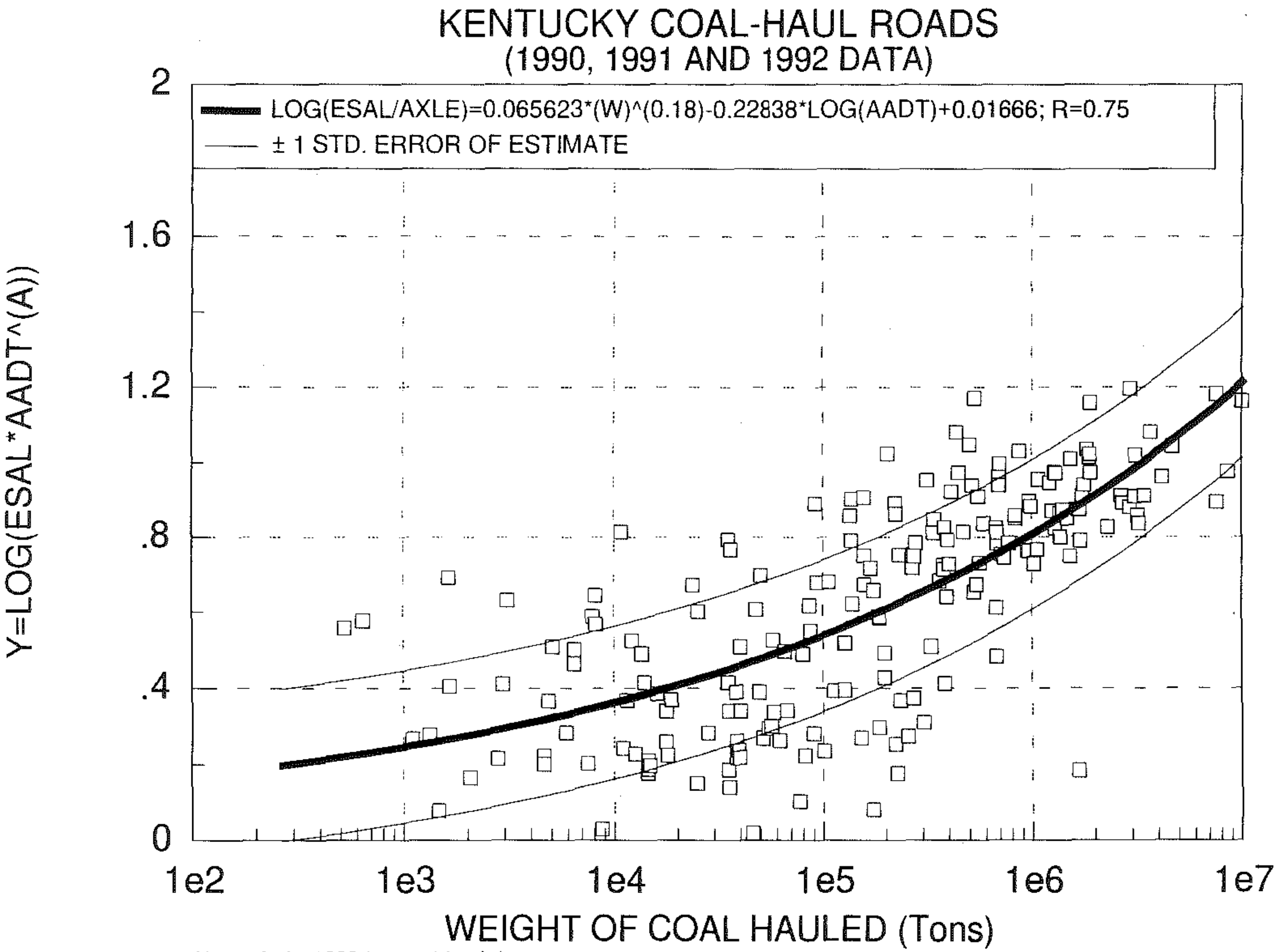


Figure 22. ESAL's/Axle as a Function of Percent Coal Trucks to Total Trucks



Note : A=0.2666 for combined data

Figure 21. Relationship between ESAL's/Axle and Weight of Coal Hauled for 1990 through 1992



Note : A=0.22838 for combined data

Figure 23. Relationship between ESAL's/Axle and Weight of Coal Hauled When Deleting Data Points for Roads Classified as Non-Coal Haul but Are Actually Haul Coal Roads.

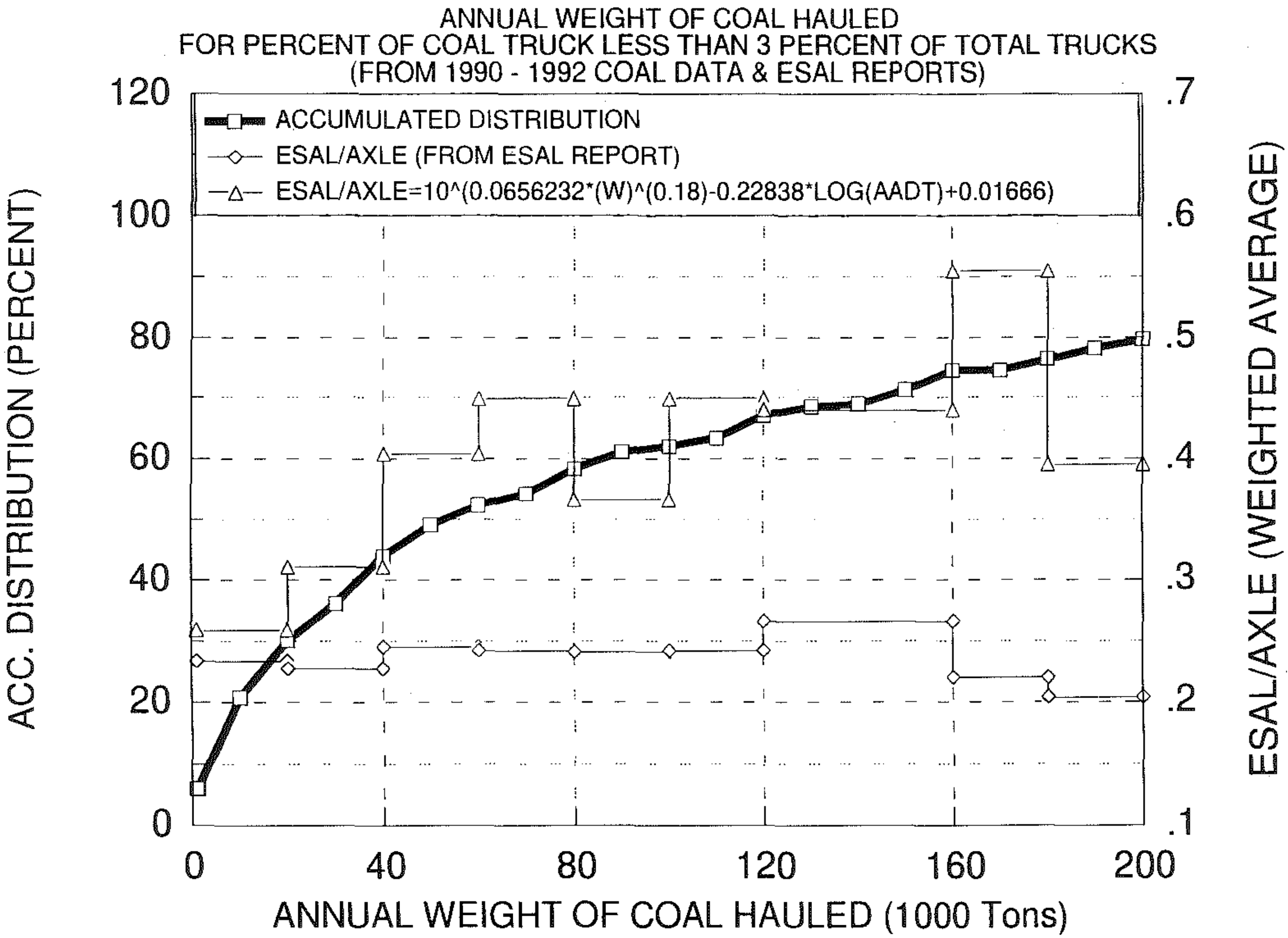


Figure 24. Annual Weight of Coal Hauled for Percent of Coal Trucks Less Than Three Percent of Total Trucks.

Table 7. Route Segments Listed as Non-Coal Haul But Are Coal-Haul Segments

1992 DATA WITH 0 PERCENT COAL TRUCK BUT HAVE COAL HAULED							
CO.#	ROUTE	MP.FRM	MP.TO	FC.	AADT	%TRUCK	W(Tons)
1	KY 55	10.1	19	6	10800	4.44	119,638
3	US 127	8.9	11.1	2	8550	5.07	5,876
8	I 275	1.6	13.9	11	34300	9.78	42,158
8	I 75	169.4	183.3	1	42000	20.89	308,387
9	US 27	0	6.8	2	14100	5.2	843
9	US 68	2.4	10.2	14	6560	8.71	130,031
10	I 64	180.8	190.7	1	14400	18.22	11,012
10	US 23	0	4.8	2	8610	33.6	11,303,084
11	US 127B	0	5.3	14	16100	7.31	86
11	US 150	16.7	18.8	6	8360	5.62	38,555
15	I 65	116.6	121.6	1	49000	25.04	5,969
15	US 31E	0	5.5	8	20300	3.48	156,967
19	I 471	0	5.1	11	71400	5.5	126,832
19	US 27	0	16.6	6	15200	6.42	215,433
22	I 64	148.7	171.6	1	8800	20.75	7,477
24	US 41	14.8	28.5	7	3050	12.99	2,076
25	KY1958	0	2.8	14	9000	5.81	395,744
28	US 641	0	7.5	6	3263	10.22	35,289
30	US 60	11.5	13.9	14	12000	5.35	77,539
30	KY 144	0	9.1	7	2700	21.26	117,692
30	US 231	0	11.3	7	7440	4.2	126,709
35	US 68	0	5.4	2	2420	12.15	129,815
35	KY 11	0	17.3	7	6380	11.38	152,652
36	KY 7	8	10.4	7	2400	3.38	315,308
37	US 127	5.2	6.1	14	20100	2.95	39,982
41	I 75	143.2	166.3	1	30700	23.43	308,387
45	US 23	0	7.6	14	22200	7.2	666,186
46	US 60	0	6.8	2	7200	12.17	24,862
49	US 27	0	19.5	6	4020	11.16	222,607
51	US 41A	16.1	17.3	14	23000	3.66	29,577
54	US 41A	16.1	21.2	16	9600	11.43	1,652,181
56	I 264	7.5	12.2	11	68000	6.17	3,068
56	I 265	10.2	25.5	11	42600	8.53	6,308
56	US 60	5.8	17.4	14	37300	1.91	39,982
56	I 64	7.8	12.3	11	72800	7.83	45,144
56	I 64	18.9	24	1	31200	18.65	56,450
56	US 31W	19.5	21.7	14	7420	3.49	106,730
56	US 31E	0	6.1	6	31200	2.54	156,967
56	KY1065	1	10	14	14800	4.94	156,967
58	US 23	13.2	18.4	2	7410	32.76	11,395,839

Table 7. (Cont'd)

59	I	75	184.7	191.8	11	99100	10.17	79,914
63	US	25	10.5	12.1	7	15000	2.7	1,655
63	US	25E	0	2	14	13941	13.97	40,279
69	US	150	0	4.3	6	8300	9.17	38,555
69	US	150B	0	1.1	6	6700	9.79	38,555
71	US	79	0	12.9	6	8720	7.96	10,694
72	US	641	0	5.7	6	2870	16.64	35,289
72	US	62	0	6.8	6	6730	10.43	54,660
72	US	62	6.8	10.5	6	5862	11.45	89,949
75	KY	85	0	2.6	7	1790	9.3	1,458
87	I	64	109.6	115.6	1	13600	15.21	14,514
87	KY	686	0	2.7	14	10700	5.05	85,884
88	KY	205	0	6.8	7	2260	10.69	4,623
88	KY	7	2.9	8.4	6	1200	.59	8,680
100	KY	80	9.3	19.1	7	6890	4.38	1,099
100	US	27	16.9	30.7	14	13900	8.11	38,555
100	US	27	9.8	12.9	14	27800	7	485,757
100	US	27	12.9	16.9	14	24600	6.14	488,826
102	I	75	62	73.4	1	24300	21.83	28,022
103	I	64	129	137.3	1	10100	29.14	14,454
106	I	64	24	46.3	1	27600	22.55	56,450
113	US	60	3.7	5.7	6	4900	36.99	5,369,110
117	US	41A	10	19.5	7	3600	13.5	2,206,344
119	KY	15	9.5	12.9	2	1100	3.34	118,795
NOTE : W= Annual Coal hauled (from 1992 Coal data)								
AADT & PERCENT TRUCK : FROM 1992 CLASSIFICATION DATA								

Table 8. Coal-Haul Route Segments

CO.	ROUTE	MILEPOINT FROM	MILEPOINT TO	FUNC. CLSS	W. CLS
1	CU 9008	36.2	48.9	2	L
1	CU 9008	48.9	57.8	2	M
1	KY 55	10.1	19.0	6	M
3	BG 9002	44.8	52.3	2	M
3	BG 9002	56.3	61.9	2	M
3	KY 44	13.0	13.9	16	L
3	KY 1510	1.5	1.7	8	L
3	US 62	18.3	22.2	7	L
3	US 127	8.9	11.1	2	L
3	US 127B	4.0	6.7	14	L
5	CU 9008	.0	22.4	2	L
5	I 65	42.9	43.1	1	L
6	I 64	115.6	123.0	1	L
6	I 64	123.0	129.0	1	L
6	KY 11	.0	12.8	7	M
6	KY 36	11.6	13.0	7	L
6	KY 111	.0	8.1	7	L
6	US 60	6.8	6.9	7	L
6	US 60	7.7	9.7	7	L
7	CR 5001	.0	.5	9	M
7	CR 5001A	.0	.3	9	L
7	CR 5040	.0	.6	9	M
7	CR 5208	.0	.4	9	L
7	CR 5217	.0	1.1	9	H
7	CR 5219	.0	.3	9	H
7	CR 5219	.3	2.3	9	H
7	CR 5314	.0	.7	9	L
7	CS 10M	.0	.4	9	L
7	CS 11S	.0	.4	9	L
7	CS 12F	.0	.5	9	L
7	CS 13A	.2	.3	9	L
7	FS 7000	.0	2.6	0	L
7	KY 66	.0	1.6	7	M
7	KY 66	1.6	4.8	7	L
7	KY 66	4.8	11.6	7	L
7	KY 66	11.6	12.3	7	M
7	KY 66	12.3	12.6	7	M
7	KY 66	12.6	13.7	7	H
7	KY 66	13.7	14.8	7	H
7	KY 72	.0	3.4	8	L
7	KY 74	.0	.3	7	M
7	KY 74	.3	.9	7	L
7	KY 74	.9	5.6	7	L
7	KY 74	5.6	7.6	7	L
7	KY 74	7.6	9.8	7	L
7	KY 74	9.8	11.3	7	H
7	KY 74	11.3	11.4	7	H
7	KY 74	11.4	11.5	7	H
7	KY 74	11.5	11.9	7	H
7	KY 74	11.9	12.2	7	H
7	KY 74	12.2	13.0	7	H
7	KY 74	13.0	14.3	16	H
7	KY 74	14.3	14.5	16	H
7	KY 74	14.5	16.1	16	M
7	KY 74	16.1	16.8	16	M
7	KY 92	.0	7.2	7	L
7	KY 92	7.2	10.8	7	L
7	KY 186	.0	.3	7	L
7	KY 186	.3	1.2	7	H
7	KY 186	1.2	2.1	7	H
7	KY 186	2.1	2.2	7	H
7	KY 186	2.2	3.0	7	H
7	KY 190	.0	3.4	7	L
7	KY 190	4.1	7.4	7	L
7	KY 217	.0	4.6	7	L
7	KY 217	4.6	8.8	7	M
7	KY 221	.0	10.4	7	L
7	KY 221	10.4	11.7	7	H
7	KY 221	11.7	12.6	7	H
7	KY 441	.0	.5	17	H
7	KY 441	3.3	4.5	17	L
7	KY 441	4.5	4.9	16	L
7	KY 535	.0	.3	9	L
7	KY 987	4.6	9.4	8	L
7	KY 987	9.4	10.1	8	M
7	KY 987	10.1	13.0	8	M
7	KY 987	13.0	13.3	8	M
7	KY 987	13.3	19.4	8	L
7	KY 988	.0	1.2	7	L
7	KY 1344	.0	.8	8	M
7	KY 1595	.0	.1	9	L
7	KY 1595	.1	1.5	9	L
7	KY 2012	.0	2.0	9	L
7	KY 2079	2.0	2.4	17	L
7	KY 2079	2.4	2.6	16	L
7	KY 2079	2.6	3.2	16	L
7	KY 3483	.0	1.0	9	L
7	KY 3485	.0	4.6	8	L
7	US 25E	.0	2.2	2	M
7	US 25E	2.2	2.8	14	M
7	US 25E	2.8	3.3	14	M
7	US 25E	3.3	12.9	2	M
7	US 25E	12.9	13.9	2	M
7	US 25E	13.9	18.2	2	M
7	US 25E	18.2	18.9	2	L
7	US 25E	18.9	19.7	2	L
7	US 119	.0	7.8	2	M
7	US 119	7.8	10.6	2	M
7	US 119	10.6	13.9	2	M
7	US 119	13.9	15.8	2	M
8	I 75	169.4	183.3	1	M
8	I 275	1.6	13.9	11	M
9	KY 627	.0	9.5	6	M
9	KY 1678	4.3	9.5	8	L
9	US 27	.0	6.8	2	L
9	US 27	6.8	8.3	14	L
9	US 27	8.3	15.4	14	M
9	US 68	.0	2.4	14	L
9	US 68	2.4	10.2	14	M
9	US 68	10.2	10.8	2	M
9	US 68X	.0	.3	16	L
9	US 68X	1.4	1.5	14	M
9	US 68X	1.5	2.8	16	M
9	US 460	7.7	9.2	14	M
10	CR 5292	.0	.9	2	M
10	CR 5477	.0	1.1	2	H
10	I 64	180.8	181.4	1	M
10	I 64	181.4	185.5	1	L
10	I 64	185.5	190.7	1	L
10	I 64	190.7	191.6	1	H
10	KY 5	7.7	8.1	16	H
10	KY 180	.7	.9	7	M
10	KY 180	.9	2.5	2	M
10	KY 757	6.2	6.3	8	H
10	KY 757	6.3	7.2	8	H
10	KY 757	7.2	8.2	8	H
10	KY 757	8.2	8.4	8	H
10	KY 757	8.4	8.5	8	H

Table 8. (Cont'd)

CO.	ROUTE	MILEPOINT		FUNC. CLSS	W. CLS
		FROM	TO		
10	KY 757	8.5	8.8	8	M
10	KY 757	8.8	8.9	8	L
10	KY 757	8.9	10.2	8	L
10	KY 766	.0	1.3	17	H
10	KY 1134	.0	.9	17	H
10	KY 2842	.0	.1	8	H
10	US 23	.0	4.8	2	H
10	US 23	4.8	5.2	2	H
10	US 23	5.2	5.4	2	H
10	US 23	5.4	5.5	2	H
10	US 23	5.5	5.6	2	H
10	US 23	5.6	5.8	2	H
10	US 23	5.8	6.1	2	H
10	US 23	6.1	10.6	2	H
10	US 23	10.6	10.9	2	H
10	US 23	10.9	18.6	14	H
10	US 23	18.6	18.8	14	M
10	US 23	18.8	19.1	14	M
10	US 23	19.1	21.0	14	M
10	US 23S	.0	.5	14	H
10	US 23X	1.5	1.7	16	L
10	US 60	.0	.2	7	M
10	US 60	.2	.9	7	M
10	US 60	.9	4.0	7	M
10	US 60	4.0	9.6	16	M
10	US 60	9.6	12.2	14	H
10	US 60	12.2	12.3	14	H
10	US 60	12.3	12.4	14	H
11	US 127	7.5	9.7	16	M
11	US 127B	.0	5.3	14	M
11	US 150	16.7	18.9	6	M
11	US 150B	.0	2.3	14	M
12	KY 8	.0	1.0	7	M
12	KY 546	.0	19.8	2	M
12	KY 2228	.0	.3	8	M
13	CR 5028	.0	1.9	9	L
13	CR 5030	.0	1.4	9	H
13	CR 5050	.0	.6	9	M
13	CR 5065	.0	.3	9	L
13	CR 5067	.0	1.0	9	H
13	CR 5067	1.0	1.6	9	M
13	CR 5067	1.6	3.0	9	M
13	CR 5068	.0	1.5	9	H
13	CR 5118	.0	.6	9	L
13	CR 5123	.0	.9	9	L
13	CR 5135	.0	2.1	9	H
13	CR 5135	2.0	2.1	9	M
13	CR 5144	.0	.8	9	M
13	CR 5186	.0	.4	9	L
13	CR 5211	.0	1.0	9	L
13	CR 5352	.0	1.4	9	L
13	KY 15	.0	6.7	2	H
13	KY 15	6.7	7.7	2	H
13	KY 15	7.7	9.2	2	H
13	KY 15	9.2	12.0	2	H
13	KY 15	12.0	12.2	2	H
13	KY 15	12.2	14.6	2	H
13	KY 15	14.6	14.8	2	H
13	KY 15	14.8	16.8	2	H
13	KY 15	16.8	18.5	2	H
13	KY 15	17.4	18.5	2	H
13	KY 15	18.5	23.4	2	H
13	KY 15	23.4	25.1	2	H
13	KY 15	25.1	27.5	2	H
13	KY 30	.0	13.3	7	L
13	KY 30	13.3	14.1	7	M
13	KY 30	14.1	14.8	7	M
13	KY 30	14.8	25.6	7	L
13	KY 30	25.6	33.3	7	L
13	KY 30	33.3	37.5	7	L
13	KY 52	.0	9.7	7	M
13	KY 205	.0	2.0	7	M
13	KY 205	2.0	6.6	7	L
13	KY 476	.0	5.8	7	H
13	KY 476	5.8	6.9	7	H
13	KY 476	6.9	11.4	7	H
13	KY 540	.0	3.7	9	M
13	KY 541	7.3	8.2	8	L
13	KY 542	.0	7.7	8	L
13	KY 542	7.7	9.2	8	H
13	KY 542	9.2	13.3	8	M
13	KY 542	13.3	13.8	8	H
13	KY 542	13.8	15.8	8	H
13	KY 542	15.8	15.9	8	H
13	KY 542	15.9	16.0	8	H
13	KY 542	16.0	18.6	8	M
13	KY 1098	.0	13.6	8	M
13	KY 1098	18.0	20.7	8	H
13	KY 1110	8.4	15.2	8	L
13	KY 1110	15.2	15.7	8	H
13	KY 1111	.0	1.4	8	H
13	KY 1111	1.4	2.2	8	H
13	KY 1419	.0	2.9	9	M
13	KY 1812	.0	3.2	7	L
13	KY 1812	3.7	4.0	7	L
13	KY 1812	9.5	14.4	8	M
13	KY 1812	15.7	17.5	8	M
13	KY 2466	.0	1.5	9	L
13	KY 2472	.0	.9	9	L
13	KY 3094	2.4	2.6	9	L
13	KY 3237	6.6	9.0	8	L
15	CR 5135	.0	.3	9	L
15	I 65	103.3	111.8	1	L
15	I 65	111.8	116.6	1	L
15	I 65	116.6	121.6	1	L
15	I 65	121.6	123.2	11	L
15	KY 44	12.4	13.1	7	L
15	KY 61	14.5	16.3	7	L
15	KY 245	.0	4.4	7	L
15	KY 245	4.4	6.1	7	L
15	KY 1020	.0	1.7	7	L
15	KY 1020	1.7	3.3	7	L
15	KY 1020	3.3	5.1	16	L
15	KY 1526	10.8	11.4	8	L
15	US 31E	.0	5.5	8	M
16	CR 5011	.0	1.5	9	L
16	CR 5014	.0	.9	9	L
16	CR 5023	.0	1.3	9	M
16	CR 5043	.0	.4	9	L
16	CR 5146	.0	.3	9	L
16	CR 5221	.0	1.0	9	L
16	CR 5243	.0	.7	9	L
16	GR 9007	18.2	26.1	2	M
16	GR 9007	26.1	33.8	2	M
16	GR 9007	33.8	35.1	2	M
16	KY 70	.0	3.4	7	H
16	KY 70	3.4	4.4	7	H
16	KY 70	4.4	6.8	7	H

Table 8. (Cont'd)

CO.	ROUTE	MILEPOINT		FUNC. CLSS	W. CLS
		FROM	TO		
16	KY 70	6.8	10.0	7	M
16	KY 70	10.0	12.3	7	M
16	KY 70	12.3	14.4	7	M
16	KY 70	14.4	15.2	7	M
16	KY 70	15.2	19.2	7	M
16	KY 70	19.2	21.0	7	M
16	KY 70	21.0	22.8	7	M
16	KY 70	22.8	24.2	7	M
16	KY 70	24.2	25.0	7	L
16	KY 79	.0	12.5	7	L
16	KY 79	12.5	13.4	7	L
16	KY 411	.0	3.2	8	L
16	KY 411	3.2	3.7	8	L
16	KY 411	3.7	6.1	8	L
16	KY 1117	5.3	7.0	8	L
16	KY 1117	7.0	7.5	8	M
16	KY 1117	7.5	8.0	8	M
16	KY 1117	8.0	10.5	8	L
16	KY 1328	5.7	8.3	8	L
16	KY 1328	8.4	11.6	8	H
16	KY 1468	.0	1.1	8	L
16	KY 2161	.0	.6	9	L
16	US 231	8.2	8.6	7	L
16	US 231	8.6	8.9	7	L
16	US 231	8.9	11.5	7	L
16	US 231	11.5	13.3	7	M
16	US 231	13.3	14.3	7	M
16	US 231	14.3	17.4	7	M
16	US 231	17.4	17.8	7	M
16	US 231	17.8	18.2	7	M
16	US 231	18.2	18.3	7	L
16	US 231	18.3	18.9	7	L
16	WK 9001	87.4	88.4	2	L
17	US 641	.0	4.6	6	L
17	WK 9001	5.6	21.8	2	M
18	US 641	.0	17.4	6	L
19	I 275	73.0	74.7	11	M
19	I 275	74.7	75.0	11	M
19	I 275	75.0	77.6	11	M
19	I 471	.0	5.1	11	L
19	KY 471	.0	.7	11	M
19	US 27	.0	16.6	6	M
19	US 27	16.6	22.7	14	L
22	CR 5006	.0	.7	9	L
22	CR 5188	.0	.7	9	L
22	I 64	148.7	171.6	1	L
22	I 64	171.6	180.8	1	M
22	KY 1	.1	3.6	7	L
22	KY 1	3.6	10.6	7	L
22	KY 1	10.6	11.5	7	M
22	KY 1	11.5	12.8	2	L
22	KY 2	14.9	18.3	7	L
22	KY 7	.0	10.7	6	M
22	KY 7	10.7	10.9	6	M
22	KY 7	10.9	22.1	6	L
22	KY 207	2.2	4.5	8	H
22	KY 486	.0	2.8	7	L
22	KY 1773	1.1	2.6	9	L
22	US 60	19.8	24.8	7	L
22	US 60	24.8	30.7	7	L
22	US 60	30.7	35.0	7	M
24	CR 5418	.0	.3	9	H
24	I 24	85.6	93.4	1	L
24	KY 407	.0	1.0	8	L
24	KY 1296	2.7	5.2	8	H
24	KY 1682	3.1	3.8	14	L
24	PE 9004	.0	2.3	2	L
24	PE 9004	2.3	4.7	2	L
24	PE 9004	4.7	7.0	12	L
24	PE 9004	7.0	9.4	12	L
24	PE 9004	9.4	11.7	12	L
24	PE 9004	11.7	21.1	2	L
24	PE 9004	21.1	28.1	2	L
24	US 41	14.8	28.5	7	L
24	US 41	28.5	29.0	7	H
24	US 41	29.0	31.6	7	H
24	US 41A	.0	4.4	14	L
24	US 41A	4.4	13.5	2	L
24	US 68	11.3	21.1	14	L
25	CR 5250	2.1	2.8	9	L
25	I 64	89.5	94.2	1	M
25	I 64	94.2	96.2	1	H
25	I 64	96.2	97.7	11	H
25	I 64	97.7	104.3	1	L
25	KY 15	.0	13.1	7	M
25	KY 89	.0	15.9	7	L
25	KY 89	15.9	16.0	16	M
25	KY 402	.0	11.9	0	H
25	KY 418	5.7	5.8	7	M
25	KY 627	.1	5.9	2	M
25	KY 627	5.9	6.4	14	M
25	KY 627	6.4	7.8	16	L
25	KY 627	7.8	8.1	16	M
25	KY 627	8.1	9.3	16	L
25	KY 627	9.3	14.8	6	M
25	KY 1924	.0	1.8	8	M
25	KY 1958	.0	2.8	14	M
25	KY 9000	.0	11.9	2	H
25	US 60	.0	6.7	7	M
25	US 60	7.0	7.2	16	M
26	CR 5014	.0	1.0	9	L
26	CR 5129	.0	.6	9	M
26	CR 5129	.6	1.1	9	M
26	CR 5129	1.1	1.5	9	M
26	CR 5136	1.0	2.2	9	M
26	CR 5176	.0	.7	9	L
26	CR 5180	.0	.2	9	H
26	CR 5194	.0	.3	9	M
26	CR 5199	.0	1.0	9	M
26	CR 5227A	.0	.2	9	H
26	CR 5230B	.0	.1	9	L
26	CR 5230D	.0	.1	9	L
26	CR 5231E	.0	.5	9	L
26	CR 5271	.0	.3	9	M
26	CR 5271	.3	.4	9	L
26	CR 5271	.4	1.0	9	L
26	CR 5313	.0	1.6	9	L
26	CR 5346	.0	3.5	9	L
26	CR 5346	5.9	6.2	9	L
26	CR 5398	.0	.9	9	L
26	CR 5420	.5	1.6	9	L
26	DB 9006	10.6	20.5	2	H
26	DB 9006	20.5	33.8	2	M
26	DB 9006	33.8	35.9	2	M
26	KY 11	.0	5.5	7	L
26	KY 11	5.5	6.4	7	L
26	KY 11	6.4	7.8	7	M
26	KY 11	7.8	8.9	7	H

Table 8. (Cont'd)

CO.	ROUTE	MILEPOINT FROM	MILEPOINT TO	FUNC. CLSS	W. CLS
26	KY 11	8.9	12.9	7	M
26	KY 11	12.9	15.0	7	L
26	KY 11	15.0	26.6	7	L
26	KY 66	1.9	3.1	7	L
26	KY 66	3.1	6.9	7	L
26	KY 66	6.9	10.0	7	L
26	KY 66	10.0	18.5	7	M
26	KY 66	18.5	19.1	7	M
26	KY 80	.0	4.8	7	L
26	KY 80	4.8	5.5	7	M
26	KY 80	5.5	7.3	7	M
26	KY 80	7.3	7.5	7	H
26	KY 149	.0	3.7	8	L
26	KY 638	9.0	9.6	8	L
26	KY 638	9.6	13.4	8	L
26	KY 687	2.3	14.1	8	L
26	KY 1524	.0	1.1	8	M
26	KY 2000	.0	1.9	8	M
26	KY 2000	1.9	4.6	8	M
26	KY 2000	4.6	9.1	8	L
26	KY 2076	.0	.9	8	L
26	KY 2432	.0	.4	9	H
26	KY 2438	.0	.1	9	H
26	KY 3475	1.9	3.0	9	L
26	US 421	.0	1.2	7	M
26	US 421	1.2	1.8	7	M
26	US 421	1.8	2.6	7	M
26	US 421	2.6	5.5	7	M
26	US 421	5.5	5.7	7	M
26	US 421	5.7	7.0	7	M
26	US 421	7.0	7.8	7	H
26	US 421	7.8	10.6	7	H
26	US 421	10.6	13.7	7	H
26	US 421	13.7	14.3	7	H
26	US 421	14.3	15.2	7	H
26	US 421	15.2	15.8	7	H
26	US 421	15.8	16.4	7	H
26	US 421	16.4	16.9	7	H
26	US 421	16.9	17.3	7	H
26	US 421	17.3	18.0	6	H
26	US 421	18.0	18.8	6	M
26	US 421	18.8	20.0	6	M
26	US 421	20.0	24.0	6	M
26	US 421	24.0	26.0	6	M
26	US 421	26.0	32.8	6	M
27	KY 90	.0	5.3	6	L
27	KY 90	5.3	12.8	6	L
27	US 127	7.1	10.4	6	L
27	US 127	10.4	11.0	6	L
28	US 60	9.2	23.0	6	L
28	US 641	.0	7.5	6	L
29	KY 61	12.9	14.3	6	L
29	KY 90	14.1	22.5	6	L
30	AU 9005	16.6	24.6	2	L
30	CR 5036	1.4	1.6	9	L
30	CR 5036	1.6	1.8	9	M
30	CR 5038	.0	.5	9	M
30	CR 5046	.0	.5	9	M
30	CR 5076	.0	.2	9	H
30	CR 5136	.0	1.8	9	M
30	CR 5238	.5	.8	9	M
30	CR 5238	.8	2.0	9	M
30	CS 3E	.0	.2	9	L
30	CS 4E	.0	.3	9	L
30	GR 9007	59.5	70.7	2	M
30	KY 54	2.5	11.9	14	M
30	KY 81	.0	3.7	7	L
30	KY 81	3.7	11.9	7	H
30	KY 140	.9	2.8	8	M
30	KY 140	2.8	3.4	8	M
30	KY 140	3.4	4.3	8	L
30	KY 144	.0	9.1	7	M
30	KY 144	9.1	9.8	7	L
30	KY 331	.0	1.9	16	H
30	KY 331	1.9	2.6	16	H
30	KY 554	1.9	3.3	7	H
30	KY 554	3.3	4.8	7	H
30	KY 951	.0	1.3	8	M
30	KY 951	1.3	1.6	8	M
30	KY 951	1.6	1.8	8	M
30	KY 951	1.8	2.0	8	M
30	KY 951	2.0	2.4	8	M
30	KY 951	2.4	3.7	8	M
30	KY 1207	3.6	5.5	8	M
30	KY 1389	1.9	9.2	8	M
30	KY 1831	.0	2.8	9	M
30	US 60	10.2	10.6	14	H
30	US 60	10.6	11.5	14	L
30	US 60	11.5	13.4	14	M
30	US 60	13.4	13.9	14	M
30	US 60	13.9	14.8	14	M
30	US 60	14.8	16.3	14	H
30	US 60	16.3	16.8	14	H
30	US 60	16.8	17.5	2	H
30	US 60	17.5	18.3	2	H
30	US 60	18.3	20.6	2	H
30	US 60	20.6	28.0	2	M
30	US 60B	.0	.7	12	H
30	US 60B	.7	1.4	12	H
30	US 60B	1.4	4.2	12	H
30	US 60B	4.2	6.3	12	H
30	US 60B	6.3	7.3	12	H
30	US 60B	7.3	8.5	12	H
30	US 60B	8.5	10.2	12	H
30	US 231	.0	11.3	7	M
30	US 231	11.3	14.8	16	L
30	US 231	14.8	14.9	14	M
30	US 231	14.9	15.7	14	M
30	US 431	.0	2.6	6	M
30	US 431	2.6	5.0	6	M
30	US 431	5.0	11.4	6	H
32	CR 5119	.0	1.5	9	L
32	CR 5141	.0	.4	9	L
32	KY 7	.0	6.9	6	L
32	KY 7	6.9	19.3	6	M
32	KY 32	8.6	12.3	7	M
32	KY 32	12.3	14.0	7	L
32	KY 32	14.0	14.8	7	M
32	KY 486	.0	4.8	7	M
32	KY 486	4.8	14.2	7	L
32	KY 706	3.2	5.0	8	L
32	KY 706	5.0	5.3	8	L
32	KY 706	5.3	6.2	8	L
33	CR 5356	.0	.8	9	M
33	KY 52	.0	7.6	7	L
33	KY 52	7.6	21.0	7	L
33	KY 82	.0	5.0	7	M
33	KY 89	11.4	11.8	7	M

Table 8. (Cont'd)

CO.	ROUTE	MILEPOINT FROM	MILEPOINT TO	FUNC. CLSS	W. CLS
33	KY 89	11.8	12.3	7	M
33	KY 89	12.3	13.4	7	M
33	KY 89	13.4	17.9	7	M
33	KY 89	17.9	22.6	7	L
33	KY 1840	.0	.4	9	M
33	KY 2459	.1	.4	9	L
34	CS 1R	.0	1.3	9	L
34	CS 2C	.0	.6	9	L
34	I 64	71.0	74.7	1	M
34	I 64	81.0	81.9	1	M
34	I 64	81.9	89.5	1	M
34	I 75	97.5	109.7	1	M
34	I 75	109.7	111.2	11	M
34	I 75	111.2	112.9	11	M
34	I 75	112.9	115.2	11	M
34	I 75	115.2	117.9	11	M
34	I 75	117.9	120.8	11	M
34	KY 4	4.6	8.7	12	M
34	KY 4	8.7	9.3	12	M
34	KY 4	9.3	12.7	12	M
34	KY 922	.0	1.0	14	L
34	KY 922	1.0	2.9	14	M
34	SV 1U	.0	.6	9	L
34	US 25	13.4	13.5	14	L
34	US 25	14.6	15.2	14	L
34	US 25	16.0	16.2	16	L
34	US 25	16.2	16.3	16	L
34	US 27	4.7	4.9	14	L
34	US 27	9.6	15.8	14	L
34	US 60	.0	4.7	2	M
34	US 60	8.2	10.2	16	L
34	US 60	10.2	12.1	16	M
34	US 60	12.1	18.0	7	M
34	US 60	18.0	19.3	7	M
34	US 421	.0	1.0	14	L
35	KY 11	.0	17.2	7	M
35	KY 111	.0	5.6	7	L
35	US 68	.0	5.4	2	M
36	CR 5014	.0	.5	9	L
36	CR 5020	.0	.1	9	H
36	CR 5032	.0	1.1	9	H
36	CR 5032	1.1	2.1	9	H
36	CR 5032	2.1	2.7	9	H
36	CR 5032	2.7	3.0	9	M
36	CR 5033	.0	2.1	9	M
36	CR 5043A	.0	.6	9	L
36	CR 5046	.0	.4	9	L
36	CR 5046	.4	.8	9	L
36	CR 5046A	.0	.7	9	L
36	CR 5048	.0	.6	9	M
36	CR 5049	.0	1.7	9	M
36	CR 5055	.0	.4	9	M
36	CR 5100	.0	.6	9	M
36	CR 5104	.0	.3	9	M
36	CR 5106	.0	.2	9	M
36	CR 5107	.0	.4	9	M
36	CR 5107A	.0	.3	9	M
36	CR 5111	.0	.9	9	H
36	CR 5118	.0	.6	9	H
36	CR 5128	.0	.5	9	L
36	CR 5128	.5	1.0	9	L
36	CR 5129	.0	.7	9	L
36	CR 5129	.7	1.0	9	L
36	CR 5134	.0	.7	9	M
36	CR 5134	.7	1.0	9	M
36	CR 5135	.0	.5	9	L
36	CR 5136	.0	.4	9	M
36	CR 5137	.0	.2	9	L
36	CR 5137A	.0	.2	9	L
36	CR 5138	.0	.9	9	L
36	CR 5139	.0	1.0	9	M
36	CR 5139	1.0	1.2	9	M
36	CR 5139	1.2	1.6	9	L
36	CR 5140	.0	.2	9	M
36	CR 5140	.2	.3	9	M
36	CR 5140	.3	1.1	9	M
36	CR 5142	.0	.6	9	M
36	CR 5144	.0	.8	9	M
36	CR 5147	.0	.2	9	M
36	CR 5148	.0	.2	9	M
36	CR 5148	.2	.5	9	L
36	CR 5153	.0	.7	9	M
36	CR 5154	.0	.5	9	M
36	CR 5156	.0	.9	9	M
36	CR 5157	.0	.2	9	M
36	CR 5157	.2	.5	9	M
36	CR 5159	.0	.5	9	M
36	CR 5175	.0	.7	9	L
36	CR 5187	.0	.2	9	M
36	CR 5190	.0	1.4	9	M
36	CR 5190	1.4	1.5	9	M
36	CR 5190	1.5	2.5	9	M
36	CR 5197	.0	.1	9	H
36	CR 5197	.1	.7	9	H
36	CR 5197	.7	1.6	9	H
36	CR 5197	1.6	2.0	9	H
36	CR 5197	2.0	2.5	9	H
36	CR 5197	2.5	2.9	9	H
36	CR 5197	2.9	3.0	9	H
36	CR 5197A	.0	1.1	9	L
36	CR 5197B	.0	.2	9	M
36	CR 5197B	.2	.7	9	M
36	CR 5197B	.7	1.0	9	L
36	CR 5198	.0	1.1	9	M
36	CR 5202	.0	.4	9	M
36	CR 5220	1.0	1.4	9	M
36	CR 5220	1.4	1.8	9	M
36	CR 5220A	.0	.1	9	M
36	CR 5229	.0	.6	9	L
36	CR 5234	.0	.6	9	L
36	CR 5234	.6	1.4	9	L
36	CR 5234	1.4	2.4	9	L
36	CR 5239	.0	.3	2	M
36	CR 5239	.3	1.3	9	M
36	CR 5247	.0	.1	9	M
36	CR 5262L	.0	.4	9	L
36	CR 5263	.0	.4	9	L
36	CR 5266E	.0	.2	9	L
36	CR 5268	.0	2.0	9	M
36	CR 5273	.0	.6	9	L
36	CR 5274	.0	.1	9	L
36	CR 5280	.0	.1	9	L
36	CR 5283C	.0	.1	9	M
36	CR 5288	.0	.3	9	M
36	CR 5409	.0	.2	9	M
36	KY 3	.0	1.8	7	M
36	KY 3	1.8	2.3	7	M
36	KY 3	2.3	2.5	7	M

Table 8. (Cont'd)

CO.	ROUTE		MILEPOINT FROM	MILEPOINT TO	FUNC. CLSS	W. CLS
36	KY	3	10.0	12.0	7	H
36	KY	7	.0	3.2	7	M
36	KY	7	3.2	5.4	7	M
36	KY	7	5.4	6.6	7	M
36	KY	7	6.6	8.0	7	M
36	KY	7	8.0	10.8	7	M
36	KY	7	10.8	12.8	7	M
36	KY	80	.0	1.5	2	H
36	KY	80	1.5	2.8	2	H
36	KY	80	2.8	4.4	2	H
36	KY	80	4.4	4.8	2	H
36	KY	80	4.8	5.4	2	H
36	KY	80	5.4	5.9	2	H
36	KY	80	5.9	7.2	2	H
36	KY	80	7.2	8.0	2	H
36	KY	80	8.0	8.6	2	H
36	KY	80	8.6	14.4	2	H
36	KY	114	.0	9.5	2	H
36	KY	114	9.5	11.4	2	H
36	KY	122	8.5	8.6	7	H
36	KY	122	8.6	9.6	7	H
36	KY	122	9.6	11.2	7	H
36	KY	122	11.2	12.8	7	H
36	KY	122	12.8	15.8	7	H
36	KY	122	15.8	18.8	7	M
36	KY	122	18.8	21.1	7	M
36	KY	122	21.1	21.6	7	L
36	KY	122	21.6	24.0	7	M
36	KY	122	24.0	24.4	7	M
36	KY	122	24.4	26.1	7	M
36	KY	122	26.1	28.2	7	M
36	KY	122	28.2	28.4	7	M
36	KY	122	28.4	29.0	7	M
36	KY	122	29.0	31.6	7	L
36	KY	194	.0	.5	8	M
36	KY	194	.5	5.6	8	L
36	KY	194	5.6	12.1	8	L
36	KY	194	12.1	12.2	8	L
36	KY	302	2.6	2.9	8	M
36	KY	404	.0	1.9	7	M
36	KY	404	1.9	2.6	7	H
36	KY	404	2.6	3.1	7	H
36	KY	404	3.1	4.2	7	M
36	KY	404	4.2	8.1	7	M
36	KY	466	2.3	4.1	8	L
36	KY	550	.0	.2	7	M
36	KY	550	.2	.7	7	M
36	KY	550	.7	2.7	7	L
36	KY	550	2.7	4.6	7	M
36	KY	680	.0	.9	8	M
36	KY	680	.9	1.3	8	L
36	KY	680	1.3	2.5	8	M
36	KY	680	2.5	3.8	8	L
36	KY	680	3.8	4.4	8	M
36	KY	680	4.4	5.2	8	M
36	KY	680	5.2	5.4	8	M
36	KY	777	.0	.1	9	M
36	KY	777	4.9	6.5	8	M
36	KY	777	6.5	9.0	8	M
36	KY	850	3.0	7.5	7	H
36	KY	979	.0	1.2	7	M
36	KY	979	1.2	5.1	7	M
36	KY	979	5.1	6.0	7	M
36	KY	979	6.0	6.8	7	M

CO.	ROUTE		MILEPOINT FROM	MILEPOINT TO	FUNC. CLSS	W. CLS
36	KY	979	6.8	7.2	7	M
36	KY	979	7.2	8.3	7	M
36	KY	979	8.3	9.3	7	M
36	KY	979	9.3	9.8	7	H
36	KY	979	9.8	11.4	7	H
36	KY	979	11.4	12.4	7	H
36	KY	979	12.4	14.0	7	H
36	KY	979	14.0	15.0	7	H
36	KY	979	15.0	17.8	7	H
36	KY	979	17.8	18.7	7	H
36	KY	979	18.7	19.4	7	H
36	KY	1091	.0	1.2	8	M
36	KY	1101	.0	.1	9	M
36	KY	1101	.1	1.0	9	M
36	KY	1210	.0	.6	8	M
36	KY	1210	.6	4.8	8	L
36	KY	1210	4.8	7.1	8	M
36	KY	1210	7.1	7.8	8	M
36	KY	1426	1.3	6.6	8	M
36	KY	1426	6.6	7.0	8	H
36	KY	1426	7.0	7.9	8	H
36	KY	1426	7.9	9.5	8	M
36	KY	1426	9.5	10.0	8	M
36	KY	1426	11.4	14.3	8	M
36	KY	1428	.0	2.1	8	L
36	KY	1428	2.1	2.6	8	L
36	KY	1428	2.6	6.2	8	M
36	KY	1428	6.2	8.8	8	M
36	KY	1428	8.8	9.8	8	L
36	KY	1428	9.8	10.7	8	M
36	KY	1428	10.7	12.0	8	M
36	KY	1428	12.0	12.5	8	M
36	KY	1428	12.5	14.1	8	M
36	KY	1428	14.1	15.6	8	M
36	KY	1498	.0	4.6	8	M
36	KY	1929	2.0	4.5	8	M
36	KY	2029	.0	.2	8	L
36	KY	2029	.2	1.5	8	L
36	KY	2030	.0	1.6	8	L
36	KY	2030	1.6	5.0	8	M
36	KY	2030	5.0	5.9	8	H
36	KY	2030	5.9	7.8	8	H
36	KY	2557	.0	.3	9	H
36	KY	3188	.8	1.3	9	M
36	KY	3379	.0	3.9	9	L
36	KY	3379	3.9	5.0	8	M
36	KY	3379	5.0	7.0	8	M
36	KY	3380	.0	.7	9	M
36	KY	3381	.8	2.9	9	M
36	KY	3385	3.9	4.4	9	L
36	US	23	.0	.9	2	H
36	US	23	.9	2.2	2	H
36	US	23	2.2	6.5	2	H
36	US	23	6.5	6.6	2	H
36	US	23	6.6	7.8	2	H
36	US	23	7.8	9.0	2	H
36	US	23	9.0	9.4	2	H
36	US	23	9.4	9.8	2	H
36	US	23	9.8	10.6	2	H
36	US	23	10.6	12.8	2	H
36	US	23	12.8	15.6	2	H
36	US	23	15.6	16.8	2	H
36	US	23	16.8	17.4	7	H
36	US	23	17.4	23.2	7	H

Table 8. (Cont'd)

CO.	ROUTE	MILEPOINT		FUNC. CLSS	W. CLS
		FROM	TO		
36	US 23	23.2	24.1	7	H
37	I 64	46.3	53.1	1	L
37	I 64	53.1	57.9	1	L
37	I 64	57.9	59.4	1	M
37	KY 676	.0	3.2	14	M
37	KY 676	3.2	5.3	14	M
37	KY 1659	3.4	4.1	16	L
37	SV 1	.0	.2	9	L
37	US 60	.0	6.5	7	M
37	US 60	10.7	12.0	14	L
37	US 60	12.0	13.3	14	M
37	US 60	13.3	14.0	2	M
37	US 127	.0	4.4	2	L
37	US 127	5.3	6.2	14	M
37	US 127	10.1	10.9	14	L
37	US 421	3.1	4.5	14	L
38	PU 9003	.0	3.4	12	L
41	I 75	143.2	166.3	1	M
42	PU 9003	8.4	34.5	2	L
43	WK 9001	88.4	119.6	2	L
45	CR 5150	.0	1.0	9	H
45	CR 5268	.0	1.0	9	H
45	KY 207	.0	2.9	8	H
45	KY 207	11.2	12.4	7	M
45	KY 503	5.5	9.3	7	M
45	US 23	.0	7.6	14	M
45	US 23	7.6	9.2	14	L
45	US 23	9.2	28.9	2	L
46	KY 271	4.6	6.0	8	M
46	KY 334	14.7	16.4	8	M
46	KY 657	3.6	7.6	8	L
46	KY 1403	.3	2.5	8	L
46	KY 2181	8.1	11.9	8	L
46	US 60	.0	1.9	2	M
46	US 60	1.9	5.6	2	M
46	US 60	5.6	6.8	2	M
46	US 60	6.8	10.3	2	L
47	I 65	91.0	103.3	1	L
47	WK 9001	119.6	136.8	2	L
48	CR 5007B	.0	.1	9	H
48	CR 5027	.0	.4	9	M
48	CR 5032	.0	.2	9	M
48	CR 5033	.0	.3	9	M
48	CR 5034	.0	.1	9	L
48	CR 5035	.4	.5	9	L
48	CR 5102	.0	.7	9	M
48	CR 5105A	.0	.1	9	L
48	CR 5108H	.0	.8	9	L
48	CR 5121A	.0	.1	9	L
48	CR 5121D	.0	.2	9	L
48	CR 5122F	.0	.2	9	M
48	CR 5125	.0	.3	9	L
48	CR 5140	.0	.4	9	M
48	CR 5141	.0	.2	9	L
48	CR 5142	.0	.4	9	L
48	CR 5206K	.0	.1	9	M
48	CR 5206K	.1	.4	9	H
48	CR 5219	.0	.3	9	L
48	CR 5256	.0	.2	9	M
48	CR 5256	.2	.8	9	H
48	CR 5326E	.0	.1	9	M
48	CR 5326M	.0	.3	9	L
48	CR 5338	.0	2.2	9	H
48	CR 5344	2.1	2.6	9	H
48	KY 38	.0	2.1	7	M
48	KY 38	2.1	4.8	7	M
48	KY 38	4.8	5.0	7	H
48	KY 38	5.0	5.4	7	H
48	KY 38	5.4	5.7	7	H
48	KY 38	5.7	6.7	7	H
48	KY 38	6.7	7.3	7	H
48	KY 38	7.3	8.0	7	H
48	KY 38	8.0	8.2	7	M
48	KY 38	8.2	8.5	7	H
48	KY 38	8.5	10.0	7	H
48	KY 38	10.0	11.6	7	H
48	KY 38	11.6	13.3	7	H
48	KY 38	13.3	14.5	7	H
48	KY 38	14.5	14.8	7	M
48	KY 38	14.8	15.5	7	M
48	KY 38	15.5	16.8	7	L
48	KY 38	16.8	17.0	7	M
48	KY 38	17.0	17.4	7	M
48	KY 38	17.4	18.9	7	M
48	KY 38	18.9	19.3	7	L
48	KY 38	19.3	24.5	7	L
48	KY 38	24.5	26.7	7	M
48	KY 38	26.7	28.1	7	M
48	KY 38	28.1	29.1	7	M
48	KY 38	29.1	29.5	7	M
48	KY 72	.0	1.3	8	L
48	KY 72	1.3	1.9	8	L
48	KY 72	1.9	2.5	8	M
48	KY 72	2.5	4.9	8	M
48	KY 72	5.4	7.1	8	M
48	KY 72	7.1	9.0	8	H
48	KY 72	9.0	11.3	8	H
48	KY 179	.0	.6	8	M
48	KY 179	7.1	7.2	8	M
48	KY 215	.0	.2	8	L
48	KY 215	.2	1.7	8	L
48	KY 215	1.7	4.0	8	L
48	KY 219	2.3	4.7	8	L
48	KY 221	.0	5.9	7	H
48	KY 221	5.9	8.9	7	H
48	KY 221	8.9	11.4	7	H
48	KY 221	11.4	15.0	7	H
48	KY 221	15.0	16.6	7	H
48	KY 221	16.6	18.4	7	M
48	KY 221	18.4	21.6	7	M
48	KY 221	21.6	26.8	7	L
48	KY 510	.0	2.3	8	L
48	KY 568	.0	1.4	8	L
48	KY 987	.0	6.0	7	L
48	KY 987	6.0	7.6	7	L
48	KY 987	7.6	7.7	7	L
48	KY 987	7.7	8.9	7	L
48	KY 987	8.9	10.4	7	M
48	KY 987	10.4	17.5	7	M
48	KY 987	17.5	18.5	7	M
48	KY 990	.0	1.3	8	H
48	KY 991	.0	1.5	8	M
48	KY 1137	.0	1.4	8	H
48	KY 1137	1.4	3.0	8	H
48	KY 1137	3.0	3.2	8	H
48	KY 1216	.0	.7	9	M
48	KY 1556	1.1	2.1	8	M
48	KY 1601	.0	1.4	8	M

Table 8. (Cont'd)

CO.	ROUTE	MILEPOINT FROM	MILEPOINT TO	FUNC. CLSS	W. CLS
48	KY 1601	1.4	1.5	8	M
48	KY 1601	2.3	2.4	8	M
48	KY 2005	2.6	5.1	8	M
48	KY 2006	.0	2.1	8	M
48	KY 2006	2.1	3.2	8	H
48	KY 2006	3.2	4.0	8	H
48	KY 2006	4.0	4.2	8	H
48	KY 2006	4.2	4.3	8	L
48	KY 2007	.0	.5	8	L
48	KY 2008	.0	1.4	8	M
48	KY 2009	.0	2.7	9	H
48	KY 2425	.0	.4	9	M
48	KY 2430	.0	.1	9	M
48	KY 2430	.1	1.3	9	M
48	KY 3449	.0	1.1	9	H
48	KY 3449	1.1	2.0	9	L
48	KY 3451	.0	.6	9	M
48	KY 3451	.6	1.1	9	M
48	KY 3451	1.1	1.4	9	H
48	KY 3451	1.4	1.9	9	H
48	KY 3451	1.9	2.2	9	M
48	KY 3457	.0	.5	9	M
48	KY 3461	.0	.2	9	L
48	KY 3465	.0	3.9	9	H
48	US 119	.0	3.8	2	M
48	US 119	3.8	6.0	2	M
48	US 119	6.0	9.2	2	M
48	US 119	9.2	13.2	2	M
48	US 119	13.2	14.0	2	M
48	US 119	14.0	18.7	2	M
48	US 119	18.7	20.5	2	M
48	US 119	20.5	21.9	2	M
48	US 119	21.9	23.9	2	M
48	US 119	23.9	26.4	2	L
48	US 119	26.4	26.7	2	H
48	US 119	26.7	27.3	2	H
48	US 119	27.3	28.1	2	M
48	US 119	28.1	28.2	2	M
48	US 119	28.2	39.7	2	L
48	US 421	.0	3.8	6	H
48	US 421	3.8	6.0	6	H
48	US 421	6.0	6.1	6	H
48	US 421	6.1	6.3	6	H
48	US 421	6.3	6.4	6	H
48	US 421	6.4	6.7	6	H
48	US 421	6.7	7.0	6	H
48	US 421	7.0	7.4	6	H
48	US 421	7.4	7.7	6	H
48	US 421	7.7	8.7	6	H
48	US 421	8.7	10.8	6	H
48	US 421	10.8	13.9	6	H
48	US 421	13.9	15.7	6	H
48	US 421	15.7	16.8	6	M
48	US 421	16.8	17.0	6	M
48	US 421	17.0	17.7	6	M
48	US 421	17.7	17.9	6	M
48	US 421	17.9	23.9	6	L
48	US 421	23.9	24.9	6	H
48	US 421	24.9	27.6	6	H
49	US 27	.0	19.5	6	M
51	AU 9005	.0	10.2	2	M
51	AU 9005	10.2	16.6	2	L
51	CR 5142	.0	.1	9	H
51	CR 5305	.0	1.2	9	M
51	CR 5360	.0	.7	9	L
51	CS 5T	.0	.1	9	L
51	KY 136	18.9	19.5	16	M
51	KY 416	7.8	8.0	8	H
51	KY 416	15.8	16.9	8	M
51	KY 425	.0	4.7	2	M
51	KY 425	4.7	5.5	2	H
51	KY 812	5.6	7.4	8	H
51	KY 1078	.8	2.1	8	M
51	KY 2096	.0	.5	9	H
51	KY 2096	.5	3.1	9	H
51	KY 2097	.0	.8	9	H
51	KY 2097	.8	.9	9	H
51	PE 9004	58.3	61.4	0	L
51	PE 9004	61.4	69.3	2	H
51	PE 9004	65.3	68.4	2	M
51	PE 9004	68.4	70.2	2	H
51	PE 9004	70.2	77.2	2	H
51	PE 9004	77.2	78.4	2	M
51	US 41	.0	.2	7	H
51	US 41	10.9	13.0	7	H
51	US 41	13.4	16.2	16	M
51	US 41	16.2	21.2	14	M
51	US 41A	16.1	17.3	14	L
51	US 60	.0	8.7	6	L
53	PU 9003	3.4	8.4	2	L
54	CR 5130	.0	.6	9	H
54	CR 5130	.6	.8	9	H
54	CR 5130	.8	1.6	9	H
54	CR 5134A	.0	.8	9	H
54	CR 5134G	.0	.3	9	H
54	CR 5134G	.3	.4	9	H
54	CR 5140	.0	.3	9	L
54	CR 5163	.0	.7	9	M
54	CR 5165	.0	1.5	9	M
54	CR 5169	.0	1.7	9	H
54	CR 5170	1.0	1.3	9	H
54	CR 5179	.0	.4	9	H
54	CR 5180	1.3	1.5	9	H
54	CR 5212	7.9	8.7	9	M
54	CR 5217	.0	1.5	9	M
54	CR 5254	.0	1.0	9	M
54	CR 5268	.0	2.5	9	H
54	CR 5269	.0	2.4	9	H
54	CR 5301	.0	.6	9	M
54	CR 5329	.0	.3	9	M
54	CR 5330	.0	.3	9	L
54	CR 5353	.0	.1	9	L
54	CR 5393	.0	1.0	9	M
54	CR 5393	1.0	1.1	9	M
54	CR 5393	1.1	2.1	9	M
54	CR 5393	2.1	2.9	9	M
54	CR 5393	2.9	3.8	9	M
54	CR 5393	4.8	4.7	9	M
54	CR 5396	.4	2.9	9	M
54	CR 5460	.0	.3	9	L
54	CR 5473	.0	.5	9	L
54	KY 70	4.5	5.0	8	M
54	KY 70	5.0	7.1	8	M
54	KY 70	7.1	12.4	7	M
54	KY 70	12.4	15.1	7	M
54	KY 70	15.1	18.7	7	M
54	KY 70	18.7	19.9	16	L
54	KY 70	19.9	21.9	17	M

Table 8. (Cont'd)

CO.	ROUTE	MILEPOINT		FUNC. CLSS	W. CLS
		FROM	TO		
54	KY 70	21.9	23.2	9	M
54	KY 70	23.2	25.6	9	M
54	KY 70	25.6	26.4	7	M
54	KY 85	.0	3.4	7	L
54	KY 85	3.4	7.5	7	L
54	KY 109	2.1	3.6	7	M
54	KY 109	3.6	3.8	7	H
54	KY 109	3.8	7.6	7	M
54	KY 109	7.6	8.8	7	M
54	KY 109	8.8	9.4	7	M
54	KY 109	9.4	10.9	7	H
54	KY 109	10.9	14.5	7	M
54	KY 109	14.5	15.1	7	H
54	KY 109	15.1	17.2	7	H
54	KY 112	6.2	9.6	8	M
54	KY 112	9.6	9.8	8	H
54	KY 262	.0	.1	9	H
54	KY 262	.1	.5	9	H
54	KY 262	.5	2.6	9	M
54	KY 262	2.6	4.8	9	L
54	KY 281	.0	.7	14	H
54	KY 336	3.2	5.8	17	L
54	KY 454	.0	1.2	8	M
54	KY 502	.0	3.8	8	M
54	KY 502	3.8	6.2	8	M
54	KY 630	.0	.3	9	H
54	KY 630	.3	.6	9	H
54	KY 630	.6	2.0	8	H
54	KY 813	.8	2.8	8	H
54	KY 813	5.4	5.6	8	H
54	KY 813	10.3	12.3	8	L
54	KY 814	.0	1.0	8	H
54	KY 814	1.0	1.4	8	H
54	KY 879	.0	.2	9	M
54	KY 1034	.0	1.2	8	L
54	KY 1034	1.2	4.2	8	L
54	KY 1034	4.2	8.6	8	M
54	KY 1751	.0	1.4	16	M
54	KY 2086	.0	1.2	9	M
54	PE 9004	21.1	22.9	2	L
54	PE 9004	22.9	25.9	2	H
54	PE 9004	25.9	27.3	2	H
54	PE 9004	27.3	29.6	2	H
54	PE 9004	29.6	30.1	2	H
54	PE 9004	30.1	32.9	2	H
54	PE 9004	32.9	34.3	2	H
54	PE 9004	34.3	35.4	2	H
54	PE 9004	35.4	37.3	2	H
54	PE 9004	37.3	38.2	2	H
54	PE 9004	38.2	44.3	2	H
54	PE 9004	44.3	45.2	12	H
54	PE 9004	45.2	48.0	2	H
54	PE 9004	48.0	55.0	2	H
54	US 41	.0	.1	16	H
54	US 41	.1	1.4	16	H
54	US 41	1.4	2.3	16	H
54	US 41	2.3	3.3	16	L
54	US 41	3.3	11.8	16	M
54	US 41A	.0	3.7	7	M
54	US 41A	3.7	7.1	7	M
54	US 41A	7.1	7.6	7	M
54	US 41A	7.6	9.8	7	M
54	US 41A	9.8	10.7	7	H
54	US 41A	10.7	11.6	7	H
54	US 41A	11.6	12.8	16	H
54	US 41A	12.8	14.0	16	H
54	US 41A	14.0	16.1	16	H
54	US 41A	16.1	18.9	16	H
54	US 41A	18.9	21.2	14	H
54	US 41A	21.2	21.4	6	H
54	US 41A	21.4	29.4	6	H
54	US 62	1.7	5.1	7	M
54	US 62	5.1	5.6	7	M
54	US 62	5.6	7.9	7	M
54	US 62	7.9	9.1	7	H
54	US 62	9.1	11.0	7	H
54	US 62	11.0	11.4	7	H
54	US 62	11.4	15.3	7	H
54	US 62	15.3	15.7	7	H
54	US 62	15.7	17.5	7	H
54	US 62	17.5	18.9	7	H
54	US 62	18.9	22.2	7	M
54	WK 9001	21.8	24.4	2	M
54	WK 9001	24.4	38.2	2	L
54	WK 9001	38.2	38.3	2	L
54	WK 9001	38.3	43.4	2	H
55	CR 5041	.0	1.2	9	M
55	CR 5143	.0	.3	9	L
55	CR 5153	.0	.5	9	L
55	CR 5334	.0	2.5	9	L
55	KY 30	.0	3.0	6	M
55	KY 30	3.0	7.7	6	M
55	KY 30	7.7	12.5	6	M
55	KY 30	12.5	20.9	6	M
55	KY 89	.0	2.9	7	L
55	KY 89	2.9	5.7	7	L
55	KY 290	.0	1.5	7	L
55	KY 290	1.5	3.6	7	L
55	KY 587	5.1	10.7	8	M
55	KY 2002	.0	.2	8	L
55	KY 2002	.2	5.3	8	L
55	KY 2003	6.0	6.6	8	L
55	US 421	.0	3.8	6	L
55	US 421	3.8	4.6	6	M
55	US 421	4.6	6.4	6	L
56	CR 5001L	.0	.5	9	L
56	CR 5002S	.0	.9	9	L
56	CS 1R	.0	.5	9	L
56	CS 1R	.5	.9	9	M
56	CS 1R	.9	1.8	9	M
56	CS 1R	1.8	3.5	9	L
56	CS 2W	.0	.5	9	L
56	CS 5S	.0	.1	9	L
56	CS 5S	.1	.2	9	L
56	CS 5S	.2	.4	9	L
56	CS 6B	.0	.5	9	L
56	CS 70	2.9	3.5	9	L
56	CS 9A	.6	.7	9	L
56	CS 10T	.5	.6	9	L
56	CS 120	.0	.5	9	L
56	CS 13R	.8	1.2	9	L
56	CS 14P	.0	.4	9	L
56	CS 15H	.0	.2	9	L
56	CS 160	1.1	1.4	9	L
56	CS 17B	1.7	2.2	9	L
56	CS 19C	1.0	1.1	9	L
56	CS 19C	1.1	1.4	9	L
56	CS 20F	.7	1.3	9	L

Table 8. (Cont'd)

CO.	ROUTE		MILEPOINT FROM	MILEPOINT TO	FUNC. CLSS	W. CLS
56	CS	20F	2.5	3.1	9	L
56	CS	20F	3.1	3.2	9	L
56	CS	20F	3.2	5.1	9	L
56	CS	21M	.2	.4	9	L
56	CS	22S	1.1	1.5	9	L
56	CS	22S	1.5	1.6	9	L
56	CS	22S	1.6	2.1	9	L
56	CS	22S	2.1	2.2	9	L
56	CS	22S	2.2	2.3	9	L
56	CS	24H	.0	.8	9	L
56	CS	24H	.8	1.1	9	L
56	CS	24H	1.1	1.5	9	L
56	CS	24H	1.5	2.2	9	L
56	CS	24H	2.6	2.7	9	L
56	CS	24H	2.7	2.8	9	L
56	CS	25B	1.6	1.7	9	L
56	CS	27A	.1	.2	9	L
56	CS	28B	.8	1.5	9	L
56	CS	29P	.0	1.3	9	L
56	CS	30H	.0	.1	9	L
56	CS	31W	.1	.2	2	L
56	CS	32G	.0	.2	9	L
56	CS	32G	.2	.4	9	L
56	CS	33D	.0	.5	9	L
56	CS	33D	.5	.9	9	M
56	CS	34W	.0	.3	9	M
56	CS	35P	.0	.2	9	L
56	CS	36H	.0	.3	9	L
56	CS	37M	.0	.4	9	L
56	CS	38S	1.1	1.4	9	L
56	CS	39G	.0	.2	9	L
56	CS	40M	.0	.1	9	L
56	CS	41T	.1	.7	9	L
56	CS	42D	2.5	2.7	9	L
56	CS	43B	.0	.5	9	L
56	CS	44S	.0	.6	9	L
56	CS	45E	1.2	1.3	9	L
56	CS	46N	1.8	3.9	9	L
56	CS	47S	.0	.9	9	L
56	CS	49T	.0	.1	9	L
56	CS	50H	.5	.8	9	L
56	CS	51B	3.1	3.2	9	L
56	I	64	.0	3.9	11	L
56	I	64	3.9	4.3	11	L
56	I	64	4.3	5.2	11	L
56	I	64	5.2	6.5	11	L
56	I	64	6.5	7.8	11	L
56	I	64	7.8	12.3	11	L
56	I	64	12.3	18.9	11	L
56	I	64	18.9	24.0	1	L
56	I	65	123.2	125.2	11	L
56	I	65	125.2	130.7	11	L
56	I	65	130.7	130.8	11	L
56	I	65	130.8	134.1	11	L
56	I	65	134.7	136.7	11	L
56	I	65	136.6	137.1	11	L
56	I	65	137.1	137.3	11	L
56	I	264	5.2	7.5	11	L
56	I	264	7.5	12.2	11	L
56	I	264	12.2	14.6	11	L
56	I	264	14.6	19.1	11	L
56	I	264	19.1	19.9	11	L
56	I	265	10.2	25.5	11	L
56	KY	61	11.0	11.7	16	L

CO.	ROUTE		MILEPOINT FROM	MILEPOINT TO	FUNC. CLSS	W. CLS
56	KY	146	.0	4.0	16	L
56	KY	841	.0	6.1	12	M
56	KY	864	4.3	4.5	14	M
56	KY	864	10.3	14.2	14	L
56	KY	864	14.9	15.3	16	L
56	KY	864	15.3	15.7	16	L
56	KY	1020	.0	.6	16	L
56	KY	1020	11.0	11.5	14	L
56	KY	1020	12.2	12.7	14	L
56	KY	1065	1.0	10.0	14	M
56	KY	1065	10.0	11.9	14	M
56	KY	1230	7.5	7.7	17	L
56	KY	1703	.0	2.1	16	L
56	KY	1703	2.1	2.3	16	L
56	KY	1703	2.3	4.8	16	L
56	KY	1865	.9	1.3	17	M
56	KY	1931	7.5	10.5	16	L
56	KY	1934	1.1	3.3	16	L
56	KY	1934	5.5	5.7	16	L
56	KY	1934	5.7	6.3	16	M
56	KY	1934	6.3	6.8	16	M
56	KY	1934	6.8	7.1	16	M
56	KY	1934	7.1	7.4	16	M
56	KY	1934	7.4	8.4	16	M
56	KY	2051	2.0	4.8	17	L
56	KY	2051	4.8	5.1	17	L
56	KY	2051	5.1	5.2	17	M
56	KY	2051	5.2	6.4	17	M
56	KY	2054	.7	1.5	16	M
56	KY	2054	1.5	1.6	16	M
56	KY	2056	.4	1.6	19	L
56	KY	2860	.0	1.0	16	L
56	US	31E	.0	6.1	6	M
56	US	31E	16.4	16.7	14	M
56	US	31E	16.7	17.8	14	M
56	US	31W	3.2	7.4	14	M
56	US	31W	7.4	14.8	14	M
56	US	31W	14.8	16.5	14	M
56	US	31W	16.5	17.5	14	M
56	US	31W	17.5	17.7	14	M
56	US	31W	17.7	18.5	14	L
56	US	31W	18.5	21.7	14	M
56	US	31W	21.7	21.9	14	M
56	US	31W	21.9	22.1	14	M
56	US	42	.0	.7	14	M
56	US	42	.7	.8	14	M
56	US	60	.0	.2	14	M
56	US	60	.2	3.5	14	M
56	US	60	3.5	5.5	14	M
56	US	60	5.5	5.8	14	M
56	US	60	5.8	17.4	14	M
56	US	60A	4.0	5.5	14	L
56	US	60A	6.4	7.8	14	L
56	US	60A	7.8	8.0	16	L
56	US	60A	8.0	9.1	16	L
56	US	60A	9.1	10.6	16	L
56	US	150	1.8	1.9	14	L
58	CR	5039	.0	.3	9	L
58	CR	5066	.0	.4	9	M
58	CR	5075	.0	.2	9	L
58	CR	5110	.0	1.1	9	L
58	CR	5128	.0	.5	9	H
58	CR	5128	.5	1.0	9	L
58	CR	5129	.0	.8	9	L

Table 8. (Cont'd)

CO.	ROUTE	MILEPOINT		FUNC. CLSS	W. CLS
		FROM	TO		
58	CR 5134	.0	.5	2	L
58	CR 5163	.0	.3	9	M
58	CR 5229	.0	.7	9	L
58	CR 5314	.0	.6	9	L
58	CR 5349	.0	.6	9	L
58	KY 3	.0	1.5	7	H
58	KY 3	1.5	2.1	7	H
58	KY 3	2.1	3.1	7	H
58	KY 3	3.1	3.6	7	M
58	KY 3	3.6	4.4	7	M
58	KY 3	4.4	4.6	7	L
58	KY 40	7.2	8.7	7	L
58	KY 40	8.7	9.9	7	M
58	KY 40	9.9	11.1	7	M
58	KY 172	.0	5.5	7	L
58	KY 172	5.5	12.4	7	L
58	KY 302	.0	.1	8	M
58	KY 469	4.3	5.6	7	L
58	KY 469	5.6	6.2	7	L
58	KY 581	.0	.5	8	M
58	KY 581	3.9	4.6	8	L
58	KY 689	6.6	7.8	8	L
58	KY 825	7.4	8.8	8	L
58	KY 825	8.8	9.8	8	L
58	KY 825	9.8	14.2	8	L
58	KY 993	.0	2.8	8	L
58	KY 1092	.0	1.0	8	L
58	KY 1092	5.5	6.0	8	L
58	KY 1092	6.0	6.1	8	L
58	KY 1092	6.1	7.4	8	L
58	KY 1107	3.3	3.9	8	M
58	KY 1428	2.9	3.4	7	L
58	KY 1428	3.4	3.8	7	M
58	KY 1559	4.0	5.7	8	M
58	KY 2039	1.4	3.0	8	L
58	US 23	.0	4.3	7	H
58	US 23	4.3	7.0	7	H
58	US 23	7.0	8.8	7	H
58	US 23	8.8	11.0	2	H
58	US 23	11.0	12.7	2	H
58	US 23	12.7	13.2	2	H
58	US 23	13.2	14.0	2	H
58	US 23	14.0	18.4	2	H
58	US 460	.0	7.0	6	H
58	US 460	7.0	7.8	6	H
58	US 460	7.8	8.4	6	H
59	I 75	166.3	169.4	1	M
59	I 75	183.3	184.7	11	M
59	I 75	184.7	191.8	11	M
59	I 275	.0	1.6	11	M
59	I 275	77.6	83.8	11	M
60	CR 5005	.0	.3	9	M
60	CR 5005	.3	.5	9	M
60	CR 5027	.0	.2	9	L
60	CR 5027	.2	1.0	9	L
60	CR 5028	.0	.4	9	L
60	CR 5030	.0	.1	9	M
60	CR 5030	.1	1.1	9	L
60	CR 5032	.0	.1	9	M
60	CR 5033	.0	.8	9	L
60	CR 5037C	.0	.1	9	H
60	CR 5037C	.1	.5	9	M
60	CR 5038	.0	.5	9	H
60	CR 5049	.0	2.5	9	L

CO.	ROUTE	MILEPOINT		FUNC. CLSS	W. CLS
		FROM	TO		
60	CR 5056	.0	.7	9	L
60	CR 5113	.0	1.0	9	M
60	CR 5113	1.0	1.2	9	M
60	CR 5114	.0	2.8	9	M
60	CR 5115	.0	.5	9	M
60	CR 5115	.5	1.3	9	M
60	CR 5116	.0	.2	9	L
60	CR 5116	.2	.3	9	L
60	CR 5117	.0	.4	9	H
60	CR 5117	.4	1.4	9	M
60	CR 5117	1.4	1.8	9	L
60	CR 5119	.0	2.4	9	M
60	CR 5121	.0	.5	9	M
60	CR 5121	.5	.7	9	M
60	CR 5122	.0	.7	9	M
60	CR 5122	.7	1.7	9	L
60	CR 5123	.0	.2	9	M
60	CR 5133	.0	.4	9	M
60	CR 5133	.4	.5	9	M
60	CR 5139	.0	1.0	9	M
60	CR 5145	.0	.4	9	H
60	CR 5145	.4	1.5	9	L
60	CR 5156	.0	.5	9	M
60	CR 5156A	.0	.3	9	M
60	CR 5202	.0	1.1	9	H
60	CR 5203	.0	.3	9	M
60	CR 5203	.3	.4	9	M
60	CR 5203	.4	.5	9	H
60	CR 5203	.5	.8	9	M
60	CR 5205	.0	.2	9	M
60	CR 5205	.2	.4	9	H
60	CR 5207	.0	.3	9	M
60	CR 5207A	.0	.3	9	M
60	CR 5212	.0	1.5	9	H
60	CR 5212	1.5	2.9	9	H
60	CR 5212	2.9	3.2	9	M
60	CR 5218	.0	1.5	9	L
60	CR 5251	.0	1.2	9	M
60	CR 5251	1.2	1.7	9	M
60	CR 5336	.0	.7	9	M
60	CR 5336	.7	1.0	9	M
60	CR 5336	1.0	1.1	9	M
60	KY 7	.0	2.5	7	M
60	KY 7	2.5	2.6	7	M
60	KY 7	2.6	4.1	7	M
60	KY 7	4.1	5.4	7	H
60	KY 7	5.4	5.5	7	H
60	KY 7	5.5	6.7	7	H
60	KY 7	6.7	9.3	7	M
60	KY 7	9.3	11.6	7	M
60	KY 7	11.6	16.0	7	M
60	KY 15	.0	.7	2	H
60	KY 15	.7	.9	2	H
60	KY 15	.9	1.7	2	H
60	KY 15	1.7	4.0	2	H
60	KY 15	4.0	5.6	2	H
60	KY 15	5.6	6.8	2	H
60	KY 15	6.8	8.6	2	H
60	KY 15	8.6	9.1	2	H
60	KY 15	9.1	9.4	2	H
60	KY 80	.0	2.0	2	H
60	KY 80	2.0	5.7	2	H
60	KY 80	5.7	8.0	2	H
60	KY 80	8.0	11.8	2	H

Table 8. (Cont'd)

CO.	ROUTE	MILEPOINT FROM	MILEPOINT TO	FUNC. CLSS	W. CLS
60	KY 80	11.8	15.0	2	H
60	KY 80	15.0	19.5	2	H
60	KY 80	19.5	19.9	2	H
60	KY 80	19.9	20.1	2	H
60	KY 160	.0	2.5	7	H
60	KY 160	2.5	3.3	7	H
60	KY 160	3.3	4.2	7	H
60	KY 160	4.2	5.8	7	H
60	KY 160	5.8	8.2	7	H
60	KY 160	8.2	9.9	7	H
60	KY 160	9.9	10.9	7	H
60	KY 160	10.9	11.9	7	H
60	KY 160	11.9	12.5	7	H
60	KY 160	12.5	14.5	7	M
60	KY 550	.0	4.1	7	M
60	KY 550	4.1	6.9	7	L
60	KY 550	6.9	8.7	7	M
60	KY 550	8.7	9.6	7	M
60	KY 550	9.6	10.8	7	L
60	KY 550	10.8	11.8	7	L
60	KY 550	21.0	22.1	7	L
60	KY 550	22.1	22.8	7	L
60	KY 550	22.8	24.0	7	M
60	KY 550	24.0	25.2	7	M
60	KY 550	25.2	25.7	7	M
60	KY 550	25.7	26.6	7	M
60	KY 582	.0	3.7	7	M
60	KY 582	3.7	5.0	7	M
60	KY 582	5.0	5.4	7	M
60	KY 582	5.4	11.8	7	M
60	KY 582	11.8	12.7	7	M
60	KY 899	.0	1.0	8	M
60	KY 899	1.0	2.1	8	M
60	KY 899	2.1	2.5	8	L
60	KY 1087	1.4	1.7	8	H
60	KY 1087	13.2	13.8	8	H
60	KY 1087	13.8	14.1	8	M
60	KY 1087	14.1	14.8	8	L
60	KY 1088	.0	1.9	8	L
60	KY 1088	6.9	7.4	8	H
60	KY 1088	7.4	9.4	8	H
60	KY 1091	.0	2.2	8	M
60	KY 1098	.0	12.0	8	H
60	KY 1098	12.0	13.2	8	L
60	KY 1102	.0	1.1	8	L
60	KY 1102	1.1	2.7	8	M
60	KY 1231	.0	1.3	8	H
60	KY 1231	1.3	1.5	8	H
60	KY 1231	1.5	1.7	8	H
60	KY 1231	1.7	1.8	8	H
60	KY 1231	1.8	2.0	8	H
60	KY 1231	2.0	4.8	8	H
60	KY 1231	4.8	5.2	8	H
60	KY 1231	5.2	5.7	8	M
60	KY 1231	5.7	7.2	8	M
60	KY 1231	7.2	8.0	8	M
60	KY 1393	.0	1.0	8	M
60	KY 1393	1.0	2.8	8	M
60	KY 1410	.0	.4	8	H
60	KY 1410	.4	3.3	8	H
60	KY 1410	3.3	4.7	8	H
60	KY 1498	.0	.5	8	M
60	KY 1498	.5	1.0	8	M
60	KY 1498	1.0	1.5	8	M

CO.	ROUTE	MILEPOINT FROM	MILEPOINT TO	FUNC. CLSS	W. CLS
60	KY 2029	.0	2.0	8	L
60	KY 2029	2.0	5.7	8	L
60	KY 2759	.0	1.2	8	M
60	KY 3209	.0	.4	8	H
60	KY 3391	.0	1.8	9	M
60	KY 3393	2.9	5.4	9	M
60	KY 3393	5.4	5.7	9	H
61	CR 5010	.0	.5	9	M
61	CR 5042	.0	2.0	9	L
61	CR 5076	.0	.3	9	L
61	CR 5114	.0	2.0	9	M
61	CR 5135	.0	.5	9	L
61	CR 5137	1.0	1.8	9	L
61	CR 5164	.0	.8	9	L
61	CR 5166	.0	1.4	9	M
61	CR 5166	1.4	1.6	9	M
61	CR 5166	1.6	2.5	9	M
61	CR 5169	.0	.9	9	M
61	CR 5169	.9	1.0	9	L
61	CR 5207	.0	.5	9	L
61	CR 5209	.0	.5	9	M
61	CR 5209	.5	1.2	9	M
61	CR 5209	1.2	1.8	9	M
61	CR 5209	1.8	1.9	9	M
61	CR 5209	1.9	2.1	9	M
61	CR 5209	2.1	3.2	9	L
61	CR 5210	.0	2.4	9	M
61	CR 5210	2.0	2.8	9	L
61	CR 5211	.0	.5	9	L
61	CR 5212	.0	.6	9	L
61	CR 5213	.0	.5	9	L
61	CR 5214	.0	.5	9	M
61	CR 5214	.5	1.0	9	M
61	CR 5214	1.0	1.2	9	M
61	CR 5214	1.2	1.4	9	L
61	CR 5214	1.4	3.5	9	M
61	CR 5216	.0	.5	9	L
61	CR 5220	.0	1.3	9	L
61	CR 5222	.0	1.0	9	M
61	CR 5230	.0	.4	9	L
61	CR 5231A	.0	.2	9	L
61	CR 5232	.0	.2	9	L
61	CR 5242	.0	1.8	9	L
61	CR 5243	.0	1.5	9	L
61	CR 5245	.0	.2	9	M
61	CR 5245	.2	.5	9	L
61	CR 5245	.5	2.0	9	L
61	CR 5245	2.0	3.0	9	L
61	CR 5248	.0	1.7	9	L
61	CR 5249	.0	1.8	9	L
61	CR 5259	.0	.4	9	L
61	CR 5304	.6	1.0	9	M
61	CR 5305	.0	.5	9	M
61	CR 5305E	.0	.3	9	M
61	CR 5305F	.0	.2	9	M
61	CR 5365	.0	.1	9	L
61	CR 5602	.0	1.3	9	L
61	KY 6	.0	4.6	7	L
61	KY 6	4.6	6.8	7	M
61	KY 6	6.8	8.0	7	M
61	KY 6	8.0	8.5	7	M
61	KY 6	8.5	14.6	7	M
61	KY 6	14.6	14.7	7	M
61	KY 11	.0	3.3	7	M

Table 8. (Cont'd)

CO.	ROUTE	MILEPOINT FROM	MILEPOINT TO	FUNC. CLSS	W. CLS
61	KY 11	3.3	3.8	7	M
61	KY 11	3.8	5.1	7	M
61	KY 11	5.1	5.9	7	M
61	KY 11	5.9	6.6	7	M
61	KY 11	6.6	8.2	7	M
61	KY 11	8.2	9.7	7	M
61	KY 11	9.7	9.8	7	M
61	KY 11	9.8	10.1	7	M
61	KY 11	10.1	22.7	7	L
61	KY 223	.0	10.5	8	L
61	KY 225	.0	6.4	7	L
61	KY 225	6.4	9.2	7	L
61	KY 225	9.2	11.9	7	M
61	KY 225	11.9	13.9	7	M
61	KY 225	13.9	14.8	7	M
61	KY 225	14.8	15.0	7	L
61	KY 229	.0	8.6	7	L
61	KY 233	.0	5.0	8	L
61	KY 233	5.0	6.0	8	L
61	KY 233	6.0	6.2	8	L
61	KY 312	.0	1.3	16	L
61	KY 459	.0	2.8	8	L
61	KY 459	6.3	6.6	8	L
61	KY 459	6.6	6.8	8	L
61	KY 459	6.8	7.4	8	L
61	KY 459	7.4	11.7	8	L
61	KY 830	4.5	4.8	8	L
61	KY 930	.0	2.1	8	L
61	KY 930	2.1	4.1	8	L
61	KY 1232	1.7	1.8	7	L
61	KY 1232	1.8	3.7	7	L
61	KY 1304	.0	1.4	8	M
61	KY 1418	.0	2.3	9	L
61	KY 1530	.0	.3	8	L
61	KY 1530	.3	.6	8	L
61	KY 1530	.6	2.6	8	L
61	KY 1809	.0	.7	8	M
61	KY 1809	.7	1.8	8	M
61	KY 1809	1.8	1.9	8	M
61	KY 1809	1.9	3.1	8	M
61	KY 1809	3.1	4.4	8	M
61	KY 1809	4.4	4.6	8	M
61	KY 1809	4.6	5.0	8	M
61	KY 1809	5.0	5.1	8	M
61	KY 1809	5.1	6.1	8	L
61	KY 1809	6.1	6.3	8	M
61	KY 2406	.0	.1	9	L
61	KY 2421	.0	.9	9	M
61	KY 2421	.9	1.1	9	L
61	KY 3436	5.4	5.5	8	L
61	KY 3439	.0	1.7	19	L
61	KY 3440	.0	.4	9	L
61	US 25E	.0	1.0	2	L
61	US 25E	1.0	3.3	2	L
61	US 25E	3.3	4.2	2	L
61	US 25E	4.2	4.6	2	L
61	US 25E	4.6	7.2	2	M
61	US 25E	7.2	10.1	2	M
61	US 25E	10.1	11.1	2	M
61	US 25E	11.1	11.9	2	M
61	US 25E	11.9	14.8	2	M
61	US 25E	14.8	15.2	2	M
61	US 25E	15.2	15.6	2	M
61	US 25E	15.6	22.1	2	M

CO.	ROUTE	MILEPOINT FROM	MILEPOINT TO	FUNC. CLSS	W. CLS
61	US 25E	22.1	23.9	2	M
61	US 25E	23.9	26.0	2	M
61	US 25E	26.0	26.6	2	M
63	CR 5011	.0	.5	9	L
63	CR 5020	1.4	3.8	9	L
63	CR 5290	.0	.6	9	L
63	CR 5292	.0	.4	9	L
63	CR 5412	.0	2.0	9	L
63	CR 5446	.0	1.5	9	L
63	CR 5454	.0	.2	9	L
63	DB 9006	.0	3.0	2	H
63	DB 9006	3.0	3.8	2	H
63	DB 9006	3.8	10.6	2	H
63	I 75	27.9	28.9	11	M
63	I 75	28.9	38.2	1	M
63	I 75	38.2	40.7	1	M
63	I 75	40.7	49.1	1	M
63	I 75	49.1	50.8	1	M
63	KY 30	1.4	9.8	8	M
63	KY 80	.0	5.9	2	H
63	KY 80	5.9	10.6	2	H
63	KY 80	10.6	11.1	7	H
63	KY 80	13.2	19.2	7	L
63	KY 80	19.2	24.7	7	L
63	KY 192	18.2	20.1	7	L
63	KY 192	20.1	20.9	6	L
63	KY 192	20.9	21.4	6	L
63	KY 192	21.4	22.0	6	M
63	KY 229	.0	3.0	7	L
63	KY 312	6.2	6.7	7	L
63	KY 472	.4	3.5	7	L
63	KY 490	.0	.4	6	M
63	KY 490	.4	.8	6	M
63	KY 490	.8	.9	6	M
63	KY 490	.9	7.7	7	L
63	KY 770	.0	1.2	7	L
63	KY 909	.5	1.1	9	L
63	KY 1956	6.4	6.9	8	L
63	KY 2041	1.1	1.4	8	L
63	US 25	.0	10.5	7	L
63	US 25	10.5	13.6	7	L
63	US 25	13.6	14.3	6	M
63	US 25	14.3	16.3	6	M
63	US 25	16.3	23.1	7	L
63	US 25E	.0	.3	14	M
63	US 25E	.3	2.0	14	M
63	US 25W	.0	1.0	16	L
64	KY 1	.0	3.6	7	L
64	KY 3	.0	2.7	7	L
64	KY 3	2.7	5.6	7	M
64	KY 3	5.6	6.7	7	M
64	KY 3	6.7	10.6	7	M
64	KY 3	10.6	14.9	7	M
64	KY 3	14.9	15.2	7	H
64	KY 3	15.2	17.1	7	H
64	KY 3	17.1	26.4	7	L
64	KY 3S	.0	.1	7	H
64	KY 32	5.9	25.4	7	M
64	KY 32	25.4	27.6	7	M
64	KY 32	27.6	28.5	7	L
64	KY 32	28.5	29.2	7	M
64	KY 469	.0	2.0	8	M
64	KY 581	3.3	4.3	9	L
64	KY 581	4.3	5.3	9	L

Table 8. (Cont'd)

CO.	ROUTE	MILEPOINT FROM	MILEPOINT TO	FUNC. CLSS	W. CLS
64	KY 645	.0	1.6	6	H
64	KY 645	1.6	2.6	6	H
64	KY 645	2.6	5.2	6	H
64	KY 828	5.6	8.7	8	L
64	KY 1690	1.6	1.7	8	L
64	KY 2033	1.0	3.3	9	L
64	KY 2565	.0	3.0	8	M
64	KY 3395	.0	1.6	9	M
64	KY 3398	2.2	2.3	9	H
64	US 23	.0	4.9	2	H
64	US 23	4.9	14.6	2	H
64	US 23	14.6	14.9	2	H
64	US 23	14.9	18.5	2	H
64	US 23	18.5	21.6	2	H
64	US 23	21.6	23.0	2	H
64	US 23	23.0	24.7	2	H
64	US 23	24.5	28.9	2	H
65	CR 5115	.0	.1	9	M
65	CR 5215	.0	.2	9	L
65	CR 5223	.0	2.1	9	L
65	CR 5225	.0	2.6	9	L
65	CR 5229	.0	1.5	9	L
65	CR 5238	.0	2.2	9	L
65	CR 5238	2.6	3.7	9	L
65	CR 5311	.0	.1	9	L
65	KY 11	.0	1.6	6	L
65	KY 11	1.6	4.1	6	M
65	KY 11	4.1	4.3	6	L
65	KY 11	4.3	7.3	6	L
65	KY 11	7.3	9.4	6	L
65	KY 11	9.4	11.7	6	L
65	KY 11	11.7	14.8	6	L
65	KY 11	14.8	15.2	6	L
65	KY 52	.0	7.3	7	L
65	KY 52	12.9	16.7	7	M
65	KY 52	16.7	17.1	7	M
65	KY 52	17.1	24.5	7	M
65	KY 399	.0	1.8	8	M
65	KY 399	1.8	1.9	8	M
65	KY 399	1.9	3.7	8	L
65	KY 498	.0	2.5	8	L
65	KY 587	.0	.4	8	M
65	KY 587	.4	5.2	8	M
65	KY 587	5.2	7.6	8	M
65	KY 587	7.6	9.2	7	M
65	KY 587	9.2	12.3	7	M
65	KY 2016	.0	8.6	8	L
66	CR 5001	.0	1.6	9	H
66	CR 5002	.0	.6	9	M
66	CR 5002	.6	2.2	9	L
66	CR 5002	2.2	3.3	9	H
66	CR 5005	.0	.7	9	H
66	CR 5006	.0	1.3	9	M
66	CR 5027	.0	.3	9	L
66	CR 5027	.0	.3	9	H
66	CR 5040	.0	.6	9	L
66	CR 5058	.0	1.5	9	L
66	CR 5133	.0	1.3	9	H
66	CR 5214	.0	.3	9	H
66	CR 5302	.0	1.1	9	L
66	CR 5331	.0	.4	9	M
66	DB 9006	35.9	44.2	2	M
66	DB 9006	44.2	51.0	2	M
66	KY 66	.0	2.8	7	L
66	KY 80	.0	2.9	7	H
66	KY 80	2.9	3.7	7	H
66	KY 80	3.7	5.3	7	H
66	KY 80	5.3	6.2	7	H
66	KY 80	6.2	8.6	7	H
66	KY 80	8.6	9.7	7	H
66	KY 118	.0	3.5	6	L
66	KY 221	.0	1.9	7	L
66	KY 257	.0	6.7	8	L
66	KY 699	.0	3.2	7	L
66	KY 699	15.5	15.9	7	L
66	KY 699	15.9	16.0	7	M
66	KY 1807	.0	1.8	8	H
66	KY 1807	1.8	3.6	8	H
66	KY 2008	5.1	5.2	8	H
66	KY 2008	5.2	8.2	8	M
66	KY 2009	.0	1.9	9	H
66	KY 2009	1.9	5.4	9	H
66	KY 2057	.0	2.9	8	L
66	KY 2431	.0	.1	9	H
66	KY 3425	.0	.8	9	L
66	US 421	.0	7.2	6	H
66	US 421	7.2	20.3	6	L
66	US 421	20.3	20.6	6	L
66	US 421	20.6	21.7	6	H
66	US 421	21.7	22.1	6	L
66	US 421	22.1	22.6	6	L
66	US 421	22.6	27.3	6	L
66	US 421	27.3	35.4	7	M
67	CR 5010	.0	.2	9	H
67	CR 5012	.0	.3	9	M
67	CR 5012	.3	.7	9	M
67	CR 5020	.0	1.0	9	H
67	CR 5020	1.0	2.7	9	H
67	CR 5038	.0	.9	9	M
67	CR 5038	.9	3.6	9	L
67	CR 5046	.0	.7	9	M
67	CR 5047	.0	1.6	9	M
67	CR 5047	1.6	2.7	9	M
67	CR 5048	.0	.9	9	M
67	CR 5052	.0	.8	9	M
67	CR 5053	.0	.4	9	M
67	CR 5068L	.2	.7	9	M
67	CR 5068M	.0	.6	9	M
67	CR 5082	.0	1.0	9	L
67	CR 5097	.0	3.0	9	M
67	CR 5103	.0	.3	9	L
67	CR 5139	.0	.5	9	L
67	CR 5159	.0	1.4	9	M
67	CR 5168	.0	.2	9	L
67	CR 5169	.9	1.4	9	M
67	CR 5171	.0	.7	9	M
67	CR 5188	.0	.1	9	M
67	CR 5195	.0	1.8	9	M
67	CR 5195	1.8	3.5	9	M
67	CR 5195	3.5	5.1	9	L
67	CR 5225	.0	.2	9	M
67	CR 5229	.0	1.3	9	M
67	CR 5229	1.2	1.8	9	M
67	CR 5252	.0	.5	9	L
67	CR 5258	.0	.5	9	H
67	CR 5258	.5	1.2	9	H
67	CR 5258	1.2	1.4	9	M
67	CR 5258	1.4	3.6	9	L

Table 8. (Cont'd)

CO.	ROUTE	MILEPOINT FROM	MILEPOINT TO	FUNC. CLSS	W. CLS
67	CR 5259	1.4	2.5	9	L
67	CR 5265	5.1	5.6	9	H
67	CR 5272	.0	.4	9	L
67	CR 5273	.0	.3	9	L
67	CR 5311	.0	1.0	9	M
67	CR 5338	.0	.1	9	H
67	CR 5354	.0	2.0	9	H
67	CR 5354	2.0	2.3	9	H
67	CR 5357	.0	.9	9	M
67	KY 7	.0	6.4	7	M
67	KY 7	6.4	7.2	7	M
67	KY 7	7.2	7.9	7	M
67	KY 7	7.9	13.2	7	H
67	KY 7	13.2	13.5	7	H
67	KY 7	13.5	14.2	2	H
67	KY 7	14.2	17.9	7	H
67	KY 7	17.9	18.7	7	H
67	KY 7	18.7	18.9	7	H
67	KY 7	18.9	19.5	7	H
67	KY 7	19.5	21.3	7	H
67	KY 7	21.3	22.0	7	H
67	KY 7	22.0	22.4	7	H
67	KY 7	22.4	23.3	7	H
67	KY 7	23.3	24.0	7	H
67	KY 7	24.0	24.1	7	H
67	KY 7	24.1	24.3	7	H
67	KY 7	24.3	24.8	7	H
67	KY 7	24.8	25.2	7	H
67	KY 7	25.2	27.6	7	M
67	KY 15	.0	2.3	2	M
67	KY 15	2.3	2.7	2	M
67	KY 15	2.7	5.8	2	H
67	KY 15	5.8	6.2	2	H
67	KY 15	6.2	9.2	2	H
67	KY 15	9.2	10.7	2	H
67	KY 15X	2.6	2.8	7	M
67	KY 113	.0	.8	8	H
67	KY 113	.8	1.4	8	H
67	KY 113	1.4	1.9	8	H
67	KY 113	1.9	2.5	8	H
67	KY 113	2.5	4.1	8	H
67	KY 160	1.9	4.7	7	L
67	KY 160	4.7	13.0	7	L
67	KY 160	13.0	13.4	7	L
67	KY 160	13.4	14.9	7	M
67	KY 160	14.9	15.4	7	M
67	KY 160	15.4	16.4	8	M
67	KY 160	16.4	17.3	8	H
67	KY 160	17.3	17.8	8	H
67	KY 160	17.8	19.9	8	H
67	KY 160	19.9	20.4	8	H
67	KY 160	20.4	21.4	8	H
67	KY 160	21.4	21.8	8	H
67	KY 317	.0	1.0	7	M
67	KY 317	1.0	3.8	7	M
67	KY 317	3.8	6.8	7	L
67	KY 317	6.8	8.0	7	H
67	KY 317	8.0	8.4	7	H
67	KY 317	8.4	8.9	7	H
67	KY 343	.0	1.5	8	M
67	KY 343	1.5	1.6	8	L
67	KY 463	.0	.6	7	L
67	KY 510	.0	7.9	8	L
67	KY 588	3.9	4.0	7	H
67	KY 588	4.0	5.0	7	M
67	KY 588	5.0	6.2	7	M
67	KY 803	.0	1.2	9	M
67	KY 805	.0	.5	7	H
67	KY 805	.5	3.1	7	M
67	KY 805	3.1	3.9	7	M
67	KY 805	3.9	5.3	7	M
67	KY 805	5.3	7.7	7	M
67	KY 805	7.7	9.2	7	M
67	KY 931	8.6	10.2	7	M
67	KY 931	10.2	16.4	7	M
67	KY 931	16.4	16.6	7	H
67	KY 931	16.6	16.8	7	H
67	KY 931	16.8	18.4	7	H
67	KY 1103	3.3	6.0	8	H
67	KY 1410	.0	1.6	8	H
67	KY 1469	.0	2.3	8	H
67	KY 1862	.0	1.2	2	L
67	KY 1862	1.2	1.7	2	H
67	KY 1862	3.1	4.2	8	L
67	KY 1862	4.2	6.0	8	L
67	KY 1862	6.0	7.4	8	H
67	KY 1862	7.4	8.1	8	H
67	KY 1862	8.1	9.4	8	H
67	KY 1862	9.4	10.0	8	H
67	KY 2545	.6	2.1	9	L
67	KY 3404	.0	.8	9	M
67	KY 3409	.0	.3	9	M
67	KY 3410	.0	.8	9	H
67	KY 3410	.8	1.1	9	H
67	US 23	.0	1.3	7	H
67	US 23	1.3	2.7	7	M
67	US 23	2.7	4.0	7	M
67	US 23	4.0	5.8	7	H
67	US 23	5.8	7.1	7	H
67	US 119	.0	2.3	2	L
67	US 119	2.3	7.0	2	M
67	US 119	7.0	17.3	2	L
67	US 119	17.3	17.6	2	L
67	US 119	17.6	20.4	2	M
67	US 119	20.4	23.3	2	M
67	US 119	23.3	23.8	2	H
67	US 119	23.8	25.0	2	H
67	US 119	25.0	28.1	2	H
69	US 27	.0	17.2	2	L
69	US 27	17.2	18.0	2	M
69	US 150	.0	4.3	6	M
69	US 150	6.4	19.7	7	M
69	US 150B	.0	1.1	6	M
70	I 24	29.4	30.7	1	L
70	I 24	30.7	33.9	1	L
70	KY 453	.5	4.2	7	L
70	US 62	.0	.8	6	M
70	US 62	.8	2.9	6	M
71	KY 79	.0	12.9	6	L
71	KY 79	12.9	15.1	6	L
71	KY 100	.0	10.5	16	L
71	US 68	.0	11.2	2	L
71	US 68	11.2	26.6	14	L
71	US 68	11.2	26.6	14	M
71	US 79	.0	11.8	6	M
71	US 79	11.8	12.1	14	M
71	US 79	12.1	12.9	14	M
71	US 431	.0	13.9	6	L

Table 8. (Cont'd)

CO.	ROUTE	MILEPOINT FROM	MILEPOINT TO	FUNC. CLSS	W. CLS
71	US 431	13.9	14.4	14	L
72	I 24	33.9	39.5	1	L
72	I 24	39.5	41.6	1	L
72	US 62	.0	6.8	6	M
72	US 62	6.8	10.5	6	M
72	US 62	10.5	12.2	7	M
72	US 641	.0	5.7	6	L
72	WK 9001	.0	3.7	2	L
72	WK 9001	3.7	5.6	2	M
73	I 24	.0	17.3	11	L
74	CR 5188	4.6	5.3	9	L
74	KY 92	16.6	25.7	8	M
74	KY 1470	2.3	2.8	8	L
74	KY 1651	.0	.2	7	L
74	KY 1673	.0	.6	9	L
74	KY 1673	.6	2.2	9	L
74	US 27	.0	1.9	2	L
74	US 27	1.9	4.6	2	M
74	US 27	4.6	22.3	2	M
75	CR 5107	.0	.4	9	L
75	CR 5203	.0	.2	9	L
75	CR 5203	.2	.5	9	L
75	KY 56	.0	5.4	7	L
75	KY 81	1.5	2.6	7	L
75	KY 81	12.8	18.0	7	M
75	KY 81	18.0	18.3	7	L
75	KY 85	.0	2.6	7	L
75	KY 85	2.6	10.0	7	L
75	KY 85	10.0	12.4	7	L
75	KY 136	11.1	12.9	7	M
75	KY 138	11.4	14.1	8	L
75	KY 140	.0	.1	9	M
75	KY 140	10.3	10.9	8	L
75	KY 140	10.9	11.2	8	L
75	KY 256	.0	5.9	8	L
75	KY 891	.9	3.0	9	L
75	KY 1046	4.9	5.4	9	L
75	KY 1080	2.6	3.2	8	M
75	KY 1792	.0	2.6	9	M
75	US 431	.0	2.5	6	L
75	US 431	2.5	5.0	6	L
75	US 431	5.0	8.3	6	L
75	US 431	8.3	11.6	6	M
76	CS 5002C	.0	.1	9	L
76	I 75	73.4	75.5	1	M
76	I 75	75.5	87.2	1	M
76	I 75	87.2	97.5	1	M
76	KY 21	8.6	9.1	14	L
76	KY 52	10.9	11.6	14	L
76	KY 52	13.0	22.9	7	L
76	KY 595	2.4	2.9	16	L
76	KY 876	7.2	8.1	14	L
76	KY 876	8.1	8.6	14	L
76	KY 876	8.6	10.8	14	L
76	SV 1E	.0	.2	9	L
76	SV 2E	.0	.4	9	L
76	US 25	2.9	3.9	14	L
77	CR 5119	.1	1.2	9	L
77	CR 5126	.0	2.0	9	L
77	CR 5129	.0	.3	9	L
77	CR 5132	.0	3.9	9	M
77	CR 5140	.0	.2	9	L
77	CR 5145	.0	.5	9	M
77	CR 5223	.0	.2	9	M
77	CR 5224	.0	.3	9	M
77	CR 5231	.0	.1	9	M
77	CR 5231	.1	.3	9	M
77	CR 5231	.3	.5	9	M
77	CR 5231	.5	.8	9	M
77	CR 5234	.0	.7	9	M
77	KY 7	.0	4.8	7	M
77	KY 7	4.8	4.9	7	M
77	KY 7	4.9	6.8	7	M
77	KY 7	6.8	7.3	7	H
77	KY 7	7.3	8.2	7	H
77	KY 7	8.2	9.3	7	M
77	KY 7	9.3	13.3	7	M
77	KY 7	13.3	16.2	7	M
77	KY 7	16.2	18.3	7	M
77	KY 7	18.3	19.0	7	M
77	KY 7	19.0	23.9	7	M
77	KY 30	.0	1.0	7	L
77	KY 30	1.0	1.9	7	L
77	KY 30	1.9	3.3	7	M
77	KY 30	3.3	4.1	7	H
77	KY 30	4.1	8.9	7	H
77	KY 114	.0	2.0	2	H
77	KY 114	2.0	5.0	2	H
77	KY 402	63.1	71.7	0	M
77	KY 402	71.7	74.8	0	H
77	KY 402	74.8	75.6	0	H
77	KY 404	.0	2.7	7	M
77	KY 542	.0	2.8	8	M
77	KY 542	2.8	5.8	8	M
77	KY 867	4.7	5.0	8	M
77	KY 867	5.0	5.7	8	M
77	KY 1397	1.8	3.0	9	M
77	KY 1471	.0	4.3	8	L
77	KY 1635	.0	1.5	8	M
77	KY 1635	1.5	2.5	8	M
77	KY 1635	2.5	5.7	8	M
77	KY 1734	.0	1.3	9	L
77	KY 9009	63.1	71.7	2	M
77	KY 9009	71.7	74.8	2	H
77	KY 9009	74.8	75.6	2	H
77	US 460	.0	12.1	6	L
77	US 460	12.1	12.5	6	L
77	US 460	12.5	14.6	6	H
77	US 460	14.6	20.4	2	H
79	I 24	17.3	24.9	1	L
79	I 24	24.9	26.6	1	L
79	I 24	26.6	29.4	1	L
79	KY 95	4.1	7.0	7	L
79	KY 95	7.0	7.5	7	L
79	PU 9003	34.5	41.5	2	L
79	PU 9003	41.5	51.4	2	L
79	US 62	7.2	8.8	7	L
79	US 62	8.8	11.0	7	L
79	US 62	11.0	12.1	6	M
79	US 68	9.7	10.1	2	L
79	US 641	.0	7.8	6	L
79	US 641	7.8	12.9	6	L
79	US 641	12.9	19.4	6	L
79	US 641A	.0	4.1	0	L
79	US 641S	.0	3.5	6	L
80	CR 5105	3.1	3.2	9	M
80	CR 5107	.9	1.0	9	M
80	CR 5121	.0	.7	9	M

Table 8. (Cont'd)

CO.	ROUTE	MILEPOINT FROM	MILEPOINT TO	FUNC. CLSS	W. CLS
80	CR 5121	5.0	11.7	9	H
80	CR 5205	.0	.7	9	M
80	CR 5205	.7	1.5	9	M
80	CR 5205	1.5	3.5	9	M
80	CR 5205	3.5	4.2	9	H
80	CR 5205	4.2	5.0	9	L
80	CR 5205	5.0	11.7	9	M
80	CR 5206	.0	1.0	9	M
80	CR 5212	.0	.6	9	M
80	CR 5223	.0	3.0	9	M
80	CR 5313	.0	1.0	9	L
80	CR 5313	1.0	1.3	9	L
80	CR 5343	.0	.5	9	M
80	KY 3	.0	2.2	7	M
80	KY 3	2.2	2.7	7	M
80	KY 3	2.7	3.1	7	M
80	KY 3	3.1	7.9	7	M
80	KY 3	7.9	9.7	7	H
80	KY 3	9.7	10.0	7	H
80	KY 3	10.0	11.4	7	H
80	KY 3	11.4	11.7	7	H
80	KY 3	19.9	21.3	7	L
80	KY 3	21.3	23.0	7	M
80	KY 40	5.3	9.1	7	M
80	KY 40	9.1	10.8	6	L
80	KY 40	10.8	11.9	6	H
80	KY 40	11.9	15.5	6	H
80	KY 40	15.5	19.5	6	H
80	KY 40	19.5	20.2	6	H
80	KY 40	20.2	20.3	6	M
80	KY 292	.0	.2	7	H
80	KY 292	.2	12.2	7	H
80	KY 292	12.2	13.2	7	H
80	KY 292	13.2	14.4	8	L
80	KY 292	14.4	14.6	8	L
80	KY 645	.0	4.7	6	H
80	KY 645	4.7	6.6	6	H
80	KY 645	6.6	7.6	6	H
80	KY 1224	4.7	5.2	8	M
80	KY 1439	.0	1.6	8	L
80	KY 1439	1.6	5.1	8	L
80	KY 1439	5.1	6.6	8	M
80	KY 1439	6.6	6.7	8	L
80	KY 1439	6.7	7.9	8	L
80	KY 1439	7.9	10.7	8	L
80	KY 1439	10.7	11.2	8	M
80	KY 1714	5.2	8.2	7	M
80	KY 1714	8.2	8.8	7	M
80	KY 1714	8.8	10.8	7	M
80	KY 2032	.0	4.0	7	M
81	CR 5012	.0	1.8	9	L
81	CR 5013	.0	.7	9	L
81	KY 10	4.0	10.2	16	L
81	KY 11	.0	8.5	6	M
81	KY 11	8.5	11.2	6	M
81	KY 546	.0	9.3	2	M
81	KY 546	9.3	11.3	2	M
81	KY 546	11.3	12.0	2	M
81	US 62	12.7	14.0	14	M
81	US 62	14.0	17.0	14	M
81	US 62	17.0	17.3	14	M
81	US 62	17.3	18.0	14	L
81	US 68	.0	11.9	2	M
84	BG 9002	52.3	56.3	2	M

CO.	ROUTE	MILEPOINT FROM	MILEPOINT TO	FUNC. CLSS	W. CLS
84	CS 1T	.0	.6	9	L
84	KY 33	6.4	7.2	7	M
84	KY 33	7.2	7.7	7	M
84	KY 152	6.0	9.9	7	L
84	KY 342	.0	1.5	9	M
84	KY 342	3.2	4.6	9	L
84	US 68	6.6	6.8	16	L
84	US 68	6.8	14.5	14	M
84	US 127	.0	4.4	2	M
84	US 127	4.4	5.4	14	L
85	CU 9008	22.4	36.2	2	L
87	I 64	104.3	109.6	1	L
87	I 64	109.6	115.6	1	L
87	KY 11	.0	9.2	7	M
87	KY 11	9.2	10.0	16	M
87	KY 11	10.0	15.4	16	M
87	KY 686	.0	2.7	14	M
87	US 60	5.0	5.1	16	L
87	US 460	7.3	8.3	6	M
87	US 460	8.3	9.5	16	M
87	US 460	9.5	10.0	16	L
88	CR 5114	.0	.6	9	L
88	KY 7	.0	2.9	6	L
88	KY 7	2.9	8.4	6	L
88	KY 7	8.4	11.7	6	L
88	KY 172	.0	.3	7	L
88	KY 172	8.1	22.6	7	L
88	KY 203	.0	3.8	6	L
88	KY 205	.0	6.8	7	L
88	KY 402	57.7	63.1	0	M
88	KY 437	.0	3.5	8	L
88	KY 519	.0	10.5	7	L
88	KY 711	2.9	3.1	8	L
88	KY 9009	57.7	63.1	6	M
88	US 460	8.9	13.0	6	L
88	US 460	13.0	15.8	6	L
88	US 460	15.8	17.8	6	L
88	US 460	17.8	18.4	6	L
88	US 460	18.4	28.8	6	L
89	CR 5045	.0	.7	9	M
89	CR 5105C	.0	1.0	9	L
89	CR 5111	.0	1.7	9	L
89	CR 5111	1.7	3.7	9	H
89	CR 5112	2.6	3.6	9	H
89	CR 5121	.0	2.7	9	L
89	CR 5123	.0	1.5	9	L
89	CR 5205	.0	.8	9	L
89	CR 5206D	.0	.3	9	M
89	CR 5275	.0	.1	9	L
89	CR 5419	.0	.3	9	H
89	CR 5420	.0	.3	9	M
89	CR 5421	.0	.4	9	H
89	CR 5421	.4	.7	9	M
89	KY 70	.0	1.3	7	M
89	KY 70	1.3	9.4	7	M
89	KY 70	9.4	10.3	7	H
89	KY 70	10.3	14.7	16	M
89	KY 70	14.7	15.4	16	M
89	KY 70	15.4	19.1	16	M
89	KY 70	19.1	21.2	7	L
89	KY 70	23.6	23.8	7	H
89	KY 171	6.7	12.6	8	L
89	KY 176	.0	5.7	7	M
89	KY 176	5.7	7.2	7	M

Table 8. (Cont'd)

CO.	ROUTE		MILEPOINT FROM	TO	FUNC. CLSS	W. CLS
89	KY	176	7.2	7.9	7	M
89	KY	176	7.9	11.7	7	H
89	KY	176	11.7	12.5	7	H
89	KY	181	15.2	17.5	8	H
89	KY	181	17.5	19.0	8	M
89	KY	189	14.0	15.3	16	M
89	KY	189	15.3	17.7	16	L
89	KY	246	.0	1.0	8	L
89	KY	246	1.9	2.3	8	M
89	KY	246	2.3	3.8	8	M
89	KY	277	1.6	3.8	16	L
89	KY	602	.6	.7	17	H
89	KY	1163	8.0	8.1	8	L
89	KY	1379	.0	.7	9	L
89	KY	1379	7.7	8.9	9	L
89	KY	2270	5.8	6.2	9	L
89	US	62	.0	9.8	7	M
89	US	62	9.8	16.5	7	M
89	US	62	16.5	17.9	16	M
89	US	62	17.9	26.0	16	H
89	US	431	7.0	8.0	6	L
89	US	431	8.0	9.8	6	M
89	US	431	9.8	11.5	6	M
89	US	431	11.5	17.5	6	H
89	US	431	17.5	18.3	6	H
89	US	431	18.3	18.7	14	M
89	US	431	18.7	20.7	14	H
89	US	431	20.7	21.5	6	H
89	US	431	21.5	24.2	6	H
89	US	431	24.2	25.5	6	M
89	US	431	25.5	27.8	6	L
89	WK	9001	43.4	52.5	2	H
89	WK	9001	52.5	57.9	2	H
89	WK	9001	57.9	65.7	2	L
90	BG	9002	9.5	33.3	2	L
90	BG	9002	33.3	39.3	2	M
90	KY	52	.0	2.2	7	L
90	KY	55	3.1	3.8	7	M
90	KY	245	.0	1.0	16	M
90	KY	245	1.0	10.3	16	L
90	KY	245	2.3	3.3	16	M
90	KY	245	3.3	12.6	16	L
90	US	31E	15.4	27.6	14	M
90	US	62	.7	1.3	7	L
90	US	62	15.9	25.0	16	M
91	US	68	.0	12.2	2	M
92	CR	5124	.0	.1	9	L
92	CR	5172	.0	1.0	9	M
92	CR	5179	.0	1.0	9	M
92	CR	5205	.0	1.0	9	M
92	CR	5267	.0	1.2	9	M
92	CR	5276	.0	2.0	9	L
92	CR	5276A	.0	1.5	9	L
92	CR	5373	.1	.7	9	L
92	CR	5386	.0	.3	9	M
92	CR	5391	.0	.9	9	M
92	GR	9007	35.1	41.3	2	M
92	GR	9007	41.3	47.8	2	M
92	GR	9007	47.8	59.5	2	M
92	KY	69	6.7	7.5	8	M
92	KY	69	7.5	7.6	7	H
92	KY	69	13.7	14.3	7	M
92	KY	69	14.3	14.5	7	M
92	KY	69	14.5	15.0	7	M

CO.	ROUTE		MILEPOINT FROM	TO	FUNC. CLSS	W. CLS
92	KY	85	.0	5.4	7	L
92	KY	85	5.4	7.2	8	L
92	KY	85	7.2	11.3	8	H
92	KY	269	.8	5.6	8	M
92	KY	369	8.7	13.0	8	L
92	KY	1245	.0	1.7	8	L
92	KY	1543	.1	1.2	9	L
92	KY	1903	.0	.7	9	H
92	US	62	.0	.3	7	H
92	US	62	.3	1.2	7	H
92	US	62	1.2	2.5	7	H
92	US	62	2.5	4.5	7	H
92	US	62	4.5	9.7	7	M
92	US	62	9.7	10.6	7	L
92	US	62	10.6	12.8	7	H
92	US	62	12.8	13.2	7	M
92	US	62	13.2	14.8	7	L
92	US	231	.0	5.8	7	L
92	US	231	5.8	6.7	7	M
92	US	231	6.7	9.4	7	M
92	US	231	9.4	10.0	7	M
92	US	231	10.0	13.2	7	M
92	US	231	13.2	20.8	7	L
92	US	231	20.8	22.4	7	M
92	US	231	22.4	24.3	7	M
92	WK	9001	65.7	74.6	2	L
92	WK	9001	74.6	76.8	2	M
92	WK	9001	76.8	87.4	2	L
95	CR	5045	.0	2.5	9	L
95	CR	5104	.0	.4	9	L
95	CR	5120	.0	3.4	9	L
95	CR	5313	.0	1.2	9	L
95	CR	5316	.0	.3	9	L
95	CR	5316	.3	1.2	9	L
95	CR	5332	.0	.3	9	L
95	CR	5334	.0	.3	9	L
95	CR	5334	.3	1.4	9	L
95	CR	5334	2.1	2.8	9	L
95	KY	11	.0	12.1	7	L
95	KY	11	12.1	14.2	7	L
95	KY	11	14.2	16.9	7	L
95	KY	11	16.9	17.3	6	L
95	KY	28	.0	2.9	7	L
95	KY	28	2.9	4.9	7	L
95	KY	30	.0	5.2	6	M
95	KY	30	5.2	6.8	6	M
95	KY	30	6.8	9.4	6	L
95	KY	30	9.4	10.8	6	L
95	KY	30	10.8	11.2	6	L
95	KY	30	11.2	19.6	6	L
95	KY	399	.0	1.9	8	M
95	KY	587	.0	.5	8	M
95	KY	847	5.2	7.2	8	L
95	KY	2024	.0	7.4	8	L
95	KY	2152	.0	1.0	9	L
95	KY	2152	1.0	2.0	9	L
96	KY	8	2.2	4.3	7	M
96	KY	17	.0	.8	8	L
96	KY	154	4.5	5.7	8	M
96	KY	546	1.5	4.3	2	M
96	KY	1853	1.3	1.5	9	L
96	US	27	.0	11.8	6	M
96	US	27	11.8	19.4	6	M
97	CR	5005	.0	.3	9	L

Table 8. (Cont'd)

CO.	ROUTE	MILEPOINT		FUNC. CLSS	W. CLS
		FROM	TO		
97	CR 5005	.3	.5	9	M
97	CR 5032	.0	.1	9	M
97	CR 5044	.0	.5	9	H
97	CR 5045	.0	.6	9	H
97	CR 5050	.0	.6	9	H
97	CR 5050	.6	1.7	9	H
97	CR 5070	.0	.1	9	M
97	CR 5100	.0	1.6	9	M
97	CR 5102	.0	.2	9	M
97	CR 5115	.0	.1	9	M
97	CR 5117	.0	.8	9	L
97	CR 5118B	.0	.2	9	L
97	CR 5118H	.0	.3	9	M
97	CR 5120	.3	1.5	9	M
97	CR 5123	4.4	4.9	9	L
97	CR 5130	.0	.5	9	L
97	CR 5140	.0	.5	9	M
97	CR 5146	.0	.5	9	H
97	CR 5146	.5	1.1	9	L
97	CR 5148	.0	1.6	9	M
97	CR 5152	.0	.4	9	H
97	CR 5210	.0	1.1	9	L
97	CR 5219	.0	.7	9	L
97	CR 5319	.0	.7	9	M
97	CR 5319	.7	2.9	9	M
97	CR 5319	2.9	4.8	9	M
97	CR 5320	.0	2.3	9	M
97	CR 5326	.0	1.0	9	M
97	CR 5330	.0	.8	9	M
97	CR 5332	.0	1.0	9	M
97	CR 5333	.0	.2	9	H
97	CR 5333	.2	2.2	9	H
97	CR 5344	.0	.8	9	M
97	DB 9006	51.0	56.0	2	M
97	DB 9006	56.0	56.4	2	M
97	DB 9006	56.4	58.1	2	H
97	DB 9006	58.1	59.1	2	H
97	KY 7	.0	2.5	7	M
97	KY 7	2.5	10.0	7	M
97	KY 7	10.0	10.4	7	M
97	KY 7	10.4	11.4	7	M
97	KY 7	11.4	13.6	7	M
97	KY 15	.0	.2	2	H
97	KY 15	.2	.6	2	H
97	KY 15	.6	1.3	2	H
97	KY 15	1.3	4.0	2	H
97	KY 15	4.0	4.5	2	H
97	KY 15	4.5	5.5	2	H
97	KY 15	5.5	6.2	2	H
97	KY 15	6.2	10.1	2	H
97	KY 15	10.1	13.4	14	H
97	KY 15	13.4	13.6	2	H
97	KY 15	13.6	15.0	2	H
97	KY 15	15.0	15.2	2	H
97	KY 15	15.2	16.0	2	H
97	KY 15	16.0	17.8	2	H
97	KY 15	17.8	19.7	2	H
97	KY 15	19.7	20.7	2	H
97	KY 15	20.7	21.3	2	H
97	KY 15	21.3	23.8	2	H
97	KY 15	23.8	25.1	2	H
97	KY 15	25.1	25.2	2	H
97	KY 28	11.4	11.9	7	M
97	KY 28	11.9	12.3	7	H
97	KY 28	12.3	13.5	7	H
97	KY 28	13.5	13.6	7	H
97	KY 28	13.6	16.2	7	H
97	KY 28	16.2	16.3	7	H
97	KY 28	16.3	17.1	7	H
97	KY 28	17.1	18.1	7	H
97	KY 80	.0	.2	7	H
97	KY 80	.2	1.4	7	H
97	KY 80	1.4	2.3	7	H
97	KY 80	2.3	4.4	7	H
97	KY 80	4.4	4.6	7	H
97	KY 80	4.6	7.2	7	L
97	KY 80	7.2	7.9	16	M
97	KY 80	7.9	11.0	16	H
97	KY 80	11.0	11.3	2	H
97	KY 80	11.3	13.2	2	H
97	KY 80	13.2	14.2	2	H
97	KY 80	14.2	14.7	2	H
97	KY 80	14.7	14.8	2	H
97	KY 80	14.8	15.7	2	H
97	KY 80	15.7	15.8	2	H
97	KY 80	15.8	15.9	2	H
97	KY 221	.0	.5	7	L
97	KY 267	2.0	3.2	8	H
97	KY 267	9.3	10.1	8	H
97	KY 267	10.1	10.7	8	M
97	KY 451	6.8	7.7	8	L
97	KY 451	7.7	7.8	8	H
97	KY 451	7.8	10.3	8	L
97	KY 451	17.2	18.4	8	M
97	KY 451	18.4	19.2	8	M
97	KY 451	19.2	20.0	8	M
97	KY 463	1.4	5.0	7	H
97	KY 463	5.0	6.5	7	H
97	KY 476	.0	2.0	16	M
97	KY 476	2.0	2.4	7	M
97	KY 476	2.4	2.9	7	M
97	KY 476	2.9	7.5	7	M
97	KY 476	7.5	8.6		M
97	KY 476	8.6	8.7	7	M
97	KY 476	8.7	8.9	7	M
97	KY 476	8.9	10.5	7	H
97	KY 476	10.5	12.4	7	H
97	KY 476	12.4	15.0	7	H
97	KY 476	15.0	18.0	7	H
97	KY 476	18.0	18.2	7	H
97	KY 476	18.2	18.7	7	H
97	KY 476	18.7	22.2	7	M
97	KY 476	22.2	22.3	7	H
97	KY 550	.0	2.5	7	L
97	KY 550	2.5	3.7	7	M
97	KY 699	.0	1.6	7	M
97	KY 699	1.6	4.8	7	H
97	KY 699	4.8	6.5	7	H
97	KY 699	6.5	12.2	7	M
97	KY 699	12.2	12.5	7	M
97	KY 1067	.0	2.7	9	H
97	KY 1087	.0	.7	8	H
97	KY 1088	.0	1.1	8	L
97	KY 1088	1.1	5.0	8	L
97	KY 1095	.0	.8	8	M
97	KY 1095	.8	1.5	8	M
97	KY 1095	1.5	2.5	8	H
97	KY 1095	2.5	2.9	8	M

Table 8. (Cont'd)

CO.	ROUTE	MILEPOINT FROM	MILEPOINT TO	FUNC. CLSS	W. CLS
97	KY 1096	.0	1.6	8	H
97	KY 1096	1.6	2.5	8	H
97	KY 1096	2.5	5.1	8	H
97	KY 1096	5.1	5.9	8	M
97	KY 1146	4.0	4.6	8	H
97	KY 1146	4.6	9.3	8	H
97	KY 1165	.0	2.9	8	L
97	KY 1165	2.9	3.5	8	L
97	KY 1165	3.5	7.2	8	L
97	KY 2446	.5	3.2	8	H
97	KY 2447	.0	.2	9	L
97	KY 3348	.0	3.9	9	M
98	CR 5004	.0	2.4	2	M
98	CR 5011	.0	1.1	9	M
98	CR 5014	.0	.3	9	M
98	CR 5015	.0	.3	9	M
98	CR 5021	.0	.4	9	H
98	CR 5025	.0	.6	9	M
98	CR 5029	.0	.3	9	H
98	CR 5038	.0	1.2	9	M
98	CR 5042	.0	.8	9	M
98	CR 5043	.0	.6	9	L
98	CR 5050	.0	.6	9	M
98	CR 5050	.6	.8	9	M
98	CR 5065	.0	.4	2	M
98	CR 5067	.0	.3	9	M
98	CR 5074	.0	1.0	9	H
98	CR 5074	1.0	1.3	9	H
98	CR 5075	.0	.4	9	M
98	CR 5077	.0	.2	9	M
98	CR 5077	.2	.5	9	L
98	CR 5078	.0	.2	2	H
98	CR 5078	.2	.4	2	M
98	CR 5078	.4	1.3	2	L
98	CR 5080	.0	.5	9	M
98	CR 5088	.0	.4	9	H
98	CR 5090	.0	4.7	9	L
98	CR 5095	.0	.5	9	M
98	CR 5095	16.1	16.8	9	L
98	CR 5096	.0	1.6	9	M
98	CR 5104	.0	.3	9	M
98	CR 5104	.3	2.1	9	L
98	CR 5105	.0	.9	9	L
98	CR 5106	.0	.8	9	M
98	CR 5111	2.4	4.2	9	L
98	CR 5122	.0	.9	9	M
98	CR 5123	2.7	3.0	9	H
98	CR 5123	3.1	3.9	9	L
98	CR 5123	3.9	5.1	9	M
98	CR 5124	.0	1.7	9	H
98	CR 5140	.0	.5	9	M
98	CR 5141	.0	.5	9	L
98	CR 5145	.0	.3	9	L
98	CR 5162	.0	1.4	9	L
98	CR 5162	1.4	1.7	9	L
98	CR 5163	.0	.6	9	H
98	CR 5168	.0	1.2	9	H
98	CR 5174	.0	.2	9	M
98	CR 5196	.0	.4	9	M
98	CR 5196	.4	.6	9	M
98	CR 5210	.0	.8	9	H
98	CR 5216	.0	.5	9	L
98	CR 5217	.0	.5	9	L
98	CR 5233	.0	.3	9	M
98	CR 5233	.3	1.3	9	M
98	CR 5241	.0	.4	9	M
98	CR 5241	.4	.6	9	M
98	CR 5253	.0	.2	9	H
98	CR 5253	.2	.8	9	H
98	CR 5282	.0	.3	9	M
98	CR 5283	.0	.2	9	M
98	CR 5285	.0	.7	2	M
98	CR 5287	.3	.6	9	H
98	CR 5287	.6	1.6	9	M
98	CR 5288	.0	1.2	9	H
98	CR 5288	1.2	1.8	9	M
98	CR 5290	.0	2.1	9	M
98	CR 5290	2.1	2.4	9	M
98	CR 5290	2.4	3.7	9	L
98	CR 5294	.0	2.9	9	L
98	CR 5294	2.9	3.8	9	L
98	CR 5322	.0	1.0	9	H
98	CR 5328	.0	2.2	9	M
98	CR 5329	.0	1.0	9	M
98	CR 5330	.0	.9	2	M
98	CR 5341	.0	.6	9	M
98	CR 5342	.0	2.1	2	L
98	CR 5348	.0	.8	9	H
98	CR 5355	.2	.9	9	M
98	CR 5356	.0	.4	9	M
98	CR 5356	.4	1.7	9	L
98	CR 5357	.0	1.1	9	M
98	CR 5361T	.0	.5	9	L
98	CR 5361U	.0	.1	9	M
98	CR 5361V	.0	.1	9	M
98	CR 5363	.0	.9	9	M
98	CR 5364	.0	1.6	2	L
98	CR 5371	.0	1.0	9	L
98	CR 5371	1.0	1.7	9	L
98	CR 5371	1.7	1.9	9	L
98	CR 5373	.0	.4	9	L
98	CR 5381	.0	1.2	2	H
98	CR 5381	1.2	2.1	9	M
98	CR 5381	2.1	2.5	9	M
98	CR 5383	.0	1.2	9	H
98	CR 5384	.0	.6	2	M
98	CR 5384	.6	1.7	2	L
98	CR 5384	1.7	2.5	9	L
98	CR 5385	.0	.2	9	L
98	CR 5388	.0	.4	9	L
98	CR 5391A	.0	2.0	9	M
98	CR 5396	.0	1.2	9	L
98	CR 5399	.0	.3	9	L
98	CR 5399	.3	.8	9	L
98	CR 5399	.8	1.8	9	L
98	CR 5409	.0	.4	9	L
98	CR 5419	.0	1.1	9	M
98	CR 5422	.0	.3	9	H
98	CR 5422	.3	2.6	9	H
98	CR 5422	4.7	5.3	9	M
98	CR 5422	5.3	6.1	9	H
98	CR 5422	6.1	6.3	9	H
98	CR 5429	.0	.3	9	H
98	CR 5429	.3	1.2	9	M
98	CR 5430	.0	.5	9	L
98	CR 5433	5.1	6.3	9	L
98	CR 5444	.0	.8	9	M
98	CR 5447	.0	.2	9	H

Table 8. (Cont'd)

CO.	ROUTE	MILEPOINT FROM	MILEPOINT TO	FUNC. CLSS	W. CLS
98	CR 5447	1.2	1.4	9	M
98	CR 5468	.0	.6	9	L
98	CR 5468	.6	.9	9	L
98	CR 5470	.0	.7	9	M
98	CR 5478	.0	1.8	9	H
98	CR 5482	.0	1.7	9	M
98	CR 5505	.0	.5	9	M
98	CR 5519	.0	.4	2	M
98	CR 5519	.4	2.5	9	M
98	CR 5521	.0	.4	9	L
98	CR 5522	.0	1.0	9	M
98	CR 5522	1.0	1.3	9	M
98	CR 5524	.0	.4	9	M
98	CR 5524	.4	.6	9	L
98	CR 5525	.0	1.5	9	M
98	CR 5529	.0	.6	9	M
98	CR 5531	.0	1.3	9	M
98	CR 5534	.0	1.2	9	L
98	CR 5535	.0	.9	9	H
98	CR 5535	.9	1.7	9	M
98	CR 5535	1.7	2.0	9	M
98	CR 5537	.0	.7	9	M
98	CR 5538	.0	1.1	9	M
98	CR 5547	.0	.5	9	M
98	CR 5547	.5	1.1	9	M
98	CR 5550	.0	.4	9	M
98	CR 5550	.4	.6	9	M
98	CR 5552	.0	.5	9	L
98	CR 5553	.0	.5	9	H
98	CR 5553	.5	1.4	9	M
98	CR 5554	.0	.4	9	M
98	CR 5554	.4	1.0	9	M
98	CR 5555	.0	.3	9	L
98	CR 5560	.0	.3	9	M
98	CR 5560	.3	1.5	9	L
98	CR 5561	.0	.1	9	M
98	CR 5561	.1	2.0	9	M
98	CR 5571	.0	.3	9	L
98	CR 5571	.3	.6	9	L
98	CR 5572	.0	1.4	9	M
98	CR 5578	.0	.9	9	M
98	CR 5592	.0	.9	9	M
98	CR 5593	.0	.5	9	H
98	CR 5606	.0	.9	9	M
98	CR 5607	.0	.3	9	M
98	CR 5609	.0	.6	9	M
98	CR 5611	.0	.5	9	L
98	CR 5613	.0	.5	9	L
98	CR 5616	.0	1.0	9	M
98	CR 5616	1.0	1.5	9	M
98	CR 5617	.0	1.3	2	L
98	CR 5620	.0	.7	9	L
98	CR 5621	.0	.3	9	M
98	KY 80	.0	2.0	7	H
98	KY 80	2.0	3.2	7	H
98	KY 80	3.2	3.8	7	M
98	KY 80	3.8	4.3	7	M
98	KY 80	4.3	6.6	7	M
98	KY 80	6.6	6.9	7	M
98	KY 122	2.3	2.7	7	M
98	KY 122	2.7	3.3	7	M
98	KY 122	3.3	5.2	7	M
98	KY 122	5.2	6.8	7	H
98	KY 122	6.8	8.3	7	H
98	KY 122	8.3	9.1	7	H
98	KY 122	9.1	9.4	7	H
98	KY 122	9.4	10.4	7	H
98	KY 122	10.4	11.9	9	M
98	KY 194	.0	6.1	8	L
98	KY 194	6.1	8.9	8	M
98	KY 194	8.9	9.3	8	M
98	KY 194	9.3	10.1	8	M
98	KY 194	10.1	11.6	8	M
98	KY 194	11.6	13.4	8	H
98	KY 194	13.4	13.6	8	H
98	KY 194	13.6	16.8	8	H
98	KY 194	16.8	19.5	7	H
98	KY 194	19.5	20.5	7	H
98	KY 194	20.5	21.1	7	H
98	KY 194	21.1	21.5	7	H
98	KY 194	21.5	21.9	7	H
98	KY 194	21.9	22.4	7	H
98	KY 194	22.4	22.7	7	H
98	KY 194	22.7	25.5	7	H
98	KY 194	25.5	26.1	7	H
98	KY 194	26.1	26.4	7	H
98	KY 194	26.4	26.8	7	H
98	KY 194	26.8	27.1	7	H
98	KY 194	27.1	27.8	7	H
98	KY 194	27.8	33.6	7	H
98	KY 194	33.6	40.0	7	H
98	KY 194	40.0	41.0	7	M
98	KY 194	41.0	41.5	7	M
98	KY 194	41.5	44.4	7	M
98	KY 194	44.4	50.0	7	M
98	KY 194	50.0	52.0	7	H
98	KY 194	52.0	52.4	7	H
98	KY 194	52.4	53.0	7	H
98	KY 194	53.0	53.7	7	H
98	KY 194	53.7	54.6	7	H
98	KY 194	54.6	55.7	7	H
98	KY 194	55.7	57.5	7	M
98	KY 194	57.5	60.8	7	M
98	KY 194	60.8	66.5	7	M
98	KY 194	66.5	67.0	7	M
98	KY 194	67.0	67.7	7	M
98	KY 194	67.7	69.6	7	M
98	KY 194	69.6	73.2	7	H
98	KY 195	.0	3.2	8	H
98	KY 195	3.2	4.3	8	L
98	KY 195	4.3	4.7	8	L
98	KY 195	4.7	5.3	8	M
98	KY 195	5.3	6.9	8	H
98	KY 195	6.9	10.0	8	H
98	KY 195	10.0	11.6	8	H
98	KY 197	.0	.2	7	M
98	KY 197	.2	4.2	7	M
98	KY 197	4.2	7.0	7	M
98	KY 197	7.0	8.1	7	M
98	KY 197	8.1	9.8	7	M
98	KY 197	9.8	10.9	7	H
98	KY 197	10.9	12.7	7	H
98	KY 197	12.7	16.3	7	H
98	KY 197	16.3	16.6	7	H
98	KY 199	8.2	8.6	7	H
98	KY 199	8.6	11.3	7	M
98	KY 199	11.3	11.6	7	M
98	KY 292	.0	3.7	8	M

Table 8. (Cont'd)

CO.	ROUTE	MILEPOINT		FUNC. CLSS	W. CLS
		FROM	TO		
98	KY 292	3.7	4.8	8	M
98	KY 292	4.8	6.7	16	H
98	KY 292	6.7	10.4	16	M
98	KY 292	10.4	12.5	7	M
98	KY 292	12.5	12.6	7	H
98	KY 292	12.6	12.7	7	H
98	KY 319	.0	.5	7	H
98	KY 319	.5	4.7	7	M
98	KY 319	4.7	5.0	7	M
98	KY 319	5.0	7.0	7	H
98	KY 366	.0	1.7	8	M
98	KY 468	.0	.1	8	H
98	KY 468	.1	2.9	8	H
98	KY 468	2.9	4.0	8	H
98	KY 468	4.0	4.8	8	H
98	KY 468	4.8	5.7	8	H
98	KY 468	5.7	7.3	8	H
98	KY 468	7.3	8.1	8	H
98	KY 468	8.1	8.6	8	H
98	KY 468	8.6	8.7	8	H
98	KY 468	8.7	10.8	8	H
98	KY 468	10.8	11.5	8	H
98	KY 468	11.5	11.6	8	H
98	KY 468	11.7	13.6	8	H
98	KY 610	.0	2.6	7	M
98	KY 610	2.6	2.7	7	M
98	KY 610	2.7	8.1	7	M
98	KY 610	8.1	8.3	7	H
98	KY 610	8.3	8.9	7	M
98	KY 611	2.0	2.1	8	L
98	KY 612	.0	2.1	8	M
98	KY 612	2.1	2.8	8	M
98	KY 612	2.8	3.6	8	M
98	KY 612	3.6	3.9	8	M
98	KY 612	6.6	7.9	8	M
98	KY 612	7.9	8.4	8	H
98	KY 632	.0	.1	7	H
98	KY 632	.1	.9	7	H
98	KY 632	.9	1.5	7	H
98	KY 632	1.5	2.8	7	H
98	KY 632	2.8	2.9	7	H
98	KY 632	2.9	4.0	7	H
98	KY 632	4.0	5.2	7	H
98	KY 632	5.2	6.8	7	H
98	KY 632	6.8	8.3	7	H
98	KY 632	8.3	9.9	7	H
98	KY 632	9.9	11.4	7	H
98	KY 632	11.4	11.5	7	H
98	KY 632	11.5	12.0	7	H
98	KY 632	12.0	12.8	7	H
98	KY 632	12.8	14.0	7	H
98	KY 881	.0	2.1	8	H
98	KY 881	2.1	3.0	8	H
98	KY 881	3.0	4.5	8	H
98	KY 881	4.5	7.4	8	M
98	KY 881	7.4	7.7	8	M
98	KY 1056	.0	3.3	8	H
98	KY 1056	3.3	4.5	8	H
98	KY 1056	4.5	4.8	8	H
98	KY 1056	4.8	6.5	8	M
98	KY 1056	6.5	7.4	8	M
98	KY 1056	7.4	7.6	8	H
98	KY 1056	7.6	9.1	8	H
98	KY 1056	9.1	11.6	7	H
98	KY 1373	4.8	6.3	8	M
98	KY 1373	6.3	6.7	8	H
98	KY 1384	.0	.2	8	M
98	KY 1384	.2	1.6	8	M
98	KY 1384	1.6	2.0	8	M
98	KY 1384	2.0	3.5	8	M
98	KY 1384	3.5	3.8	8	M
98	KY 1384	3.8	5.7	8	M
98	KY 1384	5.7	6.0	8	M
98	KY 1384	6.0	6.4	8	M
98	KY 1384	6.4	6.9	8	L
98	KY 1426	1.4	2.0	8	M
98	KY 1426	2.0	2.7	8	M
98	KY 1426	2.7	3.3	8	M
98	KY 1426	3.3	4.8	8	H
98	KY 1426	4.8	4.9	8	H
98	KY 1426	4.9	6.0	7	M
98	KY 1441	7.5	7.7	8	M
98	KY 1441	7.7	8.9	8	M
98	KY 1441	8.9	10.1	8	H
98	KY 1460	.0	1.5	8	L
98	KY 1460	1.5	3.8	8	L
98	KY 1460	3.8	5.1	8	M
98	KY 1469	4.5	8.0	8	M
98	KY 1469	8.0	8.3	8	H
98	KY 1469	8.3	11.4	8	H
98	KY 1469	11.4	14.5	8	M
98	KY 1499	.0	1.8	7	H
98	KY 1499	1.8	6.1	7	H
98	KY 1758	.0	3.0	8	L
98	KY 1758	6.7	7.8	8	H
98	KY 1789	.0	.3	8	H
98	KY 2059	.0	.3	9	M
98	KY 2059	.3	2.2	9	M
98	KY 2059	2.2	2.4	9	M
98	KY 2059	5.7	6.4	9	M
98	KY 2059	7.7	8.0	9	H
98	KY 2061	.0	3.4	8	M
98	KY 2061	3.4	7.1	8	M
98	KY 2062	.0	1.1	8	H
98	KY 2062	1.1	3.1	8	H
98	KY 2167	.0	.3	8	H
98	KY 3154	.0	.2	2	M
98	KY 3154	.2	2.7	2	H
98	KY 3226	.0	1.7	8	H
98	KY 3226	1.7	2.0	8	H
98	KY 3226	2.0	3.3	8	H
98	KY 3227	.0	.4	8	H
98	KY 3227	.4	.5	8	H
98	KY 3227	.5	1.2	8	H
98	KY 3227	1.2	2.3	8	H
98	KY 3227	7.6	8.0	8	M
98	KY 3414	.6	1.7	9	L
98	KY 3414	1.7	2.4	9	M
98	KY 3414	2.4	3.4	9	M
98	KY 3415	.0	.8	9	H
98	KY 3415	.8	1.6	9	H
98	KY 3415	1.6	2.8	9	H
98	KY 3416	.0	1.7	9	H
98	KY 3417	.0	.7	9	M
98	KY 3417	.7	1.1	9	M
98	KY 3419	4.9	5.8	9	H
98	KY 3419	10.2	10.4	9	L
98	KY 3419	10.4	10.7	9	M

Table 8. (Cont'd)

CO.	ROUTE	MILEPOINT FROM	MILEPOINT TO	FUNC. CLSS	W. CLS
98	KY 3419	10.7	12.0	9	H
98	US 23	.0	1.4	7	H
98	US 23	1.4	5.8	7	H
98	US 23	5.8	6.6	7	H
98	US 23	6.6	7.9	2	H
98	US 23	7.9	8.2	2	H
98	US 23	8.2	9.2	2	H
98	US 23	9.2	9.3	2	H
98	US 23	9.3	11.0	2	H
98	US 23	11.0	13.0	2	H
98	US 23	13.0	14.3	2	H
98	US 23	14.3	14.8	2	H
98	US 23	14.8	16.6	2	H
98	US 23	16.6	21.1	2	H
98	US 23	21.1	21.6	2	H
98	US 23	21.6	22.3	2	H
98	US 23	22.3	25.2	2	H
98	US 23	25.2	26.0	2	H
98	US 23	26.0	26.6	2	H
98	US 23	26.6	27.5	2	H
98	US 23	27.5	28.3	2	H
98	US 23	28.3	28.9	2	H
98	US 23	28.9	29.8	2	H
98	US 23	29.8	30.8	2	H
98	US 23	30.8	31.9	2	H
98	US 23	31.9	32.0	2	H
98	US 23	32.0	34.0	2	H
98	US 23	34.0	35.1	2	H
98	US 23	35.1	36.2	2	H
98	US 23	36.2	37.4	2	H
98	US 119	.0	4.9	2	H
98	US 119	4.9	6.2	2	H
98	US 119	6.2	7.1	2	H
98	US 119	7.1	8.0	2	H
98	US 119	8.0	8.2	2	H
98	US 119	8.2	8.7	2	H
98	US 119	8.7	9.8	2	H
98	US 119	9.8	10.0	2	H
98	US 119	10.0	10.2	2	H
98	US 119	10.2	13.5	2	H
98	US 119	13.5	15.7	2	H
98	US 119	15.7	17.1	2	H
98	US 119	17.1	17.8	2	H
98	US 119	17.8	18.8	2	H
98	US 119	18.8	22.9	2	H
98	US 119	22.9	24.3	2	H
98	US 119	24.3	24.5	2	H
98	US 119	24.5	25.6	2	H
98	US 119	25.6	26.6	2	H
98	US 119	26.6	27.7	2	H
98	US 119	27.7	28.6	2	H
98	US 119	28.6	29.4	14	H
98	US 119	29.4	29.7	14	M
98	US 460	.0	1.3	2	H
98	US 460	1.3	2.7	2	H
98	US 460	2.7	2.9	2	H
98	US 460	2.9	4.4	2	H
98	US 460	4.4	4.9	2	H
98	US 460	4.9	5.6	2	H
98	US 460	5.6	6.3	2	H
98	US 460	6.3	8.1	2	H
98	US 460	8.1	8.5	2	H
98	US 460	8.5	8.7	2	H
98	US 460	8.7	9.5	2	H
98	US 460	9.5	10.3	2	H
98	US 460	10.3	13.1	2	H
98	US 460	13.1	14.5	2	H
98	US 460	14.5	15.5	2	H
98	US 460	15.5	18.2	2	H
98	US 460	18.2	19.6	2	H
98	US 460	19.6	21.1	2	H
98	US 460	21.1	21.3	2	H
98	US 460	21.3	22.7	2	H
98	US 460	22.7	25.4	2	H
99	KY 11	.0	4.2	6	L
99	KY 11	21.0	25.0	7	M
99	KY 15	3.5	4.1	7	M
99	KY 15	4.1	4.2	7	M
99	KY 15	4.2	8.9	7	M
99	KY 82	.0	2.1	7	M
99	KY 402	11.9	16.1	0	H
99	KY 402	16.1	16.4	0	H
99	KY 402	16.4	36.0	0	H
99	KY 9000	11.9	16.4	2	H
99	KY 9000	16.4	24.6	2	H
99	KY 9000	24.6	32.1	2	H
99	KY 9000	32.1	36.0	2	H
100	CR 5016	.0	1.7	9	M
100	CR 5017	.0	.9	9	M
100	CR 5018	.0	1.4	9	M
100	CR 5032	.0	.3	9	L
100	CR 5039	.9	1.1	9	L
100	CR 5216	.0	3.8	9	M
100	CR 5225	.0	.8	9	M
100	CR 5349	.0	.6	9	H
100	CU 9008	72.1	88.5	2	M
100	KY 70	3.4	3.7	7	L
100	KY 80	9.3	19.1	7	L
100	KY 80	21.6	28.2	16	H
100	KY 80	28.2	28.8	2	H
100	KY 80	28.8	31.9	2	H
100	KY 80	31.9	38.3	2	H
100	KY 80	38.3	40.4	2	H
100	KY 80B	.0	2.3	14	H
100	KY 90	.0	4.2	6	L
100	KY 192	.0	15.0	16	M
100	KY 196	9.2	9.5	7	L
100	KY 461	.0	8.4	6	L
100	KY 1247	.0	.3	7	H
100	KY 1247	.3	4.0	7	L
100	KY 1247	4.0	5.5	16	L
100	KY 1580	.0	.5	19	L
100	KY 1642	4.7	6.3	16	L
100	KY 1675	5.7	10.5	8	M
100	KY 1956	.0	1.5	8	L
100	US 27	.0	9.8	2	M
100	US 27	9.8	12.9	14	H
100	US 27	12.9	16.8	14	H
100	US 27	16.8	16.9	14	H
100	US 27	16.9	29.7	14	L
100	US 27	29.7	30.7	2	L
101	KY 165	.0	10.0	7	L
101	US 62	10.5	11.2	7	L
101	US 68	.0	.8	2	M
101	US 68	.8	1.4	2	M
102	CR 5077	.0	4.5	9	L
102	CR 5227	.0	2.2	9	L
102	CS 1W	.0	.1	9	L

Table 8. (Cont'd)

CO.	ROUTE		MILEPOINT		FUNC. CLSS	W. CLS
			FROM	TO		
102	CS	2S	.0	.1	9	L
102	CS	3S	.0	.1	9	L
102	I	75	50.8	59.0	1	M
102	I	75	59.0	62.0	1	M
102	I	75	62.0	73.4	1	M
102	KY	89	.0	3.2	7	L
102	KY	461	.0	7.5	6	L
102	KY	461	7.5	8.6	6	L
102	KY	490	.0	.1	7	L
102	KY	1249	.0	4.6	9	L
102	KY	1326	4.2	4.5	8	L
102	KY	1617	.0	.1	8	L
102	KY	1786	.0	3.0	8	L
102	KY	1786	3.0	4.9	8	L
102	KY	1956	.0	.6	8	L
102	US	25	4.7	11.8	7	L
102	US	25	11.8	13.9	6	M
102	US	25	15.7	20.5	7	L
102	US	150	.0	4.1	6	M
102	US	150	4.1	8.7	6	M
102	US	150	8.7	10.5	6	M
103	CS	1M	.0	.1	9	L
103	I	64	129.0	137.3	1	L
103	I	64	137.3	148.7	1	L
103	KY	32	5.7	8.3	14	L
103	KY	32	8.3	8.4	16	L
103	KY	519	.0	10.4	7	L
103	US	60	7.4	8.0	16	L
103	US	60	8.0	9.0	16	L
103	US	60	9.0	10.0	16	L
104	CU	9008	57.8	62.4	2	M
104	CU	9008	62.4	72.1	2	M
104	US	127	16.0	18.6	6	L
105	I	64	67.1	71.0	1	M
105	I	75	120.8	143.2	1	M
106	I	64	24.0	46.3	1	L
106	US	60	.0	23.0	7	M
107	I	65	.0	13.7	1	L
107	KY	100	.0	9.5	7	L
107	US	31W	.0	3.2	7	M
107	US	31W	3.2	6.5	6	M
107	US	31W	6.5	14.0	16	M
108	US	31E	.0	2.4	6	M
109	KY	55	.0	10.3	6	M
109	US	68	4.6	4.9	16	M
110	US	68	.0	14.1	2	L
110	US	79	.0	10.6	6	L
113	CR	5227	.0	.3	9	H
113	KY	56	.0	2.7	6	L
113	KY	56	7.8	13.0	6	L
113	KY	109	.0	1.5	6	H
113	KY	109	1.5	3.2	7	H
113	KY	109	3.2	4.9	7	H
113	KY	109	4.9	13.6	7	L
113	KY	130	9.6	15.7	7	L
113	KY	360	.0	.5	7	L
113	KY	360	6.6	7.3	7	L
113	KY	492	1.9	2.5	8	H
113	KY	871	.0	.2	8	L
113	KY	1508	.0	2.7	8	H
113	KY	1508	5.3	6.0	8	H
113	US	56	.0	2.7	6	M
113	US	60	.0	1.4	6	L
113	US	60	1.4	2.2	6	H
113	US	60	2.2	3.7	6	H
113	US	60	3.7	5.7	6	H
113	US	60	5.7	16.3	6	L
113	US	60	16.3	16.7	6	L
113	US	60	16.7	26.1	6	L
114	GR	9007	.0	3.6	12	L
114	GR	9007	3.6	5.0	12	M
114	GR	9007	5.0	18.2	2	M
114	I	65	13.7	20.5	1	L
114	I	65	20.5	42.9	1	L
114	US	31W	.0	9.0	7	M
114	US	68	.0	8.2	2	L
114	US	68	8.2	11.1	14	L
115	BG	9002	39.3	44.8	2	M
116	KY	90	.0	25.2	6	L
117	CR	5018	.0	.9	9	M
117	CR	5024	.0	3.1	9	M
117	CR	5034	.0	.1	9	H
117	CR	5034	.1	.3	9	M
117	CR	5034	.3	.5	9	M
117	CR	5036	.0	.4	9	H
117	CR	5254	.0	.9	9	H
117	CR	5255	.0	.2	9	L
117	CR	5255	1.7	2.5	9	H
117	CR	5256	.0	.4	9	M
117	CR	5256	.4	.7	9	H
117	CR	5256	.7	1.4	9	H
117	CR	5257	.0	.9	9	H
117	CR	5524	.0	.9	9	H
117	KY	56	5.3	12.5	7	H
117	KY	56	12.5	14.2	7	H
117	KY	56	14.2	14.4	7	H
117	KY	56	14.4	14.7	7	L
117	KY	109	2.9	3.4	6	H
117	KY	109	3.4	4.7	6	H
117	KY	109	4.7	4.9	6	H
117	KY	109	4.9	8.7	6	H
117	KY	109	8.7	11.1	6	H
117	KY	109	11.1	11.5	6	H
117	KY	109	11.5	12.9	6	H
117	KY	109	12.9	13.7	6	H
117	KY	109	13.7	14.7	6	H
117	KY	132	7.6	16.4	7	M
117	KY	132	23.6	25.9	7	M
117	KY	147	.0	3.5	8	M
117	KY	270	8.4	8.9	8	H
117	KY	494	.0	2.2	9	M
117	KY	670	.0	.3	6	H
117	KY	670	.3	.8	6	H
117	KY	670	.8	2.7	6	H
117	KY	814	.0	.6	8	H
117	KY	1525	.8	2.6	9	M
117	KY	2666	.0	.2	9	M
117	KY	2837	.0	2.7	2	L
117	PE	9004	48.0	55.0		H
117	PE	9004	55.0	55.6	2	H
117	PE	9004	55.6	58.3	2	H
117	PE	9004	58.3	62.6	2	H
117	PE	9004	62.6	65.3	2	M
117	US	41	.0	2.8	7	M
117	US	41	2.8	4.7	7	M
117	US	41	4.7	7.0	7	M
117	US	41	7.0	9.5	7	M
117	US	41	9.5	9.7	7	H

Table 8. (Cont'd)

CO.	ROUTE	MILEPOINT		FUNC. CLSS	W. CLS
		FROM	TO		
117	US 41	9.7	12.1	7	H
117	US 41A	.0	.5	6	H
117	US 41A	.5	1.3	6	H
117	US 41A	1.3	10.0	7	H
117	US 41A	10.0	19.5	7	H
118	CR 5007	.0	3.6	9	L
118	CR 5007	3.6	4.3	9	L
118	CR 5007	4.3	4.7	9	L
118	CR 5012	.0	1.2	9	L
118	CR 5037	1.4	1.6	9	L
118	CR 5037A	.0	.4	9	L
118	CR 5042	.0	1.5	9	L
118	CR 5045	.0	.6	9	L
118	CR 5045	.6	1.5	9	L
118	CR 5045	1.5	3.1	9	L
118	CR 5045	3.1	3.6	9	L
118	CR 5047	.0	1.4	9	L
118	CR 5047	1.4	1.6	9	L
118	CR 5051A	.0	.3	9	L
118	CR 5052	.0	.3	9	L
118	CR 5092	.0	.6	9	L
118	CR 5098	.0	2.2	9	L
118	CR 5098	2.2	2.3	9	L
118	CR 5104	.0	.4	9	M
118	CR 5158	.3	.6	9	L
118	CR 5170	.0	1.0	9	L
118	CR 5171	.0	.7	9	M
118	CR 5204	.0	.5	9	L
118	CR 5227	.0	3.3	9	M
118	CR 5227	3.3	5.5	9	M
118	CR 5227	5.5	8.0	9	M
118	CR 5230	.0	1.5	9	L
118	CR 5250	.0	1.8	9	M
118	CR 5253	.0	1.2	9	M
118	CR 5260	2.1	2.5	9	M
118	CR 5261C	.0	.3	9	M
118	CR 5262	.0	1.2	9	L
118	CR 5262	7.0	8.2	9	M
118	CR 5265	.0	1.2	9	M
118	CR 5265	1.2	1.8	9	M
118	CR 5272	.0	1.2	9	L
118	CR 5272	1.2	5.7	9	L
118	CR 5272A	.0	.7	9	L
118	CR 5274	.0	.7	9	M
118	CR 5274	.7	1.5	9	M
118	CR 5306	.0	1.8	9	M
118	CR 5312	.0	1.0	9	L
118	CR 5321	1.2	1.5	9	L
118	CR 5322	.0	.9	9	L
118	CR 5322	.9	1.8	9	L
118	CR 5325	.0	.8	9	L
118	CR 5326	.0	.3	9	L
118	CR 5333	.0	.4	9	M
118	CR 5333	.4	2.0	9	L
118	CR 5335	.0	1.0	9	M
118	CR 5336	.0	1.0	9	M
118	CR 5347	.0	.2	9	L
118	CR 5355	.0	3.6	9	L
118	CR 5355	3.6	4.0	9	L
118	CR 5355	4.0	6.7	9	L
118	CR 5361	.0	.4	9	L
118	I 75	.0	10.5	1	M
118	I 75	10.5	11.0	1	M
118	I 75	11.0	27.9	1	M

CO.	ROUTE	MILEPOINT		FUNC. CLSS	W. CLS
		FROM	TO		
118	KY 6	.0	.8	7	L
118	KY 6	.8	1.6	7	L
118	KY 11	.0	2.0	7	H
118	KY 11	2.0	2.2	7	H
118	KY 11	2.2	2.6	7	M
118	KY 26	.0	.9	7	M
118	KY 26	.9	5.0	7	M
118	KY 26	5.0	5.5	7	M
118	KY 26	5.5	6.8	7	M
118	KY 26	6.8	7.6	7	M
118	KY 26	7.6	10.5	7	M
118	KY 26	10.5	12.3	7	M
118	KY 26	12.3	13.8	7	L
118	KY 26	13.8	14.3	7	L
118	KY 92	.0	.4	7	M
118	KY 92	.4	2.2	7	M
118	KY 92	2.2	3.7	7	M
118	KY 92	3.7	6.0	7	M
118	KY 92	6.0	10.8	7	M
118	KY 92	10.8	11.0	16	M
118	KY 92	11.0	11.3	16	H
118	KY 92	11.3	16.6	16	H
118	KY 92	16.6	17.3	7	M
118	KY 92	17.3	20.6	7	M
118	KY 92	20.6	21.3	7	M
118	KY 92	21.3	22.3	7	M
118	KY 92	22.3	24.7	7	M
118	KY 92	24.7	25.5	7	H
118	KY 92	25.5	26.8	7	H
118	KY 92	26.8	28.0	7	H
118	KY 92	28.0	29.0	7	M
118	KY 92	29.0	29.4	7	L
118	KY 92	29.4	33.4	7	L
118	KY 296	.0	.1	17	L
118	KY 312	2.5	2.6	16	L
118	KY 511	6.0	7.3	8	L
118	KY 628	1.5	2.7	9	M
118	KY 628	2.7	3.0	9	M
118	KY 628	3.0	4.3	9	M
118	KY 628	4.3	5.2	8	M
118	KY 779	.0	4.1	8	L
118	KY 779	4.1	6.3	8	L
118	KY 779	6.3	7.0	8	M
118	KY 779	7.0	8.0	8	M
118	KY 779	8.0	10.2	8	M
118	KY 779	10.2	12.7	8	M
118	KY 904	.0	.6	8	H
118	KY 904	.6	4.3	8	H
118	KY 904	4.3	4.7	8	H
118	KY 904	4.7	7.5	8	H
118	KY 904	7.5	8.2	8	H
118	KY 904	8.2	8.3	8	H
118	KY 904	8.3	12.5	8	H
118	KY 904	12.5	13.5	8	H
118	KY 1064	5.1	9.3	8	L
118	KY 1064	9.3	11.4	8	M
118	KY 1064	11.4	11.9	8	M
118	KY 1064	11.9	13.9	8	M
118	KY 1064	13.9	14.8	8	L
118	KY 1064	14.8	15.0	8	L
118	KY 1064	15.0	15.8	8	L
118	KY 1064	15.8	17.1	8	L
118	KY 1418	.0	1.2	9	L
118	KY 1418	1.2	1.5	9	L

Table 8. (Cont'd)

CO.	ROUTE	MILEPOINT FROM	MILEPOINT TO	FUNC. CLSS	W. CLS
118	KY 1595	.0	.7	9	L
118	KY 1595	.7	4.6	9	L
118	KY 1673	.0	.4	9	L
118	KY 1673	.4	1.7	9	L
118	KY 1804	.0	2.7	8	M
118	KY 1804	2.7	2.9	8	L
118	KY 1804	2.9	3.5	8	M
118	KY 1804	3.5	5.1	8	M
118	KY 1809	.0	.8	8	H
118	KY 1809	.8	1.3	8	H
118	KY 1809	1.3	1.4	8	M
118	KY 2986	.0	.3	9	L
118	KY 2987	.0	.3	9	M
118	KY 3422	.0	2.1	9	L
118	US 25T	.0	.7	17	L
118	US 25W	.0	.5	7	M
118	US 25W	.5	1.7	7	M
118	US 25W	1.7	4.3	7	M
118	US 25W	4.3	5.2	7	H
118	US 25W	5.2	6.8	7	M
118	US 25W	6.8	8.1	7	M
118	US 25W	8.1	8.2	7	M
118	US 25W	8.2	10.5	7	H
118	US 25W	10.5	10.9	7	H
118	US 25W	10.9	11.5	7	H
118	US 25W	11.5	14.1	16	M
118	US 25W	14.1	15.9	7	M
118	US 25W	15.9	32.1	7	L
118	US 25W	32.1	32.8	16	L
118	US 25W	33.5	33.7	17	L
119	CR 5002	.0	.6	9	M
119	CR 5002	.6	1.4		L
119	CR 5004	.0	.9	9	M
119	CR 5022	.0	1.4	9	L
119	CR 5220	.0	3.6	9	M
119	KY 11	.0	.4	6	L
119	KY 11	.4	5.3	6	L
119	KY 15	.0	9.5	2	H
119	KY 15	9.5	10.3	2	M
119	KY 15	10.3	12.9		M
119	KY 15	13.4	14.0	7	L
119	KY 15S	.0	.3	2	H
119	KY 15S	.3	.5	2	H
119	KY 15S	.5	1.1	2	H
119	KY 15S	1.1	1.5	0	L
119	KY 191	.0	3.0	6	M
119	KY 191	3.0	5.0	6	M
119	KY 191	5.0	9.7	6	M
119	KY 191	9.7	10.3	6	L
119	KY 191	10.3	14.3	6	L
119	KY 191	14.3	15.9	7	L
119	KY 203	.0	1.3	6	L
119	KY 205	.0	6.4	7	L
119	KY 205	6.4	6.9	7	L
119	KY 402	36.0	39.5	0	H
119	KY 402	39.5	42.7	0	H
119	KY 402	42.7	43.1	0	M
119	KY 402	43.1	57.7	0	M
119	KY 651	.0	2.1	9	M
119	KY 715	.0	5.8	7	L
119	KY 1010	6.1	7.1	8	M
119	KY 1010	7.1	11.0	8	L
119	KY 1419	.0	1.0	9	M
119	KY 1812	.0	6.3	8	M
119	KY 2016	.0	.2	8	L
119	KY 9000	36.0	39.5	2	H
119	KY 9000	39.5	42.7	2	H
119	KY 9000	42.7	43.1	2	M
119	KY 9009	43.1	46.2	2	M
119	KY 9009	46.2	57.2	2	M
119	KY 9009	57.2	57.7	2	M
120	BG 9002	61.9	71.1	2	M
120	I 64	59.4	67.1	1	M
120	US 60	.0	9.4	2	M
120	US 60	9.4	11.3	14	M
120	US 60	11.3	13.0	2	M
120	US 60X	.0	1.0	16	L
120	US 60X	1.0	1.8	16	L
120	US 62	.1	7.1	7	L

Table 9. Coal-Haul Distribution by County

COUNTY	PERCENT OF DATA WHERE W (TONS) =		
	< 50000	< 400,000	> 400,000
1	33	67	100
3	71	100	
5	100		
6	86	100	
7	47	75	100
8	0	100	
9	42	100	
10	12	41	100
11	0	100	
12	0	100	
13	30	55	100
15	93	100	
16	50	91	100
17	50	100	
18	100		
19	29	100	
22	67	94	100
24	78	78	100
25	24	81	100
26	37	77	100
27	100		
28	100		
29	100		
30	16	66	100
32	67	100	
33	36	100	
34	41	100	
35	33	100	
36	21	72	100
37	53	100	
38	100		
41	0	100	
42	100		
43	100		
45	25	63	100
46	44	100	
47	100		
48	23	65	100
49	0	100	
51	21	55	100
53	100		
54	14	52	100
55	63	100	
56	75	100	
58	51	72	100
59	0	100	
60	17	63	100

Table 9. (Cont'd)

COUNTY	PERCENT OF DATA WHERE W (TONS)=		
	< 50000	< 400,000	> 400,000
61	51	100	
63	55	86	100
64	26	56	100
65	60	100	
66	39	57	100
67	17	55	100
69	20	100	
70	60	100	
71	64	100	
72	50	100	
73	100		
74	67	100	
75	75	100	
76	79	100	
77	19	77	100
79	94	100	
80	23	70	100
81	31	100	
84	45	100	
85	100		
87	40	100	
88	89	100	
89	31	69	100
90	45	100	
91	0	100	
92	33	83	100
95	89	100	
96	29	100	
97	13	48	100
98	14	52	100
99	8	38	100
100	41	68	100
101	50	100	
102	71	100	
103	100		
104	33	100	
105	0	100	
106	50	100	
107	40	100	
108	0	100	
109	0	100	
110	100		
113	50	55	100
114	63	100	
115	0	100	
116	100		
117	6	35	100
118	44	86	100
119	37	80	100
120	37.5	100	

Table 10. Predicted Annual Coal Hauled by Functional Class

FUNC.CLS	WEIGHT	PREDICTED ANNUAL COAL HAULED (TONS)					
		50%tile	60%tile	70%tile	80%tile	90%tile	100%tile
01	L	23,294	26,193	28,718	32,049	38,005	49,992
	M	98,149	124,180	159,084	204,398	260,900	327,710
	H	510,755	551,417	621,366	741,379	950,129	1,326,783
02	L	11,562	16,316	21,983	28,865	37,702	50,000
	M	156,973	186,708	221,850	265,596	323,115	400,000
	H	1,455,752	1,870,052	2,595,370	4,005,744	7,077,240	14,733,299
06	L	12,256	18,769	25,487	32,229	39,854	50,000
	M	128,655	157,105	193,374	240,847	304,728	393,188
	H	1,174,884	1,465,549	1,957,439	2,875,218	4,770,464	9,182,692
07	L	15,365	19,388	22,521	26,204	33,235	50,000
	M	170,720	207,947	249,462	295,259	345,384	400,000
	H	867,593	999,351	1,227,703	1,662,590	2,565,289	4,661,117
08	L	11,281	15,880	20,871	26,832	35,351	50,000
	M	149,405	183,359	224,303	273,285	331,352	399,485
	H	872,185	983,983	1,166,937	1,497,656	2,141,435	3,511,964
09	L	10,719	15,630	21,147	27,639	36,330	50,000
	M	134,315	162,603	198,469	245,554	309,618	400,000
	H	754,983	853,559	1,008,092	1,271,541	1,751,121	2,691,851

Table 11. ESAL's/Axle for Kentucky Coal-Haul Roads

WEIGHT OF COAL (W) (TONS)	AADT											
	500	1000	2500	5000	7500	10000	15000	20000	30000	40000	50000	60000	75000
1,000	.424	.362	.294	.251	.229	.214	.195	.183	.167	.156	.148	.142	.135
5,000	.506	.432	.350	.299	.273	.255	.233	.218	.199	.186	.177	.170	.161
10,000	.555	.474	.385	.328	.299	.280	.255	.239	.218	.204	.194	.186	.177
12,000	.570	.487	.395	.337	.307	.288	.262	.246	.224	.210	.199	.191	.182
14,000	.584	.498	.404	.345	.314	.294	.268	.251	.229	.215	.204	.196	.186
16,000	.596	.509	.413	.352	.321	.301	.274	.257	.234	.219	.208	.200	.190
18,000	.607	.518	.420	.359	.327	.306	.279	.261	.238	.223	.212	.203	.193
20,000	.617	.527	.427	.365	.333	.311	.284	.266	.242	.227	.216	.207	.197
22,000	.627	.535	.434	.371	.338	.316	.288	.270	.246	.230	.219	.210	.200
24,000	.636	.543	.440	.376	.343	.321	.292	.274	.250	.234	.222	.213	.203
26,000	.645	.550	.446	.381	.347	.325	.296	.278	.253	.237	.225	.216	.205
28,000	.653	.557	.452	.386	.352	.329	.300	.281	.256	.240	.228	.219	.208
30,000	.661	.564	.457	.390	.356	.333	.304	.285	.259	.243	.231	.221	.210
32,500	.670	.572	.464	.396	.361	.338	.308	.289	.263	.246	.234	.224	.213
35,000	.679	.579	.470	.401	.366	.342	.312	.292	.266	.250	.237	.227	.216
37,500	.687	.587	.476	.406	.370	.347	.316	.296	.270	.253	.240	.230	.219
40,000	.695	.594	.482	.411	.375	.351	.320	.299	.273	.256	.243	.233	.221
45,000	.711	.607	.492	.420	.383	.359	.327	.306	.279	.261	.248	.238	.226
50,000	.725	.619	.502	.429	.391	.366	.333	.312	.285	.267	.253	.243	.231
60,000	.751	.641	.520	.444	.405	.379	.345	.323	.295	.276	.262	.252	.239
80,000	.796	.680	.551	.471	.429	.402	.366	.343	.313	.293	.278	.267	.254
100,000	.835	.712	.578	.493	.450	.421	.384	.359	.328	.307	.292	.280	.266
120,000	.869	.742	.602	.514	.468	.438	.400	.374	.341	.319	.304	.291	.277
140,000	.900	.768	.623	.532	.485	.454	.414	.387	.353	.331	.314	.301	.286
160,000	.928	.792	.643	.548	.500	.468	.427	.400	.364	.341	.324	.311	.296
180,000	.954	.815	.661	.564	.514	.481	.439	.411	.375	.351	.333	.320	.304
200,000	.979	.836	.678	.579	.527	.494	.450	.422	.384	.360	.342	.328	.312
250,000	1.035	.884	.717	.612	.558	.522	.476	.446	.406	.381	.362	.347	.330
275,000	1.061	.905	.735	.627	.572	.535	.488	.457	.416	.390	.371	.355	.338
300,000	1.085	.926	.751	.641	.585	.547	.499	.467	.426	.399	.379	.364	.346
325,000	1.108	.946	.768	.655	.597	.559	.510	.477	.435	.407	.387	.371	.353
350,000	1.131	.965	.783	.668	.609	.570	.520	.487	.444	.416	.395	.379	.360
400,000	1.173	1.001	.812	.693	.632	.592	.539	.505	.460	.431	.410	.393	.374
450,000	1.212	1.035	.839	.717	.653	.612	.558	.522	.476	.446	.423	.406	.386
500,000	1.249	1.066	.865	.738	.673	.630	.575	.538	.490	.459	.436	.419	.398
550,000	1.285	1.096	.889	.759	.692	.648	.591	.553	.504	.472	.449	.430	.409
600,000	1.318	1.125	.913	.779	.710	.665	.606	.568	.517	.485	.460	.442	.420
650,000	1.350	1.152	.935	.798	.727	.681	.621	.581	.530	.496	.472	.452	.430
700,000	1.381	1.179	.956	.816	.744	.697	.635	.595	.542	.508	.482	.463	.440
750,000	1.411	1.204	.977	.834	.760	.712	.649	.607	.554	.519	.493	.473	.449
800,000	1.439	1.229	.997	.851	.775	.726	.662	.620	.565	.529	.503	.482	.458
850,000	1.467	1.252	1.016	.867	.790	.740	.675	.632	.576	.539	.513	.492	.467
900,000	1.494	1.275	1.035	.883	.805	.754	.687	.643	.587	.549	.522	.501	.476
950,000	1.520	1.298	1.053	.899	.819	.767	.699	.655	.597	.559	.531	.509	.484
1,000,000	1.546	1.320	1.071	.914	.833	.780	.711	.666	.607	.568	.540	.518	.492
1,250,000	1.666	1.422	1.153	.984	.897	.840	.766	.717	.654	.612	.582	.558	.530
1,500,000	1.774	1.514	1.228	1.049	.956	.895	.816	.764	.696	.652	.620	.594	.565
1,750,000	1.874	1.600	1.298	1.108	1.010	.946	.862	.807	.736	.689	.655	.628	.597
2,000,000	1.968	1.680	1.363	1.163	1.060	.993	.905	.848	.773	.724	.688	.660	.627
2,500,000	2.141	1.828	1.483	1.266	1.154	1.080	.985	.922	.841	.787	.748	.718	.682
3,000,000	2.300	1.963	1.593	1.359	1.239	1.160	1.058	.991	.903	.846	.803	.771	.732
3,500,000	2.448	2.090	1.695	1.447	1.319	1.235	1.126	1.054	.961	.900	.855	.820	.780
4,000,000	2.587	2.208	1.791	1.529	1.394	1.305	1.190	1.114	1.016	.951	.904	.867	.824
4,500,000	2.720	2.322	1.883	1.608	1.465	1.372	1.251	1.171	1.068	1.000	.950	.911	.866
5,000,000	2.847	2.430	1.971	1.683	1.534	1.436	1.309	1.226	1.118	1.046	.994	.954	.906
6,000,000	3.087	2.635	2.137	1.824	1.663	1.557	1.420	1.329	1.212	1.135	1.078	1.034	.983
7,000,000	3.312	2.828	2.294	1.958	1.785	1.671	1.523	1.427	1.300	1.218	1.157	1.110	1.055
8,000,000	3.527	3.011	2.442	2.085	1.900	1.779	1.622	1.519	1.385	1.296	1.232	1.182	1.123
9,000,000	3.732	3.186	2.584	2.206	2.011	1.883	1.716	1.607	1.465	1.372	1.304	1.251	1.189
10,000,000	3.930	3.355	2.721	2.323	2.117	1.983	1.807	1.693	1.543	1.445	1.373	1.317	1.252
11,000,000	4.122	3.518	2.854	2.436	2.221	2.079	1.896	1.775	1.618	1.515	1.440	1.381	1.312
12,000,000	4.308	3.677	2.983	2.546	2.321	2.173	1.981	1.855	1.691	1.584	1.505	1.443	1.372

Note : $LOG(ESAL'S/AXLE) = 0.06562*(W)^{(0.18)} - 0.2284*LOG(AADT)+0.0167$

Table 12. Axles/Truck for Kentucky Coal-Haul Roads

FUNC.CLS	WEIGHT	AXLES/TRUCK VALUES FOR COAL-HAUL ROADS					
		50%tile	60%tile	70%tile	80%tile	90%tile	100%tile
01	L,M &H	4.470	4.500	4.520	4.550	4.600	4.690
02	L	3.672	3.700	3.780	4.050	4.300	4.636
	M	3.615	3.660	3.850	3.930	4.000	4.169
	H	3.914	4.030	4.190	4.300	4.800	5.000
06	L	3.360	3.460	3.600	3.690	3.860	4.513
	M	3.554	3.640	3.820	3.872	3.980	4.503
	H	4.348	4.438	4.680	4.923	5.095	5.311
07	L	3.075	3.250	3.275	3.304	3.492	4.613
	M	3.188	3.221	3.420	3.554	3.660	4.272
	H	4.102	4.173	4.242	4.343	4.518	4.659
08	L	USE AVERAGE VALUE = 2.804					
	M	USE AVERAGE VALUE = 3.309					
	H	USE AVERAGE VALUE = 3.965					
09	L	USE AVERAGE VALUE = 2.804 (NO DATA FOR FC.09)					
	M	USE AVERAGE VALUE = 3.309					
	H	USE AVERAGE VALUE = 3.965					

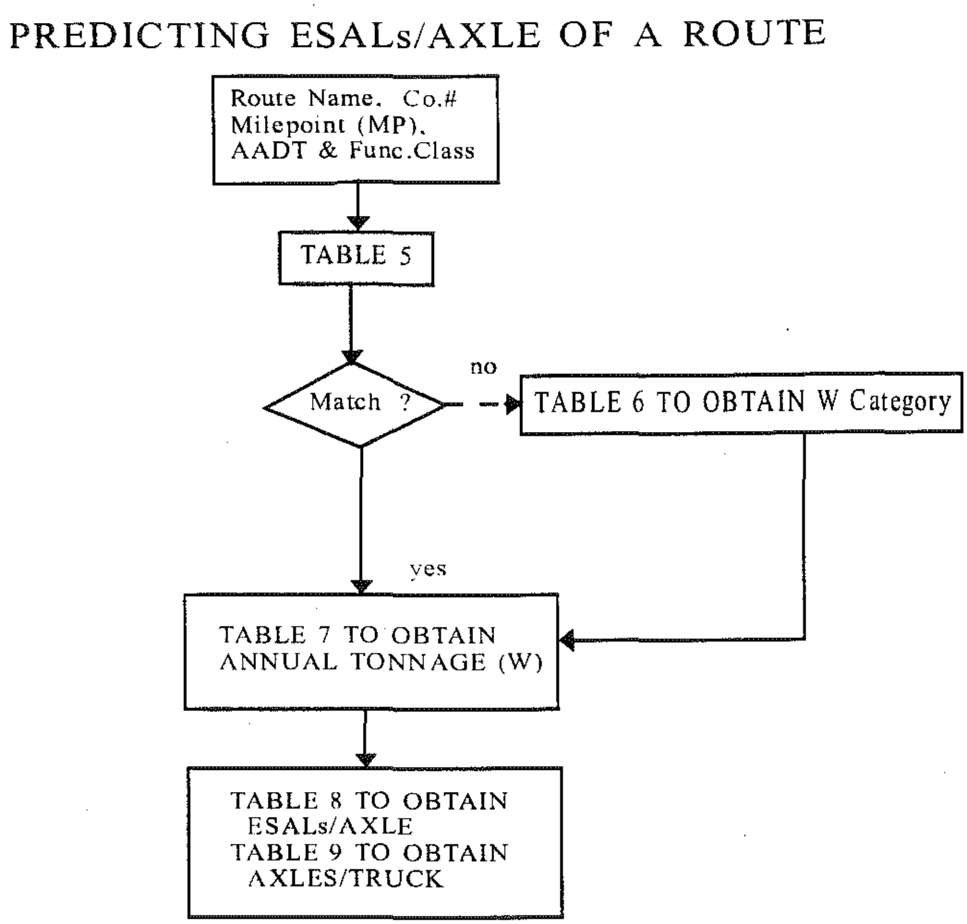
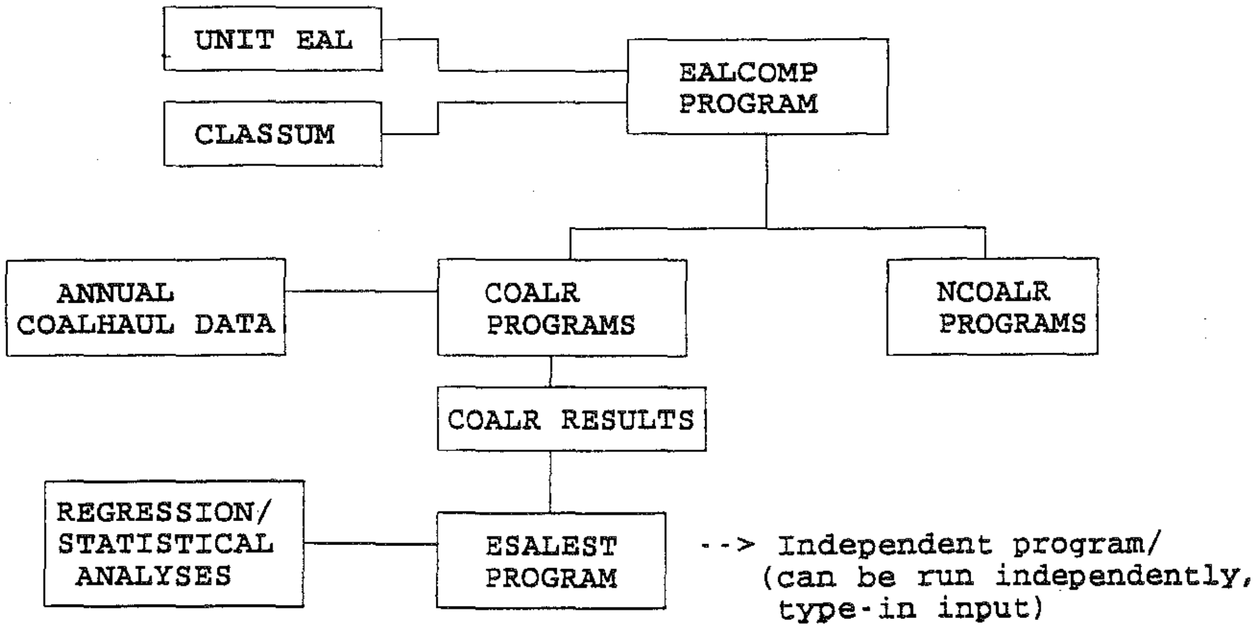


Figure 25. Flow Chart For Predicting ESAL's/Axle of a Route.

APPENDIX A
ESAL PROGRAM ENHANCEMENTS

I. "COALR" COMPUTER PROGRAMS
II. "NCOALR" COMPUTER PROGRAMS
III. "EALCOMP" COMPUTER PROGRAM
IV . "ESALEST" COMPUTER PROGRAM

ESAL PROGRAM ENHANCEMENTS



Note :

* "EALCOMP" Program processes output of "CLASSUM" and "UNITEAL" programs to compute Weighted average ESAL/AXLE, AXLEs/TRUCK of coal and non-coal trucks of a specific road segment.

* "COALR" and "NCOALR" process the "EALCOMP" output and annual coal-haul data (only EALCOMP output for NCOALR) to arrange the coal data and to perform statistical analyses.

  COALR1 and NCOALR1 : Statistical analysis and classifying the the data
  COALR2 : To arrange and classify coal data based on county #, func. class and weight categories

  COALR3 and NCOALR3 : Same as COALR1 and NCOALR1, except they run using FILE300 that produced by COALR1/NCOALR1 as the input file. By merging the FILE300s from several years of analysis into a single new datafile, a combined analysis can be done by these programs.

* ESALEST : This program estimate the ESAL/axle and AXLES/TRUCK of a specific coal-haul road segment. This is an independent program. The input asked by the program : Route (e.g. KY9009), Milepoints (from and to), AADT, and Functional class of the route. The output are ESAL/AXLE, AXLEs/TRUCK and ESALs/TRUCK values for 50,60,70,80,90 & 100 % reliability.

I. "COALR" COMPUTER PROGRAM

I.1 INTRODUCTION

In order to analyze the Kentucky coal-haul data, a set of three computer programs in FORTRAN language was developed. The programs can be used for arranging, sorting, and classifying the coal data based on the functional class of roads, counties, and weight classifications. The statistical measures of ESALs/Axle and Axles/Truck of the coal-haul roads based on weight classifications and functional classes are also computed. The weight classifications adopted are : LIGHT, MEDIUM, and HEAVY for total annual coal hauled of less than 50,000 tons, greater or equal 50,000 but less than 400,000 tons, and equal or greater 400,000 tons respectively.

The first program, COALR1.EXE, computes ESALS/Axle and Axles/Truck and their standard deviation values of the coal-haul roads for each weight classification and functional classes 1 to 9 which are denoted to rural roads. The second program, COALR2.EXE, arranges the annual coal-haul data based on weight classifications, functional classes, and counties. The third program, COALR3.EXE, is the same as the first program except it uses file unit 300 (FILE300) that produced by the first program. This program enabling to analysis the combined of several annually data by merging FILE300s of specific years are used as the input file.

I.2. INPUT REQUIREMENTS

Input files required for the programs are : annual coal-haul data and annual ESAL data. Both data files are required for running COALR1.EXE and only annual coal data required for running COALR2.EXE. The input files should be prepared in form of text/ASCI file before running the program and stored in the same directory as the main program is.

The format requirement for input files are :

a. Annual coal data :

```
variables :(ICO,RTA, RTB,AMP,BMP,IWA,IWB,IW,IFC) in one line
FORMAT    :(I3, A2,1X,A6, 2A7,       3I9,   I3)
```

where :

		columns
ICO(I3)	: County #	1 - 3
RTA(A2)	: Route prefix (KY, US or I) rightwise	4 - 5
RTB(A6)	: Route # + extension if available	7 - 12
AMP(A7)	: Milepoint (from)	13 - 19
BMP(A7)	: Milepoint (to)	20 - 26
IWA(I9)	: Weight of coal produced (tons)	27 - 35
IWB(I9)	: Weight of coal hauled from outside	

	the county (tons)	36 - 44
IW (I9)	: IWA + IWB (tons)	45 - 53
IFC(I3)	: Functional class code #	54 - 56

Variable RTA+RTB should be written as follows :

```
Columns
456789012
KY 4567
 I   24
US   40W
```

b. ESAL data :

variables :(JCO, RTC, CMP, IADT, AX, ESL)
FORMAT :(I4, 5X, A8,1X,F7.3,5X,I7,2X,F6.3,4X,F5.3)

where :

		columns
JCO(I4)	: County #	1 - 4
RTC(A8)	: Route (eg. KY 9000)	10 - 17
CMP(F7.3)	: Milepoint	19 - 25
IADT(I7)	: AADT	31 - 37
AX (F6.3)	: weighted average Axles/Truck	40 - 45
ESL(F5.3)	: Weighted average ESALs/Axle	50 - 54

Variable RTC should be written as follows :

```
     Columns
12345678901234567
         KY4567
          I  24
         US  40W
         KY9000
```

The ESAL data can be obtained directly from "EALCOMP", or from EAL.CALC computer program with some modification.

c. Input file for COALR3.EXE

The input file for COALR3.EXE is file unit 300 (FILE300) that is produced by program COALR1.EXE. The running time of the program COALR3.EXE is much shorter than that of COALR1.EXE, therefore, If FILE300 is available, it is recommended to use COALR3.EXE instead of COALR1.EXE. FILE300s from years of interest can be combined by any text editor or word processor to get the combined data analysis results.

I.3. EXECUTION AND PROGRAMS LISTING

To run the program, type in the program name (without its extension) after the DOS prompt and respond to all questions asked at the beginning of execution. The questions asked are the input files names and year of the data. Use the DOS customary file name for input file and 4 digit numeric for year. At the end of execution the output file names are appeared on the monitor screen. These output files are written in text/ASCI format and self-explained. An intermediate file FILE300 is kept after running COALR1. The variables written in FILE300 are : County #, Route, Milepoint (from), Milepoint (to), total coal weight in tons, functional class, AADT, Axles\Truck, and ESALs/Axle, with Format(I4,A8,1X,F7.1,1X,F7.1,1X,I9,1X,I3,1X,I7,1X,F6.3,1X,F5.3).

The programs listing, input files sample, and the complete outputs for 1990 Kentucky Coal-haul roads and for the 1990-1992 combined data are given in pages 75-118.

```
$DEBUG
C*********************************************************************
C   ****************         PROGRAM : COALR1        *****************
C*********************************************************************
C* THIS PROGRAM WAS DEVELOPED FOR PERFORMING STATISTICAL ANALYSIS AND*
C* CLASSIFYING THE KENTUCKY ANNUAL COAL-HAUL ROADS DATA **************
                 *
C* ******************************************************************
        REAL*8 RTA,RTB,RTC,RT
        REAL*8 AMP,BMP,CMP,AX,ESL
        INTEGER IW,IFC,IADT,ICO,JCO,NF,IOUT,NC
        CHARACTER*14 INFA, INFB,OUTA,OUTB
        CHARACTER*5 YR
        INTEGER IFL
        COMMON IFL,IFC,W
        CHARACTER*8 FLA
        CHARACTER*3 W
C*****************************************************************
C       READ COAL DATA, ESAL AND AADT FROM COALDATA AND ESAL DATA *
C*****************************************************************
        DO 32 I=1,40
        WRITE(*,10009)
   32   CONTINUE
        WRITE(*,'(A)')' THE INPUT COAL DATA NAME : A14 - '
        READ(*,'(A)')INFA
        WRITE(*,'(A)')' THE INPUT ESAL DATA NAME : A14 - '
        READ(*,'(A)')INFB
        OPEN(100,FILE=INFA, STATUS='OLD', MODE='READ')
        OPEN(200,FILE='FILE200')
        OPEN(300,FILE='FILE300')
        OPEN(500,FILE=INFB)
        WRITE(*,*)' THE YEAR OF DATA (A4) :'
        READ(*,2200)YR
        DO 33 I=1,20
        WRITE(*,10009)
   33   CONTINUE
        WRITE(*,9997)YR
        WRITE(*,9998)
        DO 34 I=1,9
        WRITE(*,10009)
   34   CONTINUE
   20   READ (100,1000,END=110) ICO,RTA,RTB,AMP,BMP,IW,IFC
             IF ((RTA.EQ."I ").OR. (RTA.EQ." I"))  GOTO 25
        WRITE(200,1050)ICO,RTA,RTB,AMP,BMP,IW,IFC
        GOTO 30
   25   WRITE(200,1055)ICO,RTA,RTB,AMP,BMP,IW,IFC
   30   BACKSPACE 200
        READ(200,1060)ICO,RT,AMP,BMP,IW,IFC
        REWIND 500
   50   READ(500,2000,END=20)JCO,RTC,CMP,IADT,AX,ESL
        IF(ICO.NE.JCO)GOTO 50
            IF(RT.NE.RTC)GOTO 50
              IF((CMP.LE.AMP)) GOTO 50
                IF(CMP.GT.BMP)   GOTO 50
  100   WRITE(300,1070)ICO,RT,AMP,BMP,IW,IFC,IADT,AX,ESL
        GOTO 20
  110   CLOSE(300)
        CLOSE(200,STATUS='DELETE')
        CLOSE(500)
C********************************************************************
C  CLASSIFYING THE FILE INTO FUNC.CLASS AND WEIGHT OF COAL HAULED
C********************************************************************
        ICO =0
        RT = 0
```

```
      AMP = 0
      BMP=0
      IW = 0
      IFC =0
      IADT = 0
      AX = 0
      ESL = 0
      OPEN(300,FILE='FILE300',STATUS='OLD',MODE='READ')
      OPEN(600,FILE='FILE600')
      OPEN(610,FILE='FILE610')
      OPEN(620,FILE='FILE620')
      OPEN(640,FILE='FILE640')
      OPEN(650,FILE='FILE650')
      OPEN(660,FILE='FILE660')
      NC=1
      NF=590
      REWIND 300
  120 READ(300,5070,END=130)ICO,RT,AMP,BMP,IW,IFC,IADT,AX,ESL
       IF (IFC.EQ.NC .AND. IW.LT.50000) GOTO 600
       IF (IFC.EQ.NC .AND. IW.GE.400000) GOTO 620
       IF (IFC.EQ.NC .AND. IW.LT.400000) GOTO 610
      GOTO 120
  130 CLOSE(NF+10)
      CLOSE(NF+30)
      CLOSE(NF+20)
      IF (NC.EQ.2)  GOTO 1110
      REWIND 300
      NC=2
      NF=630
      GOTO 120
  600 IOUT=NF+10
      GOTO 900
  610 IOUT=NF+20
      GOTO 900
  620 IOUT=NF+30
      GOTO 900
  900 WRITE(IOUT,5070)ICO,RT,AMP,BMP,IW,IFC,IADT,AX,ESL
      GOTO 120
 1110 OPEN(700,FILE='FILE700')
      OPEN(710,FILE='FILE710')
      OPEN(720,FILE='FILE720')
      OPEN(740,FILE='FILE740')
      OPEN(750,FILE='FILE750')
      OPEN(760,FILE='FILE760')
      NC=6
      NF=690
      REWIND 300
 1120 READ(300,5070,END=1130)ICO,RT,AMP,BMP,IW,IFC,IADT,AX,ESL
       IF (IFC.EQ.NC .AND. IW.LT.50000) GOTO 1600
       IF (IFC.EQ.NC .AND. IW.GE.400000) GOTO 1620
       IF (IFC.EQ.NC .AND. IW.LT.400000) GOTO 1610
      GOTO 1120
 1130 CLOSE(NF+10)
      CLOSE(NF+30)
      CLOSE(NF+20)
      IF (NC.EQ.7)  GOTO 2110
      REWIND 300
      NC=7
      NF=730
      GOTO 1120
 1600 IOUT=NF+10
      GOTO 1900
 1610 IOUT=NF+20
      GOTO 1900
```

```
 1620   IOUT=NF+30
        GOTO 1900
 1900   WRITE(IOUT,5070)ICO,RT,AMP,BMP,IW,IFC,IADT,AX,ESL
        GOTO 1120
 2110   OPEN(800,FILE='FILE800')
        OPEN(810,FILE='FILE810')
        OPEN(820,FILE='FILE820')
        OPEN(840,FILE='FILE840')
        OPEN(850,FILE='FILE850')
        OPEN(860,FILE='FILE860')
        NC=8
        NF=790
        REWIND 300
 2120   READ(300,5070,END=2130)ICO,RT,AMP,BMP,IW,IFC,IADT,AX,ESL
         IF (IFC.EQ.NC .AND. IW.LT.50000) GOTO 2600
         IF (IFC.EQ.NC .AND. IW.GE.400000) GOTO 2620
         IF (IFC.EQ.NC .AND. IW.LT.400000) GOTO 2610
        GOTO 2120
 2130   CLOSE(NF+10)
        CLOSE(NF+30)
        CLOSE(NF+20)
        IF (NC.EQ.9)  GOTO 9000
        REWIND 300
        NC=9
        NF=830
        GOTO 2120
 2600   IOUT=NF+10
        GOTO 2900
 2610   IOUT=NF+20
        GOTO 2900
 2620   IOUT=NF+30
        GOTO 2900
 2900   WRITE(IOUT,5070)ICO,RT,AMP,BMP,IW,IFC,IADT,AX,ESL
        GOTO 2120
 9000   CLOSE(300)
        OPEN(300,FILE='FILE300')
        OPEN(910,FILE='FILE910')
        OPEN(920,FILE='FILE920')
        OPEN(930,FILE='FILE930')
 5500   READ(300,5070,END=5600)ICO,RT,AMP,BMP,IW,IFC,IADT,AX,ESL
          IF ((IFC.LT.11).AND.(IW.LT.50000)) GOTO 5510
          IF ((IFC.LT.11).AND.(IW.GT.400000)) GOTO 5540
          IF (IFC.LT.11 .AND. IW.LT.400000) GOTO 5520
        GOTO 5500
 5510   WRITE(910,5070)ICO,RT,AMP,BMP,IW,IFC,IADT,AX,ESL
        GOTO 5500
 5520   WRITE(920,5070)ICO,RT,AMP,BMP,IW,IFC,IADT,AX,ESL
        GOTO 5500
 5540   WRITE(930,5070)ICO,RT,AMP,BMP,IW,IFC,IADT,AX,ESL
        GOTO 5500
 5600   CLOSE(910)
        CLOSE(920)
        CLOSE(930)
C*********************************************************************
C  COMPUTING THE STATISTICS FOR EACH WEIGHT CLASS. & FUNC. CLASS
C*********************************************************************
        DO 333 I=1,50
C          WRITE(*,10009)
 333    CONTINUE
        OUTA='COAL'//YR//'.OUT'
        OUTB='COAL'//YR//'.SUM'
        OPEN(1000,FILE=OUTA)
        OPEN(1500,FILE=OUTB)
        WRITE(1000,10010)YR
```

```
      WRITE(1000,10030)
      WRITE(1500,10010)YR
      WRITE(1500,10015)
      WRITE(1500,10030)
      WRITE(1500,10035)
      WRITE(1500,10040)
C
      IFC=0
      K=600
3450  W="L"
      IFC=IFC+1
      IF (IFC.GT.9) GOTO 3460
      WRITE(1000,10050)IFC
      GOTO 3475
3460  IFC=IFC+89
      WRITE(1000,*)"          *** FUNCTIONAL CLASS 1 TO 9 (COMBINED) **
    **"
3475   IF(W.EQ."L") GOTO 3500
       IF(W.EQ."M") GOTO 3525
       IF(W.EQ."H") GOTO 3550
3500   WRITE(1000,10070)
          IFL=K
          GOTO  3600
3525   WRITE(1000,10080)
          IFL=K+10
          GOTO  3600
3550   WRITE(1000,10090)
          IFL=K+20
          GOTO  3600
3600      OPEN(11,FILE='11')
          WRITE(11,9999)IFL
9999      FORMAT('FILE',I3)
          BACKSPACE 11
          READ(11,9991)FLA
          CLOSE(11,STATUS='DELETE')
9991      FORMAT(A7)
          OPEN(IFL,FILE=FLA)
      CALL STAT
      CLOSE(IFL,STATUS='DELETE')
      IF (W.EQ."H")  GOTO 3620
      IF (W.EQ."M")  GOTO 3610
      W="M"
      GOTO 3475
3610  W="H"
      GOTO 3475
3620  IF  (IFC.EQ.1) GOTO 3630
      IF  (IFC.EQ.2)  GOTO 3640
      IF  (IFC.EQ.6)  GOTO 3650
      IF  (IFC.EQ.7)  GOTO 3660
      IF  (IFC.EQ.8)  GOTO 3670
      IF  (IFC.EQ.9)  GOTO 3675
      IF  (IFC.GT.10) GOTO 3680
3630  K=640
      GOTO 3450
3640  IFC=5
      K=700
      GOTO 3450
3650  K=740
      GOTO 3450
3660  K=800
      GOTO 3450
3670  K=840
      GOTO 3450
3675  K=910
```

```
      GOTO 3450
 3680 WRITE(1500,10040)
      WRITE(1500,*)"                Note : 99 = COMBINED DATA FOR F.CLS"
      WRITE(1500,*)"                           1 TO 9 (RURAL ROADS)"
      WRITE(*,*)"                         *** PROGRAM COMPLETED ***"
      WRITE(*,*)"   *** THE OUTPUT FILES : ",OUTA," AND ",OUTB,"***"
C
C***********************************************************************
C  *  FORMAT STATEMENTS.                                                *
C  *********************************************************************
C
1000  FORMAT (I3,A2,1X,A6,2A7,18X,I9,I3)
1050  FORMAT(I3,A2,A6,1X,A7,1X,A7,1X,I9,1X,I3)
1055  FORMAT(I3,1X,A1,A6,1X,A7,1X,A7,1X,I9,1X,I3)
1060  FORMAT(I3,A8,1X,F7.1,1X,F7.1,1X,I9,1X,I3)
1070  FORMAT(I4,A8,1X,F7.1,1X,F7.1,1X,I9,1X,I3,1X,I7,1X,F6.3,1X,F5.3)
2000  FORMAT(I4,5X,A8,1X,F7.3,5X,I7,2X,F6.3,4X,F5.3)
2200  FORMAT(A5)
5000  FORMAT (I3,A8,3A7,16X,I9)
5050  FORMAT(I3,A8,1X,A7,1X,A7,1X,A7,1X,I9)
5060  FORMAT(I3,A8,1X,F7.3,1X,F7.3,1X,F7.3,1X,I9,1X,I3,1X,I7,1X
     * ,F6.3,1X,F5.3)
5070  FORMAT(I4,A8,1X,F7.1,1X,F7.1,1X,I9,1X,I3,1X,I7,1X
     * ,F6.3,1X,F5.3)
6000  FORMAT(I4,5X,A8,1X,F7.3,2X,I3,I7,2X,F6.3,4X,F5.3)
9997  FORMAT('                 ******',A5,' KENTUCKY COAL-HAUL ROADS ANALY
     *SIS ******')
9998  FORMAT('                 ****************    IN PROGRESS    ********
     ***********')
10009 FORMAT('')
10050 FORMAT(16X,'*** FUNCTIONAL CLASS =',I3 ,'***')
10070 FORMAT('        ***WEIGHT CLASSIFICATION = LIGHT (W < 50,000 TONS)
     *  ***')
10080 FORMAT('        ***WEIGHT CLASSIFICATION = MEDIUM (50,000 =< W < 4
     * 00,000 TONS) ***')
10090 FORMAT('        ***WEIGHT CLASSIFICATION = HEAVY (W >= 400,000 TON
     * S) *** ')
10010 FORMAT(20X,A5,' KENTUCKY COAL-HAUL ROADS')
10015 FORMAT(20X,'**********  SUMMARY **********')
10030 FORMAT('')
10035 FORMAT(10X,'F.CLS/WEIGHT   N   AXL/TRK   STD   ESAL/AXL   STD')
10040 FORMAT(10X,'----------------------------------------------------')
C
3685  STOP
      END
      SUBROUTINE  STAT
      REAL*8 X(200),Y(200),AX,ESL
      INTEGER N,IFL
      COMMON IFL,IFC,W
      N=0
      WRITE(1000,10100)
      WRITE(1000,10110)
      WRITE(1000,10120)
4000  READ(IFL,7000,END=4100)AX,ESL
        N=N+1
          X(N) = AX
          Y(N) = ESL
      WRITE(1000,7500)N,X(N),Y(N)
        GOTO 4000
4100  XSUM=0
      YSUM=0
      DO 4200 I=1,N
         XSUM=XSUM+X(I)
         YSUM=YSUM+Y(I)
```

```
 4200    CONTINUE
         IF (N.GT.0) GOTO 4210
         WRITE(1000,*)"                          NO RECORD FOR THIS CATEGORY"
         WRITE(1500,11000)IFC,W
         WRITE(1000,10120)
         WRITE(1000,10100)
         GOTO 4350
 4210    IF (N.GT.1) GOTO 4220
         XAVG=XSUM
         YAVG=YSUM
         XSTD=0
         YSTD=0
         WRITE(1000,10120)
         WRITE(1000,10150)XAVG,YAVG
         WRITE(1000,10170)XSTD,YSTD
         WRITE(1000,10100)
         WRITE(1500,11010)IFC,W,N,XAVG,XSTD,YAVG,YSTD
         GOTO 4350
 4220    XAVG=XSUM/N
         YAVG=YSUM/N
         SUMX=0
         SUMY=0
         DO 4300 I=1,N
            SUMX=SUMX+(X(I)-XAVG)**2
            SUMY=SUMY+(Y(I)-YAVG)**2
 4300    CONTINUE
         XVAR=SUMX/(N-1)
         YVAR=SUMY/(N-1)
         WRITE(1000,10120)
         WRITE(1000,10150)XAVG,YAVG
         XSTD=SQRT(XVAR)
         YSTD=SQRT(YVAR)
         WRITE(1000,10170)XSTD,YSTD
         WRITE(1000,10100)
         WRITE(1500,11010)IFC,W,N,XAVG,XSTD,YAVG,YSTD
7000     FORMAT(51X,F6.3,1X,F5.3)
7500     FORMAT(22X,I3,5X,F6.3,7X,F5.3)
10100    FORMAT('')
10110    FORMAT(22X,'  #   AXLES/TRUCK    ESAL/AXLE')
10120    FORMAT(22X,'-----------------------------')
10150    FORMAT(22X,'MEAN :'2X,F6.3,7X,F5.3)
10170    FORMAT(22X,'STD  :'2X,F6.3,7X,F5.3)
11000    FORMAT(12X,I3,' / ',A2,'  NO RECORD FOR THIS CATEGORY')
11010    FORMAT(12X,I3,' / ',A2,2X,I4,3X,F6.3,1X,F6.3,4X,F5.3,2X,F5.3)
4350     RETURN
         END
```

```
$DEBUG
C*******************************************************************
C*****************          PROGRAM : COALR2          ***************
C*******************************************************************
C* THIS PROGRAM WAS DEVELOPED FOR ARRANGING, CLASSIFYING COAL DATA   *
C* BASED ON COUNTY #, FUNCTIONAL CLASS, AND WEIGHT CLASSIFICATION.   *
C*******************************************************************
      REAL*8 RTA,RTB,RT
      REAL*8 AMP,XL,BMP
      INTEGER IW,IWA,IWB,IWT,IWH,IWM,IWL,IFC,ICO,JCO,NC
      CHARACTER*14 INFA,OUTC
      CHARACTER*5 YR
      CHARACTER*80 TEXT
C
C***************************************************************
C  READING, SORTING, AND CLASSIFYING  COAL  DATA                *
C***************************************************************
      DO 32 I=1,40
      WRITE(*,10009)
 32   CONTINUE
      WRITE(*,'(A)')' THE INPUT COAL DATA NAME : A14 - '
       READ(*,'(A)')INFA
      OPEN(100,FILE=INFA, STATUS='OLD', MODE='READ')
      OPEN(200,FILE='FILE200')
      OPEN(300,FILE='FILE300')
      WRITE(*,*)' THE YEAR OF DATA (A4) :'
      READ(*,2200)YR
      DO 33 I=1,20
        WRITE(*,10009)
 33   CONTINUE
      WRITE(*,9997)YR
      WRITE(*,9998)
      DO 34 I=1,6
       WRITE(*,10009)
 34    CONTINUE
      NC=1
      IWA=0
      IWB=0
      IW =0
      IWAT=0
      IWBT=0
      IWT=0
      XL = 0
      XLM=0
      XLL=0
      XLH=0
      WXL=0
      OUTC='COAL'//YR//'.LIS'
      OPEN(400,FILE=OUTC)
      WRITE(400,*)"                    ",YR,"KENTUCKY COAL HAULING DISTRIBUTI
     *ONS"
      WRITE(400,*)" "
      WRITE(400,*)"        I. FUNCTIONAL CLASSES :"

      WRITE(400,*)"        -----------------------------------------------
     *-----------------"
      WRITE(400,*)"        F.CLS MILEAGE  PRODUCED    IMPACT     TOTAL
     *     TON-MILE"
      WRITE(400,*)"            (MILES)     (TONS)      (TONS)     (TONS)
     *     (MILLIONS)"
      WRITE(400,*)"        -----------------------------------------------
     *-----------------"
      OPEN(415,FILE='FILE415')
      WRITE(415,*)"        -----------------------------------------------"
```

```
      WRITE(415,*)"                                    MILEAGE"
      WRITE(415,*)"          F.CLS    LIGHT   MEDIUM     HEAVY    TOTAL  "
      WRITE(415,*)"          ------------------------------------------"
  20  READ (100,12000,END=6010)ICO,RTA,RTB,AMP,BMP,IWA,IWB,IW,IFC
           IF ((RTA.EQ."I ").OR. (RTA.EQ." I"))  GOTO 25
      WRITE(200,12050)ICO,RTA,RTB,AMP,BMP,IWA,IWB,IW,IFC
      GOTO 30
  25  WRITE(200,12055)ICO,RTA,RTB,AMP,BMP,IWA,IWB,IW,IFC
  30  BACKSPACE 200
      READ(200,12060)ICO,RT,AMP,BMP,IWA,IWB,IW,IFC
           IF (IFC.EQ.NC) GOTO 6000
           GOTO 20
 6000 IWAT=IWAT+IWA
      IWBT=IWBT+IWB
      IWT =IWT+IW
      XL  = XL+(BMP-AMP)
          IF (IW.LT.50000)   GOTO 6002
          IF (IW.GE.400000)  GOTO 6004
          XLM=XLM+(BMP-AMP)
             GOTO 20
 6002 XLL=XLL+(BMP-AMP)
         GOTO 20
 6004 XLH=XLH+(BMP-AMP)
         GOTO 20
      GOTO 20
 6010 CLOSE(200)
      OPEN(200,FILE='FILE200')
      WXL=IWT*XL/(1000000)
      IF (NC.EQ.0) GOTO 6012
      WRITE(400,12070)NC,XL,IWAT,IWBT,IWT,WXL
      WRITE(415,12072)NC,XLL,XLM,XLH,XL
         GOTO 6014
 6012 WRITE(400,12073)XL,IWAT,IWBT,IWT,WXL
      WRITE(415,12074)XLL,XLM,XLH,XL
 6014 XL=0
      IWAT=0
      IWBT=0
      IWT=0
      WXL=0
      NC=NC+1
        IF (NC.EQ.3) NC=6
        IF (NC.EQ.10) NC=11
        IF (NC.GT.17) NC=0
        IF (NC.EQ.1)  GOTO 6020
      REWIND 100
      GOTO 20
 6020 WRITE(400,*)"          -------------------------------------------
     *-----------------"
       CLOSE(100)
       CLOSE(200)
      WRITE(415,*)"          ------------------------------------------"
      WRITE(400,*)" "
      WRITE(400,*)" "
      WRITE(400,*)"     II.  FUNC. CLASSES MILEAGE DISTRIBUTION :"
      REWIND 415
 623  READ(415,12100,END=625)TEXT
      WRITE(400,12100)TEXT
         GOTO 623
 625  CLOSE(415,STATUS='DELETE')
      WRITE(400,*)" "
      WRITE(400,*)" "
      WRITE(400,*)"      III. COUNTIES :"

      WRITE(400,*)"          -------------------------------------------
```

```
     *----------------"
      WRITE(400,*)"           CO.#  MILEAGE  PRODUCED     IMPACT      TOTAL
     *      TON-MILE"
      WRITE(400,*)"                 (MILES)    (TONS)      (TONS)      (TONS)
     *       (MILLIONS)"
      WRITE(400,*)"           -------------------------------------------
     *----------------"
      OPEN(200,FILE='FILE200')
      OPEN(450,FILE='FILE450')
      OPEN(475,FILE='FILE475')
      REWIND 200
      JCO=1
      IWAT=0
      IWBT=0
      IWT =0
      XL=0
      IWL=0
      IWM=0
      IWH=0
      XLL=0
      XLM=0
      XLH=0
 6030 READ(200,12060,END=6070)ICO,RT,AMP,BMP,IWA,IWB,IW,IFC
        IF (ICO.EQ.JCO) GOTO 6040
        GOTO 6030
 6040 IWAT=IWAT+IWA
      IWBT=IWBT+IWB
      IWT =IWT+IW
      XL  = XL+(BMP-AMP)
      IF (IW.LT.50000)   GOTO 6050
      IF (IW.GE.400000)  GOTO 6060
      XLM=XLM+(BMP-AMP)
         GOTO 6030
 6050 XLL=XLL+(BMP-AMP)
         GOTO 6030
 6060 XLH=XLH+(BMP-AMP)
         GOTO 6030
 6070 WXL=IWT*XL/(1000000)
      WRITE(400,12070)JCO,XL,IWAT,IWBT,IWT,WXL
      WRITE(475,12070)JCO,XL,IWAT,IWBT,IWT,WXL
      WRITE(450,12080)JCO,WXL,XLL,XLM,XLH,(XLL+XLM+XLH)
      XL=0
      IWAT=0
      IWBT=0
      IWT=0
      WXL=0
      XLL=0
      XLM=0
      XLH=0
      JCO=JCO+1
        IF (JCO.GT.120) GOTO 6080
      REWIND 200
      GOTO 6030
 6080 WRITE(400,*)"           -------------------------------------------
     *----------------"
      CLOSE(475)
      OPEN(475,FILE='FILE475')
      XLT=0
      IWATT=0
      IWBTT=0
      IWTT=0
      WXLT=0
 6100 READ(475,12070,END=6150)JCO,XL,IWAT,IWBT,IWT,WXL
         XLT=XLT+XL
```

```
          IWATT=IWATT+IWAT
          IWBTT=IWBTT+IWBT
          IWTT=IWTT+IWT
          WXLT=WXLT+WXL
      GOTO 6100
 6150 WRITE(400,12090)XLT,IWATT,IWBTT,IWTT,WXLT
      CLOSE(475,STATUS='DELETE')
      CLOSE(450)
      WXLT=0
      XLLT=0
      XLMT=0
      XLHT=0
      XLT=0
      OPEN(450,FILE='FILE450')
 6160 READ(450,12080,END=6170)JCO,WXL,XLL,XLM,XLH,XL
          WXLT=WXLT+WXL
          XLLT=XLLT+XLL
          XLMT=XLMT+XLM
          XLHT=XLHT+XLH
          XLT=XLT+XL
      GOTO 6160
 6170 REWIND 450
      WRITE(400,*)" "
      WRITE(400,*)" "
      WRITE(400,*)"      IV. MILEAGE DISTRIBUTIONS :"
      WRITE(400,*)" "
      WRITE(400,*)"          -------------------------------------------
     *--------"
      WRITE(400,*)"          CO.#        TON-MILE              MILEAGE"
      WRITE(400,*)"                     (MILLIONS)  LIGHT  MEDIUM  HEAVY
     *  TOTAL"
      WRITE(400,*)"          -------------------------------------------
     *--------"
 6180 READ(450,12100,END=6190)TEXT
      WRITE(400,12100)TEXT
      GOTO 6180
 6190 WRITE(400,*)"          -------------------------------------------
     *--------"
      WRITE(400,12110)WXLT,XLLT,XLMT,XLHT,XLT
      CLOSE(450,STATUS='DELETE')
      WRITE(*,*)"                  ***** PROGRAM COMPLETED *****"
      WRITE(*,*)"               THE OUTPUT FILE NAME =",OUTC
C*********************************************************************
C  *  FORMAT STATEMENTS.                                              *
C  *******************************************************************
9997   FORMAT('            ******',A5,' KENTUCKY COAL-HAUL ROADS ANALY
     *SIS ******')
9998   FORMAT('            ****************    IN PROGRESS    ********
     ***********')
10009 FORMAT('')
12000 FORMAT (I3,A2,1X,A6,2A7,3I9,I3)
12050 FORMAT(I3,A2,A6,1X,A7,1X,A7,1X,3I9,1X,I3)
12055 FORMAT(I3,1X,A1,A6,1X,A7,1X,A7,1X,3I9,1X,I3)
12060 FORMAT(I3,A8,1X,F7.1,1X,F7.1,1X,3I9,1X,I3)
12070 FORMAT(10X,I3,1X,F7.1,1X,3I11,F14.3)
12072 FORMAT(10X,I3,1X,4F9.1)
12073 FORMAT('           UNC ',F7.1,1X,3I11,F14.3)
12074 FORMAT('           UNC ',4F9.1)
12080 FORMAT(10X,I3,3X,F14.3,2X,F6.1,2X,F6.1,1X,F6.1,1X,F7.1)
12090 FORMAT('         TOTAL :',1X,F7.1,1X,3I11,F14.3)
12100 FORMAT(A80)
12110 FORMAT('         TOTAL : ',F14.3,2X,F6.1,2X,F6.1,1X,F6.1,1X,F7.1)
2000  FORMAT(I4,5X,A8,1X,F7.3,5X,I7,2X,F6.3,4X,F5.3)
2200  FORMAT(A5)
```

```
90   STOP
     END
```

```
$DEBUG
C*********************************************************************
C  ****************        PROGRAM : COALR3       ********************
C*********************************************************************
C* THIS PROGRAM IS THE SAME AS THE PROGRAM "COALR1", EXCEPT IT RUNS  *
C* USING FILE300s THAT PRODUCED BY "COALR1" AS THE INPUT FILE. SO BY *
C* MERGING FILE300s FROM SEVERAL YEARS OF ANALYSIS INTO A SINGLE NEW *
C* DATAFILE, A COMBINED ANALYSIS CAN BE PERFORMED BY THIS PROGRAM ****
C* ******************************************************************
      REAL*8 RT
      REAL*8 AMP,BMP,AX,ESL
      INTEGER IW,IFC,IADT,ICO,NF,IOUT,NC
      CHARACTER*14 INFA,OUTA,OUTB
      CHARACTER*4 YRA,YRB
      CHARACTER*4 YR
      INTEGER IFL
      COMMON IFL,IFC,W
      CHARACTER*8 FLA
      CHARACTER*3 W
C*****************************************************************
C     READ COAL DATA, ESAL AND AADT FROM COALDATA AND ESAL DATA *
C*****************************************************************
      DO 10 I=1,40
      WRITE(*,10009)
 10   CONTINUE
      WRITE(*,'(A)')' THE NEW INPUT FILE NAME : A14 - '
      READ(*,'(A)')INFA
      WRITE(*,*)' THE FIRST  YEAR OF DATA.  :'
      READ(*,2200)YRA
      WRITE(*,*)' THE LAST   YEAR OF DATA   :'
      READ(*,2200)YRB
      IF (YRA.EQ.YRB) GOTO 12
         YR=YRA(3:)//YRB(3:)
         GOTO 15
 12   YR=YRA
 15   DO 33 I=1,20
      WRITE(*,10009)
 33   CONTINUE
      WRITE(*,9997)YRA,YRB
      WRITE(*,9998)
      DO 34 I=1,9
      WRITE(*,10009)
 34   CONTINUE
C*******************************************************************
C  CLASSIFYING THE FILE INTO FUNC.CLASS AND WEIGHT OF COAL HAULED
C*******************************************************************
      ICO =0
      RT = 0
      AMP = 0
      BMP=0
      IW = 0
      IFC =0
      IADT = 0
      AX = 0
      ESL = 0
      OPEN(300,FILE=INFA,STATUS='OLD',MODE='READ')
      OPEN(600,FILE='FILE600')
      OPEN(610,FILE='FILE610')
      OPEN(620,FILE='FILE620')
      OPEN(640,FILE='FILE640')
      OPEN(650,FILE='FILE650')
      OPEN(660,FILE='FILE660')
      NC=1
      NF=590
```

```
      REWIND 300
120   READ(300,5070,END=130)ICO,RT,AMP,BMP,IW,IFC,IADT,AX,ESL
       IF (IFC.EQ.NC .AND. IW.LT.50000) GOTO 600
       IF (IFC.EQ.NC .AND. IW.GE.400000) GOTO 620
       IF (IFC.EQ.NC .AND. IW.LT.400000) GOTO 610
      GOTO 120
130   CLOSE(NF+10)
      CLOSE(NF+30)
      CLOSE(NF+20)
      IF (NC.EQ.2)  GOTO 1110
      REWIND 300
      NC=2
      NF=630
      GOTO 120
600   IOUT=NF+10
      GOTO 900
610   IOUT=NF+20
      GOTO 900
620   IOUT=NF+30
      GOTO 900
900   WRITE(IOUT,5070)ICO,RT,AMP,BMP,IW,IFC,IADT,AX,ESL
      GOTO 120
1110  OPEN(700,FILE='FILE700')
      OPEN(710,FILE='FILE710')
      OPEN(720,FILE='FILE720')
      OPEN(740,FILE='FILE740')
      OPEN(750,FILE='FILE750')
      OPEN(760,FILE='FILE760')
      NC=6
      NF=690
      REWIND 300
1120  READ(300,5070,END=1130)ICO,RT,AMP,BMP,IW,IFC,IADT,AX,ESL
       IF (IFC.EQ.NC .AND. IW.LT.50000) GOTO 1600
       IF (IFC.EQ.NC .AND. IW.GE.400000) GOTO 1620
       IF (IFC.EQ.NC .AND. IW.LT.400000) GOTO 1610
      GOTO 1120
1130  CLOSE(NF+10)
      CLOSE(NF+30)
      CLOSE(NF+20)
      IF (NC.EQ.7)  GOTO 2110
      REWIND 300
      NC=7
      NF=730
      GOTO 1120
1600  IOUT=NF+10
      GOTO 1900
1610  IOUT=NF+20
      GOTO 1900
1620  IOUT=NF+30
      GOTO 1900
1900  WRITE(IOUT,5070)ICO,RT,AMP,BMP,IW,IFC,IADT,AX,ESL
      GOTO 1120
2110  OPEN(800,FILE='FILE800')
      OPEN(810,FILE='FILE810')
      OPEN(820,FILE='FILE820')
      OPEN(840,FILE='FILE840')
      OPEN(850,FILE='FILE850')
      OPEN(860,FILE='FILE860')
      NC=8
      NF=790
      REWIND 300
2120  READ(300,5070,END=2130)ICO,RT,AMP,BMP,IW,IFC,IADT,AX,ESL
       IF (IFC.EQ.NC .AND. IW.LT.50000) GOTO 2600
       IF (IFC.EQ.NC .AND. IW.GE.400000) GOTO 2620
```

```
       IF (IFC.EQ.NC .AND. IW.LT.400000) GOTO 2610
      GOTO 2120
 2130 CLOSE(NF+10)
      CLOSE(NF+30)
      CLOSE(NF+20)
      IF (NC.EQ.9)  GOTO 9000
      REWIND 300
      NC=9
      NF=830
      GOTO 2120
 2600 IOUT=NF+10
      GOTO 2900
 2610 IOUT=NF+20
      GOTO 2900
 2620 IOUT=NF+30
      GOTO 2900
 2900 WRITE(IOUT,5070)ICO,RT,AMP,BMP,IW,IFC,IADT,AX,ESL
      GOTO 2120
 9000 CLOSE(300)
      OPEN(300,FILE='FILE300')
      OPEN(910,FILE='FILE910')
      OPEN(920,FILE='FILE920')
      OPEN(930,FILE='FILE930')
 5500 READ(300,5070,END=5600)ICO,RT,AMP,BMP,IW,IFC,IADT,AX,ESL
        IF ((IFC.LT.11).AND.(IW.LT.50000)) GOTO 5510
        IF ((IFC.LT.11).AND.(IW.GT.400000)) GOTO 5540
        IF (IFC.LT.11 .AND. IW.LT.400000) GOTO 5520
      GOTO 5500
 5510 WRITE(910,5070)ICO,RT,AMP,BMP,IW,IFC,IADT,AX,ESL
      GOTO 5500
 5520 WRITE(920,5070)ICO,RT,AMP,BMP,IW,IFC,IADT,AX,ESL
      GOTO 5500
 5540 WRITE(930,5070)ICO,RT,AMP,BMP,IW,IFC,IADT,AX,ESL
      GOTO 5500
 5600 CLOSE(910)
      CLOSE(920)
      CLOSE(930)
C*******************************************************************
C  COMPUTING THE STATISTICS FOR EACH WEIGHT CLASS. & FUNC. CLASS
C*******************************************************************
      DO 333 I=1,50
C        WRITE(*,10009)
 333  CONTINUE
      OUTA='COAL'//YR//'.OUT'
      OUTB='COAL'//YR//'.SUM'
      OPEN(1000,FILE=OUTA)
      OPEN(1500,FILE=OUTB)
      WRITE(1000,10010)YR
      WRITE(1000,10030)
      WRITE(1500,10010)YR
      WRITE(1500,10015)
      WRITE(1500,10030)
      WRITE(1500,10035)
      WRITE(1500,10040)
C
      IFC=0
      K=600
3450  W="L"
      IFC=IFC+1
      IF (IFC.GT.9) GOTO 3460
      WRITE(1000,10050)IFC
      GOTO 3475
3460  IFC=IFC+89
      WRITE(1000,*)"          *** FUNCTIONAL CLASS 1 TO 9 (COMBINED) **
```

```
     **"
3475   IF(W.EQ."L") GOTO 3500
       IF(W.EQ."M") GOTO 3525
       IF(W.EQ."H") GOTO 3550
3500   WRITE(1000,10070)
          IFL=K
          GOTO  3600
3525   WRITE(1000,10080)
          IFL=K+10
          GOTO  3600
3550   WRITE(1000,10090)
          IFL=K+20
          GOTO  3600
3600      OPEN(11,FILE='11')
          WRITE(11,9999)IFL
9999      FORMAT('FILE',I3)
          BACKSPACE 11
          READ(11,9991)FLA
          CLOSE(11,STATUS='DELETE')
9991      FORMAT(A7)
          OPEN(IFL,FILE=FLA)
      CALL STAT
      CLOSE(IFL,STATUS='DELETE')
      IF (W.EQ."H")  GOTO 3620
      IF (W.EQ."M")  GOTO 3610
      W="M"
      GOTO 3475
3610  W="H"
      GOTO 3475
3620  IF  (IFC.EQ.1) GOTO 3630
      IF  (IFC.EQ.2)  GOTO 3640
      IF  (IFC.EQ.6)  GOTO 3650
      IF  (IFC.EQ.7)  GOTO 3660
      IF  (IFC.EQ.8)  GOTO 3670
      IF  (IFC.EQ.9)  GOTO 3675
      IF  (IFC.GT.10) GOTO 3680
3630  K=640
      GOTO 3450
3640  IFC=5
      K=700
      GOTO 3450
3650  K=740
      GOTO 3450
3660  K=800
      GOTO 3450
3670  K=840
      GOTO 3450
3675  K=910
      GOTO 3450
3680  WRITE(1500,10040)
      WRITE(1500,*)"              Note : 99 = COMBINED DATA FOR F.CLS"
      WRITE(1500,*)"                          1 TO 9 (RURAL ROADS)"
      WRITE(*,*)"                       *** PROGRAM COMPLETED ***"
      WRITE(*,*)"   *** THE OUTPUT FILES : ",OUTA," AND ",OUTB,"***"
C
C*********************************************************************
C  *  FORMAT STATEMENTS.                                             *
C  *******************************************************************
C
1000  FORMAT (I3,A2,1X,A6,2A7,18X,I9,I3)
1050  FORMAT(I3,A2,A6,1X,A7,1X,A7,1X,I9,1X,I3)
1055  FORMAT(I3,1X,A1,A6,1X,A7,1X,A7,1X,I9,1X,I3)
1060  FORMAT(I3,A8,1X,F7.1,1X,F7.1,1X,I9,1X,I3)
1070  FORMAT(I4,A8,1X,F7.1,1X,F7.1,1X,I9,1X,I3,1X,I7,1X,F6.3,1X,F5.3)
```

```
 2000   FORMAT(I4,5X,A8,1X,F7.3,5X,I7,2X,F6.3,4X,F5.3)
 2200   FORMAT(A4)
 5000   FORMAT (I3,A8,3A7,16X,I9)
 5050   FORMAT(I3,A8,1X,A7,1X,A7,1X,A7,1X,I9)
 5060   FORMAT(I3,A8,1X,F7.3,1X,F7.3,1X,F7.3,1X,I9,1X,I3,1X,I7,1X
     * ,F6.3,1X,F5.3)
 5070   FORMAT(I4,A8,1X,F7.1,1X,F7.1,1X,I9,1X,I3,1X,I7,1X
     * ,F6.3,1X,F5.3)
 6000   FORMAT(I4,5X,A8,1X,F7.3,2X,I3,I7,2X,F6.3,4X,F5.3)
 9997   FORMAT('    ******',A5,' TO ',A5,' KENTUCKY COAL-HAUL ROADS ANALY
     *SIS ******')
 9998   FORMAT('    ********************    IN PROGRESS    ***************
     ***********')
 10009  FORMAT('')
 10050  FORMAT(16X,'*** FUNCTIONAL CLASS =',I3 ,'***')
 10070  FORMAT('        ***WEIGHT CLASSIFICATION = LIGHT (W < 50,000 TONS)
     *  ***')
 10080  FORMAT('        ***WEIGHT CLASSIFICATION = MEDIUM (50,000 =< W < 4
     * 00,000 TONS) ***')
 10090  FORMAT('        ***WEIGHT CLASSIFICATION = HEAVY (W >= 400,000 TON
     * S) ***  ')
 10010  FORMAT(20X,A5,' KENTUCKY COAL-HAUL ROADS')
 10015  FORMAT(20X,'**********  SUMMARY **********')
 10030  FORMAT('')
 10035  FORMAT(10X,'F.CLS/WEIGHT   N   AXL/TRK   STD   ESAL/AXL   STD')
 10040  FORMAT(10X,'-----------------------------------------------------')
C
 3685   STOP
        END
        SUBROUTINE  STAT
        REAL*8 X(200),Y(200),AX,ESL
        INTEGER N,IFL
        COMMON IFL,IFC,W
        N=0
        WRITE(1000,10100)
        WRITE(1000,10110)
        WRITE(1000,10120)
 4000   READ(IFL,7000,END=4100)AX,ESL
          N=N+1
            X(N) = AX
            Y(N) = ESL
        WRITE(1000,7500)N,X(N),Y(N)
          GOTO 4000
 4100   XSUM=0
        YSUM=0
        DO 4200 I=1,N
           XSUM=XSUM+X(I)
           YSUM=YSUM+Y(I)
 4200   CONTINUE
        IF (N.GT.0) GOTO 4210
        WRITE(1000,*)"                     NO RECORD FOR THIS CATEGORY"
        WRITE(1500,11000)IFC,W
        WRITE(1000,10120)
        WRITE(1000,10100)
        GOTO 4350
 4210   IF (N.GT.1) GOTO 4220
        XAVG=XSUM
        YAVG=YSUM
        XSTD=0
        YSTD=0
        WRITE(1000,10120)
        WRITE(1000,10150)XAVG,YAVG
        WRITE(1000,10170)XSTD,YSTD
        WRITE(1000,10100)
```

```
      WRITE(1500,11010)IFC,W,N,XAVG,XSTD,YAVG,YSTD
      GOTO 4350
4220  XAVG=XSUM/N
      YAVG=YSUM/N
      SUMX=0
      SUMY=0
      DO 4300 I=1,N
         SUMX=SUMX+(X(I)-XAVG)**2
         SUMY=SUMY+(Y(I)-YAVG)**2
4300  CONTINUE
      XVAR=SUMX/(N-1)
      YVAR=SUMY/(N-1)
      WRITE(1000,10120)
      WRITE(1000,10150)XAVG,YAVG
      XSTD=SQRT(XVAR)
      YSTD=SQRT(YVAR)
      WRITE(1000,10170)XSTD,YSTD
      WRITE(1000,10100)
      WRITE(1500,11010)IFC,W,N,XAVG,XSTD,YAVG,YSTD
7000  FORMAT(51X,F6.3,1X,F5.3)
7500  FORMAT(22X,I3,5X,F6.3,7X,F5.3)
10100 FORMAT('')
10110 FORMAT(22X,'  #   AXLES/TRUCK    ESAL/AXLE')
10120 FORMAT(22X,'------------------------------')
10150 FORMAT(22X,'MEAN :'2X,F6.3,7X,F5.3)
10170 FORMAT(22X,'STD  :'2X,F6.3,7X,F5.3)
11000 FORMAT(12X,I3,' / ',A2,'  NO RECORD FOR THIS CATEGORY')
11010 FORMAT(12X,I3,' / ',A2,2X,I4,3X,F6.3,1X,F6.3,4X,F5.3,2X,F5.3)
4350  RETURN
      END
```

Figure A1. Sample of Coal Data for Input File

1CU	9008	48.9	57.8	0	24	24	2
3BG	9002	44.8	52.3	0	50333	50333	2
3BG	9002	56.3	61.9	0	50333	50333	2
6I	64	115.6	121.2	39768	0	39768	1
6I	64	121.2	129.0	39696	0	39696	1
6US	60	6.8	6.9	0	72	72	7
6KY	11	.0	12.8	127669	0	127669	7
6KY	36	11.6	13.0	0	72	72	7
7US	25E	.0	2.2	0	250772	250772	2
7US	25E	2.2	2.8	0	91930	91930	14
7US	25E	2.8	3.3	0	139467	139467	14
7US	25E	3.3	12.9	0	191591	191591	2
7US	25E	12.9	13.9	37951	105922	143873	2
7US	119	10.6	13.9	2587	125498	128085	2
7US	119	13.9	15.8	19927	158229	178156	2
7KY	66	.0	1.6	24922	55211	80133	7
7KY	66	1.6	4.8	24922	23653	48575	7
11US	150B	.0	2.3	0	176610	176610	14
12KY	8	.0	1.0	0	127669	127669	7
12KY	546	1.0	19.8	0	127669	127669	2
12KY	2228	.0	.3	127669	0	127669	8
13KY	15	.0	6.7	1270180	172296	1442476	2
13KY	15	6.7	7.7	1334585	156248	1490833	2
13KY	15	7.7	9.2	3414552	646879	4061431	2
118CR	5333	.0	2.0	0	49009	49009	
118CR	5347	.0	.2	0	24546	24546	
118CR	5355	.0	3.6	0	24546	24546	
119CR	5220	.0	3.6	0	41998	41998	
119KY	15S	1.1	1.5	45430	0	45430	

```
columns # are :
         1         2         3         4         5
123456789012345678901234567890123456789012345678901234567890
```

Figure A2. Sample of ESAL Data for Input File

```
  1 750 KY  61     16.300     6    3080    3.106        .240
  1 505 KY  80      8.600     7     700    2.233        .294
  2 558 KY 100      5.700     7    1663    2.873        .271
  3 024 KY  44     11.600     7    1593    2.369        .386
  3 558 KY9002     44.900     2    6170    3.962        .310
  4 256 KY 286      8.800     7    2293    4.279        .280
  4 260 KY 802       .500     8     412    2.988        .135
  4 251 US  60     10.800     2    4608    3.939        .275
  5 831  I  65     49.900     1   19700    4.673        .180
  5 293 KY  90     17.500     6    4336    3.148        .185
  5 599 KY9008      9.200     2    4260    3.563        .292
  5 003 US  31E    22.500     2    2469    3.237        .321
  5 A81 US  31V      .900    16    8460    2.775        .272
  6 760 KY  11      8.000     7    1743    3.188        .492
  6 750 KY  36      1.800     7     702    2.066        .308
  6 280 KY 211      7.400     8    1360    2.341        .084
  6 250 US  60     17.300     7    3561    2.181        .298
  7 004 KY  72       .300     7    1662    3.462       1.132
  7 A12 US  25E     1.300    14   16000    3.863        .438
  7 P31 US  25E    19.000     2    6653    3.947        .502
  8 010  I  75    182.600    11   85200    4.257        .171
  8 767  I 275     12.700     1   16700    4.305        .183
  9 251 KY 537       .100     8     945    2.012        .077
  9 A31 KY1678      8.300    17    2700    2.242        .349
  9 015 KY1879       .100     7     703    2.046        .309
  9 P26 US  68      4.200     2    6510    3.107        .232
 10 017  I  64    191.600     1   17100    4.235        .226
 10 835 KY   3      6.800     7    1570    2.763        .369
 10 505 KY 854      7.500     7     587    2.241        .373
 10 834 KY1937      6.600     8     992    2.452        .088
 12 013 KY   8     14.000     6    1349    3.091        .267
 12 763 KY   8      4.700     6    1940    3.130        .311
 12 750 KY  10      8.900     7     539    2.717        .334
 12 A10 KY  19      9.000     7     850    2.644        .329
 12 504 KY  19      7.200     7     730    2.941        .333
 12 770 KY1109       .100     8     311    2.041        .079
------------------------------------------------------------
columns # are :
         1         2         3         4         5
123456789012345678901234567890123456789012345678901234567890
```

COALR1.EXE COMPUTER PROGRAM OUTPUT

1990 KENTUCKY COAL-HAUL ROADS

*** FUNCTIONAL CLASS = 1***

***WEIGHT CLASSIFICATION = LIGHT (W < 50,000 TONS) ***

#	AXLES/TRUCK	ESAL/AXLE
1	4.509	.178
2	4.483	.163
3	4.377	.208
4	4.604	.189
5	4.690	.162
6	4.539	.180
7	4.315	.182
8	4.373	.188
9	4.631	.189
MEAN :	4.502	.182
STD :	.128	.014

***WEIGHT CLASSIFICATION = MEDIUM (50,000 =< W < 4 00,000 TONS) ***

#	AXLES/TRUCK	ESAL/AXLE
1	4.257	.171
2	4.237	.185
3	4.290	.198
4	4.433	.182
5	4.610	.177
6	4.436	.183
7	4.511	.193
MEAN :	4.396	.184
STD :	.140	.009

***WEIGHT CLASSIFICATION = HEAVY (W >= 400,000 TON S) ***

#	AXLES/TRUCK	ESAL/AXLE
1	4.235	.228
MEAN :	4.235	.228
STD :	.000	.000

*** FUNCTIONAL CLASS = 2***

***WEIGHT CLASSIFICATION = LIGHT (W < 50,000 TONS) ***

#	AXLES/TRUCK	ESAL/AXLE
1	4.326	.247
2	3.235	.505
MEAN :	3.781	.376
STD :	.771	.182

***WEIGHT CLASSIFICATION = MEDIUM (50,000 =< W < 4 00,000 TONS) ***

#	AXLES/TRUCK	ESAL/AXLE
1	3.863	.488
2	3.947	.554
3	4.004	.296

4	3.581	.555
5	3.879	.492
6	3.589	.250
7	2.953	.719
8	3.204	.452
9	3.405	.270
10	3.638	.233
MEAN :	3.606	.431
STD :	.341	.162

***WEIGHT CLASSIFICATION = HEAVY (W >= 400,000 TON S) ***

#	AXLES/TRUCK	ESAL/AXLE
1	3.320	1.060
2	4.362	1.541
3	3.752	.828
4	3.124	1.193
5	3.284	.298
6	3.134	.988
7	3.548	.947
8	4.776	1.485
9	4.607	1.088
10	4.471	1.228
11	4.030	1.396
MEAN :	3.855	1.096
STD :	.621	.348

*** FUNCTIONAL CLASS = 6***
***WEIGHT CLASSIFICATION = LIGHT (W < 50,000 TONS) ***

#	AXLES/TRUCK	ESAL/AXLE
1	2.530	.316
2	2.306	.374
3	3.331	.720
4	3.542	.639
5	2.699	.225
6	3.997	.221
7	3.609	.213
MEAN :	3.145	.387
STD :	.634	.210

***WEIGHT CLASSIFICATION = MEDIUM (50,000 =< W < 4 00,000 TONS) ***

#	AXLES/TRUCK	ESAL/AXLE
1	3.178	.259
2	3.175	.388
3	2.192	.238
4	3.248	.206
5	3.946	.266
6	3.934	.299
7	4.003	.259
8	4.092	.789
MEAN :	3.471	.338
STD :	.651	.190

***WEIGHT CLASSIFICATION = HEAVY (W >= 400,000 TON S) ***

#	AXLES/TRUCK	ESAL/AXLE
1	5.311	1.077
2	4.855	.916
MEAN :	5.083	.997
STD :	.322	.114

*** FUNCTIONAL CLASS = 7***

***WEIGHT CLASSIFICATION = LIGHT (W < 50,000 TONS) ***

#	AXLES/TRUCK	ESAL/AXLE
1	3.191	.282
2	2.384	.321
3	2.129	.322
4	3.913	1.414
5	2.922	.336
6	3.075	.655
7	2.562	.544
8	2.363	.383
9	2.776	.337
10	2.671	.292
MEAN :	2.799	.489
STD :	.513	.347

***WEIGHT CLASSIFICATION = MEDIUM (50,000 =< W < 4 00,000 TONS) ***

#	AXLES/TRUCK	ESAL/AXLE
1	3.188	.600
2	3.412	.834
3	3.212	.514
4	3.665	.385
5	3.588	.753
6	2.824	.386
7	2.670	.297
8	3.094	.354
9	3.016	.925
MEAN :	3.185	.561
STD :	.331	.230

***WEIGHT CLASSIFICATION = HEAVY (W >= 400,000 TON S) ***

#	AXLES/TRUCK	ESAL/AXLE
1	2.918	.273
2	3.989	.403
3	4.213	1.077
4	4.079	1.489
5	4.131	1.346
6	3.177	.815
7	2.931	.349
8	3.890	.996
9	4.173	.930
10	4.539	1.249
11	4.516	1.118
12	4.659	1.239
MEAN :	3.935	.940

STD :	.606	.405

*** FUNCTIONAL CLASS = 8***

***WEIGHT CLASSIFICATION = LIGHT (W < 50,000 TONS) ***

#	AXLES/TRUCK	ESAL/AXLE
1	2.242	.349
2	2.328	.314
3	3.893	.419
4	2.699	.529
MEAN :	2.791	.403
STD :	.761	.095

***WEIGHT CLASSIFICATION = MEDIUM (50,000 =< W < 4 00,000 TONS) ***

#	AXLES/TRUCK	ESAL/AXLE
1	3.462	1.133
2	3.649	1.019
3	4.520	1.030
MEAN :	3.877	1.061
STD :	.565	.063

***WEIGHT CLASSIFICATION = HEAVY (W >= 400,000 TON S) ***

#	AXLES/TRUCK	ESAL/AXLE
1	3.759	.859
2	5.241	1.102
3	4.530	1.148
MEAN :	4.510	1.036
STD :	.741	.155

*** FUNCTIONAL CLASS = 9***

***WEIGHT CLASSIFICATION = LIGHT (W < 50,000 TONS) ***

#	AXLES/TRUCK	ESAL/AXLE
NO RECORD FOR THIS CATEGORY		

***WEIGHT CLASSIFICATION = MEDIUM (50,000 =< W < 4 00,000 TONS) ***

#	AXLES/TRUCK	ESAL/AXLE
NO RECORD FOR THIS CATEGORY		

***WEIGHT CLASSIFICATION = HEAVY (W >= 400,000 TON S) ***

#	AXLES/TRUCK	ESAL/AXLE
NO RECORD FOR THIS CATEGORY		

*** FUNCTIONAL CLASS 1 TO 9 (COMBINED) ***

***WEIGHT CLASSIFICATION = LIGHT (W < 50,000 TONS) ***

#	AXLES/TRUCK	ESAL/AXLE
1	2.242	.349
2	4.509	.178
3	4.483	.163
4	4.377	.208
5	4.604	.189
6	3.191	.282
7	4.326	.247
8	2.384	.321
9	4.690	.162
10	2.129	.322
11	3.913	1.414
12	2.530	.316
13	2.922	.336
14	3.075	.655
15	2.328	.314
16	2.562	.544
17	2.363	.383
18	2.306	.374
19	3.331	.720
20	3.235	.505
21	4.539	.180
22	3.542	.639
23	4.315	.182
24	2.699	.225
25	3.893	.419
26	2.776	.337
27	3.997	.221
28	2.671	.292
29	4.373	.188
30	4.631	.189
31	3.609	.213
32	2.699	.529
MEAN :	3.414	.362
STD :	.880	.246

***WEIGHT CLASSIFICATION = MEDIUM (50,000 =< W < 4 00,000 TONS) ***

#	AXLES/TRUCK	ESAL/AXLE
1	3.188	.600
2	3.863	.488
3	3.947	.554
4	3.462	1.133
5	4.257	.171
6	4.004	.296
7	3.412	.834
8	3.212	.514
9	3.178	.259
10	3.665	.385
11	4.237	.185
12	4.290	.198
13	3.649	1.019
14	4.520	1.030
15	4.433	.182
16	3.588	.753
17	2.824	.386

18	3.581	.555
19	3.879	.492
20	3.175	.388
21	2.192	.238
22	3.248	.206
23	3.946	.266
24	3.934	.299
25	3.589	.250
26	2.670	.297
27	4.003	.259
28	3.094	.354
29	3.016	.925
30	2.953	.719
31	3.204	.452
32	4.610	.177
33	4.092	.789
34	4.436	.183
35	4.511	.193
36	3.405	.270
37	3.638	.233
MEAN :	3.646	.447
STD :	.575	.276

***WEIGHT CLASSIFICATION = HEAVY (W >= 400,000 TON S) ***

#	AXLES/TRUCK	ESAL/AXLE
1	4.235	.228
2	3.320	1.060
3	2.918	.273
4	3.989	.403
5	4.213	1.077
6	4.362	1.541
7	3.752	.828
8	4.079	1.489
9	4.131	1.346
10	3.124	1.193
11	3.177	.815
12	3.759	.859
13	2.931	.349
14	3.284	.298
15	3.890	.996
16	3.134	.988
17	5.241	1.102
18	3.548	.947
19	4.776	1.485
20	4.607	1.088
21	4.471	1.228
22	4.173	.930
23	4.539	1.249
24	4.516	1.118
25	4.530	1.148
26	4.659	1.239
27	5.311	1.077
28	4.855	.916
29	4.030	1.396
MEAN :	4.054	.988
STD :	.668	.369

1990 KENTUCKY COAL-HAUL ROADS
********** SUMMARY **********

F.CLS/WEIGHT	N	AXL/TRK	STD	ESAL/AXL	STD
1 / L	9	4.502	.128	.182	.014
1 / M	7	4.396	.140	.184	.009
1 / H	1	4.235	.000	.228	.000
2 / L	2	3.781	.771	.376	.182
2 / M	10	3.606	.341	.431	.162
2 / H	11	3.855	.621	1.096	.348
6 / L	7	3.145	.634	.387	.210
6 / M	8	3.471	.651	.338	.190
6 / H	2	5.083	.322	.997	.114
7 / L	10	2.799	.513	.489	.347
7 / M	9	3.185	.331	.561	.230
7 / H	12	3.935	.606	.940	.405
8 / L	4	2.791	.761	.403	.095
8 / M	3	3.877	.565	1.061	.063
8 / H	3	4.510	.741	1.036	.155
9 / L	NO RECORD FOR THIS CATEGORY				
9 / M	NO RECORD FOR THIS CATEGORY				
9 / H	NO RECORD FOR THIS CATEGORY				
99 / L	32	3.414	.880	.362	.246
99 / M	37	3.646	.575	.447	.276
99 / H	29	4.054	.668	.988	.369

Note : 99 = COMBINED DATA FOR F.CLS
1 TO 9 (RURAL ROADS)

COALR2.EXE COMPUTER PROGRAM OUTPUT

1990 KENTUCKY COAL HAULING DISTRIBUTIONS

I. FUNCTIONAL CLASSES :

F.CLS	MILEAGE (MILES)	PRODUCED (TONS)	IMPACT (TONS)	TOTAL (TONS)	TON-MILE (MILLIONS)
1	411.7	3420699	1790598	5211297	2145.491
2	1192.2	386607120	145530997	532138117	634415.100
6	723.3	69295664	38528949	107824613	77989.540
7	1679.6	201043377	150625140	351668517	590662.400
8	745.1	97802052	72503747	170305799	126894.900
9	117.2	22224728	17580995	39805723	4665.231
11	116.5	1562255	1437210	2999465	349.438
12	49.2	2306584	3648602	5955186	292.995
13	.0	0	0	0	.000
14	246.5	10080339	7873450	17953789	4425.609
15	.0	0	0	0	.000
16	203.0	13098566	7704027	20802593	4222.926
17	11.6	575689	1551351	2127040	24.674
UNC	498.0	42477912	100202727	142680639	71054.960

II. FUNC. CLASSES MILEAGE DISTRIBUTION :

	MILEAGE			
F.CLS	LIGHT	MEDIUM	HEAVY	TOTAL
1	205.3	203.5	2.9	411.7
2	483.9	727.0	393.0	1192.2
6	827.5	1001.9	497.8	723.3
7	1421.0	1662.5	923.3	1679.6
8	1699.4	1921.6	1130.9	745.1
9	1749.7	1957.7	1161.7	117.2
11	1834.6	1987.8	1163.2	116.5
12	1864.1	1997.3	1173.4	49.2
13	1864.1	1997.3	1173.4	.0
14	1955.6	2125.3	1200.4	246.5
15	1955.6	2125.3	1200.4	.0
16	2038.9	2195.8	1249.6	203.0
17	2044.4	2201.3	1250.2	11.6
UNC	2272.6	2390.2	1331.1	498.0

III. COUNTIES :

CO.#	MILEAGE (MILES)	PRODUCED (TONS)	IMPACT (TONS)	TOTAL (TONS)	TON-MILE (MILLIONS)
1	17.8	24	24	48	.001
2	.0	0	0	0	.000
3	13.1	0	100666	100666	1.319
4	.0	0	0	0	.000
5	.0	0	0	0	.000
6	27.7	207133	144	207277	5.742
7	128.1	9853380	11146881	21000261	2690.134
8	26.2	176762	0	176762	4.631
9	40.2	1326961	328321	1655282	66.542
10	55.2	55467308	4101397	59568705	3288.193
11	11.9	353220	353220	706440	8.407
12	20.1	127669	255338	383007	7.698
13	165.6	25654843	10851990	36506833	6045.532
14	.0	0	0	0	.000
15	35.8	94571	33979	128550	4.602
16	86.6	1648539	9224559	10873098	941.610
17	20.8	0	181065	181065	3.766
18	17.4	0	54266	54266	.944
19	26.9	659640	353513	1013153	27.254
20	.0	0	0	0	.000
21	.0	0	0	0	.000
22	69.8	742207	436043	1178250	82.242
23	.0	0	0	0	.000
24	73.5	1426577	675651	2102228	154.514
25	82.8	993381	4237054	5230435	433.080
26	142.9	14047855	4519385	18567240	2653.259
27	15.9	0	84	84	.001
28	21.3	0	108532	108532	2.312
29	9.8	28	28	56	.001
30	118.7	12122974	5382953	17505927	2077.954
31	.0	0	0	0	.000
32	26.5	119526	225155	344681	9.134
33	33.7	202158	308115	510273	17.196
34	73.1	881678	2150676	3032354	221.665
35	22.6	196073	0	196073	4.431
36	245.4	112757685	49341058	162098743	39779.030
37	31.3	155891	669574	825465	25.837
38	3.4	0	29976	29976	.102
39	.0	0	0	0	.000
40	.0	0	0	0	.000
41	23.1	111208	0	111208	2.569
42	26.1	0	29976	29976	.782
43	31.2	6534	0	6534	.204
44	.0	0	0	0	.000
45	33.8	67611	1129312	1196923	40.456
46	9.9	466425	197572	663997	6.574
47	29.5	13068	0	13068	.386
48	177.6	22904152	46516349	69420501	12329.080
49	19.5	327763	0	327763	6.391
50	.0	0	0	0	.000
51	61.4	11411565	4283368	15694933	963.669
52	.0	0	0	0	.000
53	5.0	0	29976	29976	.150
54	194.1	26435919	13692528	40128447	7788.932
55	36.2	130932	258573	389505	14.100
56	182.7	725566	3856760	4582326	837.191
57	.0	0	0	0	.000
58	60.6	78066278	6831847	84898125	5144.826
59	19.4	310496	23128	333624	6.472

60	158.6	21385673	53151819	74537492	11821.650
61	163.0	3585050	5917495	9502545	1548.915
62	.0	0	0	0	.000
63	114.4	1419991	3198109	4618100	528.311
64	98.6	101152237	6035533	107187770	10568.710
65	56.2	1303336	189811	1493147	83.915
66	99.1	10381029	12950730	23331759	2312.177
67	168.9	37608173	51365468	88973641	15027.650
68	.0	0	0	0	.000
69	36.7	176822	529618	706440	25.926
70	7.4	0	262951	262951	1.946
71	79.5	14370	438728	453098	36.021
72	31.2	0	488929	488929	15.255
73	.0	0	0	0	.000
74	31.4	100263	59407	159670	5.014
75	33.3	249717	277542	527259	17.558
76	40.2	201832	40440	242272	9.739
77	98.1	17077472	9960305	27037777	2652.406
78	.0	0	0	0	.000
79	49.3	81886	277990	359876	17.742
80	79.0	5206048	5684567	10890615	860.359
81	45.7	405815	127669	533484	24.380
82	.0	0	0	0	.000
83	.0	0	0	0	.000
84	24.6	529642	403317	932959	22.951
85	.0	0	0	0	.000
86	.0	0	0	0	.000
87	29.6	295106	255338	550444	16.293
88	48.2	130604	1642	132246	6.374
89	124.0	7887500	5990670	13878170	1720.893
90	38.3	150999	100666	251665	9.639
91	12.2	68404	0	68404	.835
92	109.1	5585714	5622454	11208168	1222.811
93	.0	0	0	0	.000
94	.0	0	0	0	.000
95	59.0	169508	389241	558749	32.966
96	22.5	655526	133133	788659	17.745
97	157.9	42374335	64265544	106639879	16838.440
98	464.2	130531437	103171441	233702878	108484.900
99	37.7	316190	3320549	3636739	137.105
100	129.8	1344211	4206314	5550525	720.458
101	1.4	68404	0	68404	.096
102	58.9	463696	536550	1000246	58.914
103	31.9	90842	413	91255	2.911
104	14.3	0	24	24	.000
105	26.3	111208	27689	138897	3.653
106	45.3	0	174212	174212	7.892
107	37.2	7185	255771	262956	9.782
108	2.4	37114	0	37114	.089
109	10.6	24	24	48	.001
110	24.7	7185	78663	85848	2.120
111	.0	0	0	0	.000
112	.0	0	0	0	.000
113	35.3	16662932	920236	17583168	620.686
114	45.1	3730	434365	438095	19.758
115	5.5	0	50333	50333	.277
116	25.2	0	28	28	.001
117	92.1	47000008	10303364	57303372	5277.641
118	205.3	10326960	12196462	22523422	4624.059
119	74.5	5160756	2454057	7614813	567.304
120	37.7	0	867788	867788	32.716
TOTAL :	5995.6	850522534	549036435	1399558969	271715.900

IV. MILEAGE DISTRIBUTIONS :

CO.#	TON-MILE (MILLIONS)	MILEAGE LIGHT	MEDIUM	HEAVY	TOTAL
1	.001	17.8	.0	.0	17.8
2	.000	.0	.0	.0	.0
3	1.319	.0	13.1	.0	13.1
4	.000	.0	.0	.0	.0
5	.000	.0	.0	.0	.0
6	5.742	14.9	12.8	.0	27.7
7	2690.134	57.3	56.7	14.1	128.1
8	4.631	.0	26.2	.0	26.2
9	66.542	12.3	27.9	.0	40.2
10	3288.193	1.7	18.6	34.9	55.2
11	8.407	.0	11.9	.0	11.9
12	7.698	.0	20.1	.0	20.1
13	6045.532	87.4	4.7	73.5	165.6
14	.000	.0	.0	.0	.0
15	4.602	35.8	.0	.0	35.8
16	941.610	32.6	23.4	30.6	86.6
17	3.766	.0	20.8	.0	20.8
18	.944	.0	17.4	.0	17.4
19	27.254	7.6	19.3	.0	26.9
20	.000	.0	.0	.0	.0
21	.000	.0	.0	.0	.0
22	82.242	42.2	21.0	6.6	69.8
23	.000	.0	.0	.0	.0
24	154.514	67.6	.0	5.9	73.5
25	433.080	25.8	41.6	15.4	82.8
26	2653.259	65.7	63.9	13.3	142.9
27	.001	15.9	.0	.0	15.9
28	2.312	.0	21.3	.0	21.3
29	.001	9.8	.0	.0	9.8
30	2077.954	29.6	60.0	29.1	118.7
31	.000	.0	.0	.0	.0
32	9.134	2.1	24.4	.0	26.5
33	17.196	30.5	3.2	.0	33.7
34	221.665	17.5	55.6	.0	73.1
35	4.431	.0	22.6	.0	22.6
36	39779.030	52.5	94.9	98.0	245.4
37	25.837	16.6	14.7	.0	31.3
38	.102	3.4	.0	.0	3.4
39	.000	.0	.0	.0	.0
40	.000	.0	.0	.0	.0
41	2.569	.0	23.1	.0	23.1
42	.782	26.1	.0	.0	26.1
43	.204	31.2	.0	.0	31.2
44	.000	.0	.0	.0	.0
45	40.456	19.7	10.2	3.9	33.8
46	6.574	.0	9.9	.0	9.9
47	.386	29.5	.0	.0	29.5
48	12329.080	29.5	68.7	79.4	177.6
49	6.391	.0	19.5	.0	19.5
50	.000	.0	.0	.0	.0
51	963.669	34.4	9.9	17.1	61.4
52	.000	.0	.0	.0	.0
53	.150	5.0	.0	.0	5.0
54	7788.932	14.8	111.2	68.1	194.1
55	14.100	29.4	6.8	.0	36.2
56	837.191	138.1	44.6	.0	182.7
57	.000	.0	.0	.0	.0
58	5144.826	26.7	3.5	30.4	60.6
59	6.472	13.3	6.1	.0	19.4

60	11821.650	42.6	45.1	70.9	158.6
61	1548.915	91.9	68.6	2.5	163.0
62	.000	.0	.0	.0	.0
63	528.311	50.8	62.8	.8	114.4
64	10568.710	20.4	38.0	40.2	98.6
65	83.915	34.4	21.8	.0	56.2
66	2312.177	43.4	20.5	35.2	99.1
67	15027.650	40.4	59.8	68.7	168.9
68	.000	.0	.0	.0	.0
69	25.926	17.2	19.5	.0	36.7
70	1.946	4.5	2.9	.0	7.4
71	36.021	51.2	28.3	.0	79.5
72	15.255	11.4	19.8	.0	31.2
73	.000	.0	.0	.0	.0
74	5.014	4.6	26.8	.0	31.4
75	17.558	29.4	3.9	.0	33.3
76	9.739	16.1	24.1	.0	40.2
77	2652.406	24.0	48.4	25.7	98.1
78	.000	.0	.0	.0	.0
79	17.742	28.4	20.9	.0	49.3
80	860.359	15.9	29.0	34.1	79.0
81	24.380	9.4	36.3	.0	45.7
82	.000	.0	.0	.0	.0
83	.000	.0	.0	.0	.0
84	22.951	5.7	18.9	.0	24.6
85	.000	.0	.0	.0	.0
86	.000	.0	.0	.0	.0
87	16.293	11.3	18.3	.0	29.6
88	6.374	42.8	5.4	.0	48.2
89	1720.893	40.5	43.1	40.4	124.0
90	9.639	21.5	16.8	.0	38.3
91	.835	.0	12.2	.0	12.2
92	1222.811	36.3	63.4	9.4	109.1
93	.000	.0	.0	.0	.0
94	.000	.0	.0	.0	.0
95	32.966	44.3	14.7	.0	59.0
96	17.745	1.0	21.5	.0	22.5
97	16838.440	25.8	53.2	78.9	157.9
98	108484.900	59.4	165.2	239.6	464.2
99	137.105	4.2	9.4	24.1	37.7
100	720.458	82.1	27.1	20.6	129.8
101	.096	.0	1.4	.0	1.4
102	58.914	23.7	35.2	.0	58.9
103	2.911	31.9	.0	.0	31.9
104	.000	14.3	.0	.0	14.3
105	3.653	3.9	22.4	.0	26.3
106	7.892	22.3	23.0	.0	45.3
107	9.782	23.2	14.0	.0	37.2
108	.089	2.4	.0	.0	2.4
109	.001	10.6	.0	.0	10.6
110	2.120	14.1	10.6	.0	24.7
111	.000	.0	.0	.0	.0
112	.000	.0	.0	.0	.0
113	620.686	20.4	1.4	13.5	35.3
114	19.758	13.3	31.8	.0	45.1
115	.277	.0	5.5	.0	5.5
116	.001	25.2	.0	.0	25.2
117	5277.641	3.2	30.4	58.5	92.1
118	4624.059	60.7	114.2	30.4	205.3
119	567.304	42.2	15.0	17.3	74.5
120	32.716	7.7	30.0	.0	37.7
TOTAL :	271715.900	2274.3	2390.2	1331.1	5995.6

"COALR3" COMPUTER PROGRAM OUTPUT

9092 KENTUCKY COAL-HAUL ROADS

*** FUNCTIONAL CLASS = 1***

***WEIGHT CLASSIFICATION = LIGHT (W < 50,000 TONS) ***

#	AXLES/TRUCK	ESAL/AXLE
1	4.509	.178
2	4.483	.163
3	4.377	.208
4	4.604	.189
5	4.690	.162
6	4.539	.180
7	4.315	.182
8	4.373	.188
9	4.631	.189
10	4.492	.194
11	4.328	.186
12	4.016	.196
13	4.561	.206
14	4.300	.200
15	4.375	.175
16	4.501	.191
17	4.481	.183
18	4.588	.181
MEAN :	4.454	.186
STD :	.158	.013

***WEIGHT CLASSIFICATION = MEDIUM (50,000 =< W < 4 00,000 TONS) ***

#	AXLES/TRUCK	ESAL/AXLE
1	4.257	.171
2	4.237	.185
3	4.290	.198
4	4.433	.182
5	4.610	.177
6	4.436	.183
7	4.511	.193
8	4.097	.180
9	4.391	.176
10	4.534	.194
11	4.481	.188
12	4.445	.202
13	4.527	.360
14	4.467	.199
15	4.346	.189
16	4.599	.187
17	4.413	.193
18	4.506	.194
MEAN :	4.421	.197
STD :	.133	.041

***WEIGHT CLASSIFICATION = HEAVY (W >=.400,000 TON S) ***

#	AXLES/TRUCK	ESAL/AXLE
1	4.235	.228
2	4.045	.196

MEAN :	4.140	.212
STD :	.134	.023

*** FUNCTIONAL CLASS = 2***
***WEIGHT CLASSIFICATION = LIGHT (W < 50,000 TONS) ***

#	AXLES/TRUCK	ESAL/AXLE
1	4.326	.247
2	3.235	.505
3	3.584	.224
4	3.480	.256
5	4.032	.215
6	3.787	.270
7	3.683	.242
8	3.708	.404
9	3.450	.200
10	4.636	.532
11	4.202	.186
12	2.871	.443
13	3.097	.563
14	3.672	.286
MEAN :	3.697	.327
STD :	.483	.133

***WEIGHT CLASSIFICATION = MEDIUM (50,000 =< W < 4 00,000 TONS) ***

#	AXLES/TRUCK	ESAL/AXLE
1	3.863	.488
2	3.947	.554
3	4.004	.296
4	3.581	.555
5	3.879	.492
6	3.589	.250
7	2.953	.719
8	3.204	.452
9	3.405	.270
10	3.638	.233
11	4.059	.503
12	3.555	.605
13	3.664	.555
14	3.810	.982
15	3.500	.305
16	4.169	.438
17	3.610	.523
18	3.208	.212
19	3.616	.234
20	3.920	.249
21	4.120	.249
22	3.657	.201
23	3.971	.252
24	3.076	.714
25	3.712	.245
26	3.102	.687
27	2.989	.801
28	3.228	.264
29	2.278	.301
MEAN :	3.562	.435
STD :	.425	.208

***WEIGHT CLASSIFICATION = HEAVY (W >= 400,000 TON S) ***

#	AXLES/TRUCK	ESAL/AXLE
1	3.320	1.060
2	4.362	1.541
3	3.752	.828
4	3.124	1.193
5	3.284	.298
6	3.134	.988
7	3.548	.947
8	4.776	1.485
9	4.607	1.088
10	4.471	1.228
11	4.030	1.396
12	4.984	1.849
13	4.213	.295
14	3.823	1.454
15	3.441	.761
16	4.291	.326
17	3.353	1.443
18	3.422	.291
19	2.971	1.179
20	3.598	1.587
21	3.987	.592
22	5.000	.239
23	3.832	1.000
24	4.177	1.287
25	3.339	.949
26	3.932	1.011
27	4.282	1.193
28	3.705	1.453
29	4.994	1.921
30	4.983	.233
31	3.925	.796
32	2.993	.767
33	2.860	.591
34	4.072	1.372
35	3.819	1.090
36	4.271	1.078
37	4.028	.806
38	3.862	1.082
39	4.100	1.402
MEAN :	3.914	1.028
STD :	.592	.442

*** FUNCTIONAL CLASS = 6***
***WEIGHT CLASSIFICATION = LIGHT (W < 50,000 TONS) ***

#	AXLES/TRUCK	ESAL/AXLE
1	2.530	.316
2	2.306	.374
3	3.331	.720
4	3.542	.639
5	2.699	.225
6	3.997	.221
7	3.609	.213
8	3.601	.237
9	3.863	.232
10	3.173	.401
11	2.939	.319
12	3.924	.202

13	3.692	.223
14	3.422	.196
15	2.617	.227
16	2.281	.256
17	3.056	.219
18	2.762	.229
19	3.739	.280
20	4.513	.604
21	3.529	.242
22	3.373	.636
23	2.559	.298
24	2.585	.552
25	3.363	.211
26	3.496	.244
27	3.826	.193
28	3.621	.224
29	3.052	.729
30	3.265	.323
31	3.110	.212
MEAN :	3.270	.329
STD :	.542	.168

***WEIGHT CLASSIFICATION = MEDIUM (50,000 =< W < 4 00,000 TONS) ***

#	AXLES/TRUCK	ESAL/AXLE
1	3.178	.259
2	3.175	.388
3	2.192	.238
4	3.248	.206
5	3.946	.266
6	3.934	.299
7	4.003	.259
8	4.092	.789
9	3.175	.251
10	3.820	.221
11	3.632	.227
12	3.857	.234
13	4.503	1.068
14	3.835	.297
15	3.653	.261
16	2.890	.409
17	3.554	.241
18	3.363	.569
19	3.136	.264
20	3.673	.263
21	3.200	.207
22	3.339	.280
23	3.341	.268
24	3.561	.276
MEAN :	3.512	.335
STD :	.474	.203

***WEIGHT CLASSIFICATION = HEAVY (W >= 400,000 TON S) ***

#	AXLES/TRUCK	ESAL/AXLE
1	5.311	1.077
2	4.855	.916
3	3.871	.592
4	3.181	1.103
5	4.348	.946

6	4.283	1.151
7	3.631	.403
8	3.882	.998
9	5.126	1.279
10	4.564	1.241
11	4.407	1.223
12	4.969	.384
MEAN :	4.369	.943
STD :	.643	.316

*** FUNCTIONAL CLASS = 7***

***WEIGHT CLASSIFICATION = LIGHT (W < 50,000 TONS) ***

#	AXLES/TRUCK	ESAL/AXLE
1	3.191	.282
2	2.384	.321
3	2.129	.322
4	3.913	1.414
5	2.922	.336
6	3.075	.655
7	2.562	.544
8	2.363	.383
9	2.776	.337
10	2.671	.292
11	3.305	.324
12	3.277	.299
13	3.538	.928
14	3.256	1.083
15	3.292	.311
16	3.459	.419
17	2.445	.289
18	4.613	.555
19	3.461	.234
20	3.231	.485
21	3.000	.282
22	3.271	.216
23	3.275	.272
24	2.610	.452
25	2.683	.724
26	2.666	.245
MEAN :	3.053	.462
STD :	.537	.290

***WEIGHT CLASSIFICATION = MEDIUM (50,000 =< W < 4 00,000 TONS) ***

#	AXLES/TRUCK	ESAL/AXLE
1	3.188	.600
2	3.412	.834
3	3.212	.514
4	3.665	.385
5	3.588	.753
6	2.824	.386
7	2.670	.297
8	3.094	.354
9	3.016	.925
10	3.274	.331
11	3.010	.375
12	3.432	1.070
13	2.666	.361
14	4.271	1.389

15	3.204	1.358
16	3.500	1.247
17	3.582	1.092
18	3.551	2.148
19	3.255	1.614
20	2.617	.347
21	3.189	.218
22	2.677	.231
23	2.902	.263
24	3.904	1.152
25	2.532	.399
26	2.227	.361
27	2.869	.388
28	2.428	.659
29	4.138	1.247
30	3.556	.711
31	2.752	.271
32	3.028	.249
MEAN :	3.164	.704
STD :	.484	.487

***WEIGHT CLASSIFICATION = HEAVY (W >= 400,000 TON S) ***

#	AXLES/TRUCK	ESAL/AXLE
1	2.918	.273
2	3.989	.403
3	4.213	1.077
4	4.079	1.489
5	4.131	1.346
6	3.177	.815
7	2.931	.349
8	3.890	.996
9	4.173	.930
10	4.539	1.249
11	4.516	1.118
12	4.659	1.239
13	3.809	1.175
14	2.811	.953
15	4.343	1.793
16	4.343	1.184
17	4.520	1.765
18	2.511	1.125
19	3.812	1.459
20	4.125	1.647
21	3.154	1.105
22	3.476	.980
23	4.273	1.676
24	4.494	1.163
25	4.189	.199
MEAN :	3.883	1.100
STD :	.623	.440

*** FUNCTIONAL CLASS = 8***
***WEIGHT CLASSIFICATION = LIGHT (W < 50,000 TONS) ***

#	AXLES/TRUCK	ESAL/AXLE
1	2.242	.349
2	2.328	.314
3	3.893	.419
4	2.699	.529

5	2.476	.157
6	2.908	1.069
7	3.080	.508
MEAN :	2.804	.478
STD :	.568	.289

***WEIGHT CLASSIFICATION = MEDIUM (50,000 =< W < 4 00,000 TONS) ***

#	AXLES/TRUCK	ESAL/AXLE
1	3.462	1.133
2	3.649	1.019
3	4.520	1.030
4	3.245	1.204
5	2.352	.250
6	2.648	.248
7	3.032	.546
8	3.565	.765
MEAN :	3.309	.774
STD :	.666	.386

***WEIGHT CLASSIFICATION = HEAVY (W >= 400,000 TON S) ***

#	AXLES/TRUCK	ESAL/AXLE
1	3.759	.859
2	5.241	1.102
3	4.530	1.148
4	3.079	2.178
5	3.214	1.622
MEAN :	3.965	1.382
STD :	.914	.524

*** FUNCTIONAL CLASS = 9***
***WEIGHT CLASSIFICATION = LIGHT (W < 50,000 TONS) ***

#	AXLES/TRUCK	ESAL/AXLE
1	3.742	.212
MEAN :	3.742	.212
STD :	.000	.000

***WEIGHT CLASSIFICATION = MEDIUM (50,000 =< W < 4 00,000 TONS) ***

#	AXLES/TRUCK	ESAL/AXLE
1	2.353	.375
MEAN :	2.353	.375
STD :	.000	.000

***WEIGHT CLASSIFICATION = HEAVY (W >= 400,000 TON S) ***

#	AXLES/TRUCK	ESAL/AXLE
NO RECORD FOR THIS CATEGORY		

*** FUNCTIONAL CLASS 1 TO 9 (COMBINED) ***
***WEIGHT CLASSIFICATION = LIGHT (W < 50,000 TONS) ***

#	AXLES/TRUCK	ESAL/AXLE
1	2.242	.349
2	4.509	.178
3	4.483	.163
4	4.377	.208
5	4.604	.189
6	3.191	.282
7	4.326	.247
8	2.384	.321
9	4.690	.162
10	2.129	.322
11	3.913	1.414
12	2.530	.316
13	2.922	.336
14	3.075	.655
15	2.328	.314
16	2.562	.544
17	2.363	.383
18	2.306	.374
19	3.331	.720
20	3.235	.505
21	4.539	.180
22	3.542	.639
23	4.315	.182
24	2.699	.225
25	3.893	.419
26	2.776	.337
27	3.997	.221
28	2.671	.292
29	4.373	.188
30	4.631	.189
31	3.609	.213
32	2.699	.529
33	3.584	.224
34	3.601	.237
35	3.305	.324
36	3.277	.299
37	3.863	.232
38	3.538	.928
39	2.476	.157
40	3.173	.401
41	2.908	1.069
42	2.939	.319
43	3.742	.212
44	3.080	.508
45	3.480	.256
46	4.032	.215
47	3.924	.202
48	3.692	.223
49	4.492	.194
50	3.422	.196
51	2.617	.227
52	2.281	.256
53	3.787	.270
54	3.256	1.083
55	3.056	.219
56	3.292	.311
57	3.683	.242
58	4.328	.186
59	3.708	.404
60	3.450	.200
61	4.016	.196
62	2.762	.229

63	4.561	.206
64	3.459	.419
65	3.739	.280
66	4.300	.200
67	2.445	.289
68	4.613	.555
69	4.513	.604
70	3.461	.234
71	3.529	.242
72	3.373	.636
73	3.231	.485
74	4.636	.532
75	4.202	.186
76	2.871	.443
77	3.000	.282
78	2.559	.298
79	2.585	.552
80	3.097	.563
81	3.363	.211
82	3.496	.244
83	3.826	.193
84	3.621	.224
85	3.271	.216
86	3.052	.729
87	3.672	.286
88	4.375	.175
89	3.265	.323
90	3.110	.212
91	3.275	.272
92	2.610	.452
93	2.683	.724
94	2.666	.245
95	4.501	.191
96	4.481	.183
97	4.588	.181
MEAN :	3.464	.347
STD :	.711	.220

***WEIGHT CLASSIFICATION = MEDIUM (50,000 =< W < 4 00,000 TONS) ***

#	AXLES/TRUCK	ESAL/AXLE
1	3.188	.600
2	3.863	.488
3	3.947	.554
4	3.462	1.133
5	4.257	.171
6	4.004	.296
7	3.412	.834
8	3.212	.514
9	3.178	.259
10	3.665	.385
11	4.237	.185
12	4.290	.198
13	3.649	1.019
14	4.520	1.030
15	4.433	.182
16	3.588	.753
17	2.824	.386
18	3.581	.555
19	3.879	.492
20	3.175	.388
21	2.192	.238

22	3.248	.206
23	3.946	.266
24	3.934	.299
25	3.589	.250
26	2.670	.297
27	4.003	.259
28	3.094	.354
29	3.016	.925
30	2.953	.719
31	3.204	.452
32	4.610	.177
33	4.092	.789
34	4.436	.183
35	4.511	.193
36	3.405	.270
37	3.638	.233
38	4.059	.503
39	3.555	.605
40	3.664	.555
41	3.274	.331
42	3.010	.375
43	3.175	.251
44	3.432	1.070
45	2.666	.361
46	4.097	.180
47	4.391	.176
48	3.810	.982
49	4.271	1.389
50	3.204	1.358
51	3.245	1.204
52	3.500	.305
53	4.169	.438
54	3.820	.221
55	3.610	.523
56	3.500	1.247
57	3.582	1.092
58	3.632	.227
59	3.208	.212
60	3.551	2.148
61	3.857	.234
62	4.503	1.068
63	3.255	1.614
64	4.534	.194
65	4.481	.188
66	2.617	.347
67	2.353	.375
68	2.352	.250
69	3.616	.234
70	3.920	.249
71	3.835	.297
72	4.445	.202
73	4.527	.360
74	4.120	.249
75	2.648	.248
76	3.653	.261
77	3.189	.218
78	2.677	.231
79	3.657	.201
80	3.971	.252
81	2.902	.263
82	3.904	1.152
83	2.532	.399
84	2.227	.361
85	3.032	.546

86	4.467	.199
87	3.076	.714
88	2.890	.409
89	3.554	.241
90	2.869	.388
91	3.363	.569
92	4.346	.189
93	3.136	.264
94	2.428	.659
95	3.712	.245
96	3.565	.765
97	4.138	1.247
98	3.556	.711
99	3.102	.687
100	2.989	.801
101	4.599	.187
102	3.673	.263
103	3.200	.207
104	3.339	.280
105	2.752	.271
106	3.341	.268
107	3.561	.276
108	3.228	.264
109	4.413	.193
110	3.028	.249
111	4.506	.194
112	2.278	.301
MEAN :	3.547	.476
STD :	.610	.366

***WEIGHT CLASSIFICATION = HEAVY (W >= 400,000 TON S) ***

#	AXLES/TRUCK	ESAL/AXLE
1	4.235	.228
2	3.320	1.060
3	2.918	.273
4	3.989	.403
5	4.213	1.077
6	4.362	1.541
7	3.752	.828
8	4.079	1.489
9	4.131	1.346
10	3.124	1.193
11	3.177	.815
12	3.759	.859
13	2.931	.349
14	3.284	.298
15	3.890	.996
16	3.134	.988
17	5.241	1.102
18	3.548	.947
19	4.776	1.485
20	4.607	1.088
21	4.471	1.228
22	4.173	.930
23	4.539	1.249
24	4.516	1.118
25	4.530	1.148
26	4.659	1.239
27	5.311	1.077
28	4.855	.916
29	4.030	1.396

30	4.984	1.849
31	4.213	.295
32	3.823	1.454
33	4.045	.196
34	3.871	.592
35	3.441	.761
36	3.181	1.103
37	3.809	1.175
38	4.348	.946
39	2.811	.953
40	4.291	.326
41	3.353	1.443
42	3.422	.291
43	2.971	1.179
44	3.598	1.587
45	3.079	2.178
46	3.214	1.622
47	3.987	.592
48	4.283	1.151
49	4.003	1.064
50	5.000	.239
51	3.832	1.000
52	4.177	1.287
53	3.339	.949
54	4.343	1.793
55	3.631	.403
56	3.932	1.011
57	4.282	1.193
58	4.343	1.184
59	3.705	1.453
60	4.994	1.921
61	3.882	.998
62	4.520	1.765
63	4.983	.233
64	5.126	1.279
65	2.511	1.125
66	3.812	1.459
67	4.564	1.241
68	4.125	1.647
69	3.154	1.105
70	3.925	.796
71	3.476	.980
72	4.407	1.223
73	2.993	.767
74	2.860	.591
75	4.072	1.372
76	4.273	1.676
77	3.819	1.090
78	4.271	1.078
79	4.494	1.163
80	4.028	.806
81	4.969	.384
82	4.189	.199
83	3.862	1.082
84	4.100	1.402
MEAN :	3.979	1.039
STD :	.629	.445

9092 KENTUCKY COAL-HAUL ROADS
********** SUMMARY **********

F.CLS/WEIGHT	N	AXL/TRK	STD	ESAL/AXL	STD
1 / L	18	4.454	.158	.186	.013
1 / M	18	4.421	.133	.197	.041
1 / H	2	4.140	.134	.212	.023
2 / L	14	3.697	.483	.327	.133
2 / M	29	3.562	.425	.435	.208
2 / H	39	3.914	.592	1.028	.442
6 / L	31	3.270	.542	.329	.168
6 / M	24	3.512	.474	.335	.203
6 / H	12	4.369	.643	.943	.316
7 / L	26	3.053	.537	.462	.290
7 / M	32	3.164	.484	.704	.487
7 / H	25	3.883	.623	1.100	.440
8 / L	7	2.804	.568	.478	.289
8 / M	8	3.309	.666	.774	.386
8 / H	5	3.965	.914	1.382	.524
9 / L	1	3.742	.000	.212	.000
9 / M	1	2.353	.000	.375	.000
9 / H	NO RECORD FOR THIS CATEGORY				
99 / L	97	3.464	.711	.347	.220
99 / M	112	3.547	.610	.476	.366
99 / H	84	3.979	.629	1.039	.445

Note : 99 = COMBINED DATA FOR F.CLS
1 TO 9 (RURAL ROADS)

II. "NCOALR" COMPUTER PROGRAM

This program is similar to "COALR" programs, but for non-coal road. The input required is only the ESAL data which are the same input file used in "COALR" and no Coal data are needed.

"NCOALR" consists of two program, the first program, NCOALR1.EXE, computes ESALS/axle and Axles\Truck and their standard deviation values of the non-coal haul roads for each weight classification and functional classes 1 to 9 which are denoted as rural roads. The second program, NCOALR3.EXE (there is no NCOALR3.exe in NCOALR), is the same as the first program except it uses file unit 300 (FILE300) that is produced by the first program. This program enabling to analysis the combined of several annually data by merging FILE300s of specific years are used as the input file.

The programs listing and the sample of output files are given in pages 120-133.

"NCOALR1" AND "NCOALR3" PROGRAMS LISTING

```
$DEBUG
C*********************************************************************
C   *****************        PROGRAM : NCOALR       ********************
C*********************************************************************
C* THIS PROGRAM WAS DEVELOPED FOR PERFORMING STATISTICAL ANALYSIS OF *
C* THE KENTUCKY ESAL DATA                                             *
C* *******************************************************************
       REAL*8 RTA,RTB,RTC,RT
       REAL*8 AMP,BMP,CMP,AX,ESL
       INTEGER IW,IFC,IADT,ICO,JCO,NF,IOUT,NC,ICOD
       CHARACTER*14 INFA, INFB,OUTA,OUTB
       CHARACTER*5 YR
       CHARACTER*2 YRR
       INTEGER IFL
       COMMON IFL,IFC,W
       CHARACTER*8 FLA
       CHARACTER*3 W
C*****************************************************************
C      READ COAL DATA, ESAL AND AADT FROM COALDATA AND ESAL DATA *
C*****************************************************************
       DO 32 I=1,40
       WRITE(*,10009)
  32   CONTINUE
       WRITE(*,'(A)')' THE INPUT ESAL DATA NAME : A14 - '
       READ(*,'(A)')INFB
C      OPEN(200,FILE='FILE200')
       OPEN(300,FILE='FILE300')
       OPEN(500,FILE=INFB)
       WRITE(*,*)' THE YEAR OF DATA (A4) :'
       READ(*,2200)YR
       OPEN(11)
       WRITE(11,2225)YR
       BACKSPACE 11
       READ(11,2235)YRR
       CLOSE(11,STATUS='DELETE')
 2235  FORMAT(T3,A2)
       DO 33 I=1,20
       WRITE(*,10009)
  33   CONTINUE
       WRITE(*,9997)YR
       WRITE(*,9998)
       DO 34 I=1,9
       WRITE(*,10009)
  34   CONTINUE
       REWIND 500
  50   READ(500,2000,END=100)JCO,RTC,CMP,IFC,IADT,AX,ESL,ICOD
       WRITE(*,2000)JCO,RTC,CMP,IFC,IADT,AX,ESL,ICOD
       WRITE(*,*)ICOD
       IF (ICOD.EQ.2) THEN
       WRITE(300,2000)JCO,RTC,CMP,IFC,IADT,AX,ESL,ICOD
       WRITE(*,2000)JCO,RTC,CMP,IFC,IADT,AX,ESL,ICOD
       ENDIF
       GOTO 50
 100   CLOSE(300)
       CLOSE(500)
C*********************************************************************
C  CLASSIFYING THE FILE INTO FUNC.CLASS AND WEIGHT OF COAL HAULED
C*********************************************************************
       RT=0
       ICO=0
       IFC =0
```

```
      IADT = 0
      AX = 0
      ESL = 0
      OPEN(300,FILE='FILE300',STATUS='OLD',MODE='READ')
      OPEN(600,FILE='FILE600')
      OPEN(640,FILE='FILE640')
      NC=1
      NF=590
      REWIND 300
 120  READ(300,2010,END=130)ICO,RT,CMP,IFC,IADT,AX,ESL
       IF (IFC.EQ.NC) GOTO 600
      GOTO 120
 130  CLOSE(NF+10)
      IF (NC.EQ.2)  GOTO 1110
      REWIND 300
      NC=2
      NF=630
      GOTO 120
 600  IOUT=NF+10
      GOTO 900
 900  WRITE(IOUT,2010)ICO,RT,CMP,IFC,IADT,AX,ESL
      GOTO 120
1110  OPEN(700,FILE='FILE700')
      OPEN(740,FILE='FILE740')
      NC=6
      NF=690
      REWIND 300
1120  READ(300,2010,END=1130)ICO,RT,CMP,IFC,IADT,AX,ESL
       IF (IFC.EQ.NC) GOTO 1600
      GOTO 1120
1130  CLOSE(NF+10)
      IF (NC.EQ.7)  GOTO 2110
      REWIND 300
      NC=7
      NF=730
      GOTO 1120
1600  IOUT=NF+10
      GOTO 1900
1900  WRITE(IOUT,2010)ICO,RT,CMP,IFC,IADT,AX,ESL
      GOTO 1120
2110  OPEN(800,FILE='FILE800')
      OPEN(840,FILE='FILE840')
      NC=8
      NF=790
      REWIND 300
2120  READ(300,2010,END=2130)ICO,RT,CMP,IFC,IADT,AX,ESL
       IF (IFC.EQ.NC) GOTO 2600
      GOTO 2120
2130  CLOSE(NF+10)
      IF (NC.EQ.9)  GOTO 9000
      REWIND 300
      NC=9
      NF=830
      GOTO 2120
2600  IOUT=NF+10
      GOTO 2900
2900  WRITE(IOUT,2010)ICO,RT,CMP,IFC,IADT,AX,ESL
      GOTO 2120
9000  CLOSE(300)
      OPEN(300,FILE='FILE300')
      OPEN(910,FILE='FILE910')
5500  READ(300,2010,END=5600)ICO,RT,CMP,IFC,IADT,AX,ESL
        IF (IFC.LT.11) GOTO 5510
      GOTO 5500
```

```
5510    WRITE(910,2010)ICO,RT,CMP,IFC,IADT,AX,ESL
        GOTO 5500
5600    CLOSE(910)
C************************************************************************
C  COMPUTING THE STATISTICS FOR EACH  FUNC. CLASS
C************************************************************************
        DO 333 I=1,50
 333    CONTINUE
        OUTA='NCOAL'//YRR//'.OUT'
        OUTB='NCOAL'//YRR//'.SUM'
        OPEN(1000,FILE=OUTA)
        OPEN(1500,FILE=OUTB)
        WRITE(1000,10010)YR
        WRITE(1000,10030)
        WRITE(1500,10010)YR
        WRITE(1500,10015)
        WRITE(1500,10030)
        WRITE(1500,10035)
        WRITE(1500,10040)
C
        IFC=0
        K=600
C3450    W="L"
 3450   IFC=IFC+1
        IF (IFC.GT.9) GOTO 3460
        WRITE(1000,10050)IFC
        GOTO 3500
3460    IFC=IFC+89
        WRITE(1000,*)"          *** FUNCTIONAL CLASS 1 TO 9 (COMBINED) **
     **"
3475  CONTINUE
3500        IFL=K
            GOTO  3600
3600        OPEN(11,FILE='11')
            WRITE(11,9999)IFL
9999        FORMAT('FILE',I3)
            BACKSPACE 11
            READ(11,9991)FLA
            CLOSE(11,STATUS='DELETE')
9991        FORMAT(A7)
            OPEN(IFL,FILE=FLA)
        CALL STAT
        CLOSE(IFL,STATUS='DELETE')
3620    IF  (IFC.EQ.1) GOTO 3630
        IF  (IFC.EQ.2)  GOTO 3640
        IF  (IFC.EQ.6)  GOTO 3650
        IF  (IFC.EQ.7)  GOTO 3660
        IF  (IFC.EQ.8)  GOTO 3670
        IF  (IFC.EQ.9)  GOTO 3675
        IF  (IFC.GT.10) GOTO 3680
3630    K=640
        GOTO 3450
3640    IFC=5
        K=700
        GOTO 3450
3650    K=740
        GOTO 3450
3660    K=800
        GOTO 3450
3670    K=840
        GOTO 3450
3675    K=910
        GOTO 3450
3680    WRITE(1500,10040)
```

```
      WRITE(1500,*)"             Note : 99 = COMBINED DATA FOR F.CLS"
      WRITE(1500,*)"                      1 TO 9 (RURAL ROADS)"
      WRITE(*,*)"                     *** PROGRAM COMPLETED ***"
      WRITE(*,*)"    *** THE OUTPUT FILES : ",OUTA," AND ",OUTB,"****"
C
C*********************************************************************
C  *  FORMAT STATEMENTS.                                             *
C  *******************************************************************
C
1000   FORMAT (I3,A2,1X,A6,2A7,18X,I9,I3)
1050   FORMAT(I3,A2,A6,1X,A7,1X,A7,1X,I9,1X,I3)
1055   FORMAT(I3,1X,A1,A6,1X,A7,1X,A7,1X,I9,1X,I3)
1060   FORMAT(I3,A8,1X,F7.1,1X,F7.1,1X,I9,1X,I3)
1070   FORMAT(I4,A8,1X,F7.1,1X,F7.1,1X,I9,1X,I3,1X,I7,1X,F6.3,1X,F5.3)
2000   FORMAT(I4,5X,A8,1X,F7.3,2X,I2,1X,I7,2X,F6.3,4X,F5.3,T58,I2)
2010   FORMAT(I4,5X,A8,1X,F7.3,2X,I2,1X,I7,2X,F6.3,4X,F5.3)
2200   FORMAT(A5)
2225   FORMAT(A4)
5000   FORMAT (I3,A8,3A7,16X,I9)
5050   FORMAT(I3,A8,1X,A7,1X,A7,1X,A7,1X,I9)
5060   FORMAT(I3,A8,1X,F7.3,1X,F7.3,1X,F7.3,1X,I9,1X,I3,1X,I7,1X
     * ,F6.3,1X,F5.3)
5070   FORMAT(I4,A8,1X,F7.1,1X,F7.1,1X,I9,1X,I3,1X,I7,1X
     * ,F6.3,1X,F5.3)
6000   FORMAT(I4,5X,A8,1X,F7.3,2X,I3,I7,2X,F6.3,4X,F5.3)
9997   FORMAT('               ******',A5,' KENTUCKY COAL-HAUL ROADS ANALY
     *SIS ******')
9998   FORMAT('               ****************    IN PROGRESS    ********
     ***********')
10009  FORMAT('')
10050  FORMAT(16X,'*** FUNCTIONAL CLASS =',I3 ,'***')
10010  FORMAT(20X,A5,' KENTUCKY NON COAL-HAUL ROADS')
10015  FORMAT(20X,'**********  SUMMARY **********')
10030  FORMAT('')
10035  FORMAT(10X,'FUNC.CLASS     N   AXL/TRK   STD   ESAL/AXL   STD')
10040  FORMAT(10X,'---------------------------------------------------')
C
3685   STOP
       END
       SUBROUTINE  STAT
       REAL*8 X(500),Y(500),AX,ESL
       INTEGER N,IFL
       COMMON IFL,IFC,W
       N=0
       WRITE(1000,10100)
       WRITE(1000,10110)
       WRITE(1000,10120)
4000   READ(IFL,7000,END=4100)AX,ESL
         N=N+1
           X(N) = AX
           Y(N) = ESL
       WRITE(1000,7500)N,X(N),Y(N)
         GOTO 4000
4100   XSUM=0
       YSUM=0
       DO 4200 I=1,N
          XSUM=XSUM+X(I)
          YSUM=YSUM+Y(I)
4200   CONTINUE
       IF (N.GT.0) GOTO 4210
       WRITE(1000,*)"                    NO RECORD FOR THIS CATEGORY"
       WRITE(1500,11000)IFC,W
       WRITE(1000,10120)
       WRITE(1000,10100)
```

```
      GOTO 4350
4210  IF (N.GT.1) GOTO 4220
      XAVG=XSUM
      YAVG=YSUM
      XSTD=0
      YSTD=0
      WRITE(1000,10120)
      WRITE(1000,10150)XAVG,YAVG
      WRITE(1000,10170)XSTD,YSTD
      WRITE(1000,10100)
      WRITE(1500,11010)IFC,W,N,XAVG,XSTD,YAVG,YSTD
      GOTO 4350
4220  XAVG=XSUM/N
      YAVG=YSUM/N
      SUMX=0
      SUMY=0
      DO 4300 I=1,N
         SUMX=SUMX+(X(I)-XAVG)**2
         SUMY=SUMY+(Y(I)-YAVG)**2
4300  CONTINUE
      XVAR=SUMX/(N-1)
      YVAR=SUMY/(N-1)
      WRITE(1000,10120)
      WRITE(1000,10150)XAVG,YAVG
      XSTD=SQRT(XVAR)
      YSTD=SQRT(YVAR)
      WRITE(1000,10170)XSTD,YSTD
      WRITE(1000,10100)
      WRITE(1500,11010)IFC,W,N,XAVG,XSTD,YAVG,YSTD
7000  FORMAT(39X,F6.3,3X,F6.3)
7500  FORMAT(22X,I3,5X,F6.3,7X,F5.3)
10100 FORMAT('')
10110 FORMAT(22X,' #   AXLES/TRUCK    ESAL/AXLE')
10120 FORMAT(22X,'-------------------------------')
10150 FORMAT(22X,'MEAN :'2X,F6.3,7X,F5.3)
10170 FORMAT(22X,'STD  :'2X,F6.3,7X,F5.3)
11000 FORMAT(12X,I3,' / ',A2,'  NO. RECORD FOR THIS CATEGORY')
11010 FORMAT(12X,I3,' / ',A2,2X,I4,3X,F6.3,1X,F6.3,4X,F5.3,2X,F5.3)
4350  RETURN
      END

$DEBUG
C*********************************************************************
C  ****************      PROGRAM : NCOALR3      **********************
C*********************************************************************
C* THIS PROGRAM IS THE SAME AS THE PROGRAM "NCOALR1",EXCEPT IT RUNS  *
C* USING FILE300s THAT PRODUCED BY "NCOALR1" AS THE INPUT FILE. SO BY*
C* MERGING FILE300s FROM SEVERAL YEARS OF ANALYSIS INTO A SINGLE NEW *
C* DATAFILE, A COMBINED ANALYSIS CAN BE PERFORMED BY THIS PROGRAM ****
C* *******************************************************************
      REAL*8 RT
      REAL*8 AMP,BMP,AX,ESL
      INTEGER IW,IFC,IADT,ICO,NF,IOUT,NC
      CHARACTER*14 OUTA,OUTB,INFA
      CHARACTER*4 YRA,YRB
      CHARACTER*4 YR
      INTEGER IFL
      COMMON IFL,IFC,W
      CHARACTER*8 FLA
      CHARACTER*3 W
C*****************************************************************
C     READ COAL DATA, ESAL AND AADT FROM COALDATA AND ESAL DATA *
C*****************************************************************
```

```
      DO 10 I=1,40
      WRITE(*,10009)
 10   CONTINUE
      WRITE(*,'(A)')' THE  INPUT FILE NAME = '
      READ(*,'(A)')INFA
      WRITE(*,*)' THE FIRST  YEAR OF DATA  :'
      READ(*,2200)YRA
      WRITE(*,*)' THE LAST   YEAR OF DATA  :'
      READ(*,2200)YRB
      IF (YRA.EQ.YRB) GOTO 12
         YR=YRA(3:)//YRB(3:)
         GOTO 15
 12      YR=YRA
 15   DO 33 I=1,20
      WRITE(*,10009)
 33   CONTINUE
      WRITE(*,9997)YRA,YRB
      WRITE(*,9998)
      DO 34 I=1,9
      WRITE(*,10009)
 34   CONTINUE
C***********************************************************************
C  CLASSIFYING THE FILE INTO FUNC.CLASS
C***********************************************************************
      ICO =0
      RT = 0
      AMP = 0
      BMP=0
      IW = 0
      IFC =0
      IADT = 0
      AX = 0
      ESL = 0
      OPEN(300,FILE=INFA,STATUS='OLD',MODE='READ')
      OPEN(600,FILE='FILE600')
      OPEN(640,FILE='FILE640')
      NC=1
      NF=590
      REWIND 300
 120  READ(300,2010,END=130)ICO,RT,CMP,IFC,IADT,AX,ESL
       IF (IFC.EQ.NC) GOTO 600
      GOTO 120
 130  CLOSE(NF+10)
      IF (NC.EQ.2)  GOTO 1110
      REWIND 300
      NC=2
      NF=630
      GOTO 120
 600  IOUT=NF+10
      GOTO 900
 900  WRITE(IOUT,2010)ICO,RT,CMP,IFC,IADT,AX,ESL
      GOTO 120
1110  OPEN(700,FILE='FILE700')
      OPEN(740,FILE='FILE740')
      NC=6
      NF=690
      REWIND 300
1120  READ(300,2010,END=1130)ICO,RT,CMP,IFC,IADT,AX,ESL
       IF (IFC.EQ.NC) GOTO 1600
      GOTO 1120
1130  CLOSE(NF+10)
      IF (NC.EQ.7)  GOTO 2110
      REWIND 300
      NC=7
```

```
      NF=730
      GOTO 1120
1600  IOUT=NF+10
      GOTO 1900
1900  WRITE(IOUT,2010)ICO,RT,CMP,IFC,IADT,AX,ESL
      GOTO 1120
2110  OPEN(800,FILE='FILE800')
      OPEN(840,FILE='FILE840')
      NC=8
      NF=790
      REWIND 300
2120  READ(300,2010,END=2130)ICO,RT,CMP,IFC,IADT,AX,ESL
       IF (IFC.EQ.NC) GOTO 2600
      GOTO 2120
2130  CLOSE(NF+10)
      IF (NC.EQ.9)  GOTO 9000
      REWIND 300
      NC=9
      NF=830
      GOTO 2120
2600  IOUT=NF+10
      GOTO 2900
2900  WRITE(IOUT,2010)ICO,RT,CMP,IFC,IADT,AX,ESL
      GOTO 2120
9000  CLOSE(300)
      OPEN(300,FILE='FILE300')
      OPEN(910,FILE='FILE910')
5500  READ(300,2010,END=5600)ICO,RT,CMP,IFC,IADT,AX,ESL
        IF (IFC.LT.11) GOTO 5510
      GOTO 5500
5510  WRITE(910,2010)ICO,RT,CMP,IFC,IADT,AX,ESL
      GOTO 5500
5600  CLOSE(910)
C**********************************************************************
C  COMPUTING THE STATISTICS FOR EACH  FUNC. CLASS
C**********************************************************************
      DO 333 I=1,50
C        WRITE(*,10009)
 333  CONTINUE
      OUTA='NCOA'//YR//'.OUT'
      OUTB='NCOA'//YR//'.SUM'
      OPEN(1000,FILE=OUTA)
      OPEN(1500,FILE=OUTB)
      WRITE(1000,10010)YR
      WRITE(1000,10030)
      WRITE(1500,10010)YR
      WRITE(1500,10015)
      WRITE(1500,10030)
      WRITE(1500,10035)
      WRITE(1500,10040)
C
      IFC=0
      K=600
3450  IFC=IFC+1
      IF (IFC.GT.9) GOTO 3460
      WRITE(1000,10050)IFC
      GOTO 3500
3460  IFC=IFC+89
      WRITE(1000,*)"           *** FUNCTIONAL CLASS 1 TO 9 (COMBINED) **
     ***"
3475 CONTINUE
3500      IFL=K
          GOTO  3600
3600      OPEN(11,FILE='11')
```

```
          WRITE(11,9999)IFL
9999      FORMAT('FILE',I3)
          BACKSPACE 11
          READ(11,9991)FLA
          CLOSE(11,STATUS='DELETE')
9991      FORMAT(A7)
          OPEN(IFL,FILE=FLA)
      CALL STAT
      CLOSE(IFL,STATUS='DELETE')
3620  IF  (IFC.EQ.1) GOTO 3630
      IF  (IFC.EQ.2)  GOTO 3640
      IF  (IFC.EQ.6)  GOTO 3650
      IF  (IFC.EQ.7)  GOTO 3660
      IF  (IFC.EQ.8)  GOTO 3670
      IF  (IFC.EQ.9)  GOTO 3675
      IF  (IFC.GT.10) GOTO 3680
3630  K=640
      GOTO 3450
3640  IFC=5
      K=700
      GOTO 3450
3650  K=740
      GOTO 3450
3660  K=800
      GOTO 3450
3670  K=840
      GOTO 3450
3675  K=910
      GOTO 3450
3680  WRITE(1500,10040)
      WRITE(1500,*)"              Note : 99 = COMBINED DATA FOR F.CLS"
      WRITE(1500,*)"                            1 TO 9 (RURAL ROADS)"
      WRITE(*,*)"                       *** PROGRAM COMPLETED ***"
      WRITE(*,*)"   *** THE OUTPUT FILES : ",OUTA," AND ",OUTB,"***"
C
C***********************************************************************
C  *  FORMAT STATEMENTS.                                               *
C  *********************************************************************
C
1000  FORMAT (I3,A2,1X,A6,2A7,18X,I9,I3)
1050  FORMAT(I3,A2,A6,1X,A7,1X,A7,1X,I9,1X,I3)
1055  FORMAT(I3,1X,A1,A6,1X,A7,1X,A7,1X,I9,1X,I3)
1060  FORMAT(I3,A8,1X,F7.1,1X,F7.1,1X,I9,1X,I3)
1070  FORMAT(I4,A8,1X,F7.1,1X,F7.1,1X,I9,1X,I3,1X,I7,1X,F6.3,1X,F5.3)
2010  FORMAT(I4,5X,A8,1X,F7.3,2X,I2,1X,I7,2X,F6.3,4X,F5.3)
2200  FORMAT(A4)
5000  FORMAT (I3,A8,3A7,16X,I9)
5050  FORMAT(I3,A8,1X,A7,1X,A7,1X,A7,1X,I9)
5060  FORMAT(I3,A8,1X,F7.3,1X,F7.3,1X,F7.3,1X,I9,1X,I3,1X,I7,1X
     * ,F6.3,1X,F5.3)
5070  FORMAT(I4,A8,1X,F7.1,1X,F7.1,1X,I9,1X,I3,1X,I7,1X
     * ,F6.3,1X,F5.3)
6000  FORMAT(I4,5X,A8,1X,F7.3,2X,I3,I7,2X,F6.3,4X,F5.3)
9997  FORMAT('     *******',A5,' TO ',A5,' KENTUCKY NON-COAL HAUL ROADS ANALY
     *SIS ******')
9998  FORMAT('     ********************     IN PROGRESS     ***************
     ***********')
10009 FORMAT('')
10050 FORMAT(16X,'*** FUNCTIONAL CLASS =',I3 ,'***')
10010 FORMAT(20X,A5,' KENTUCKY NON COAL-HAUL ROADS')
10015 FORMAT(20X,'**********  SUMMARY **********')
10030 FORMAT('')
10035 FORMAT(10X,'FUNC.CLASS     N   AXL/TRK   STD   ESAL/AXL    STD')
10040 FORMAT(10X,'-----------------------------------------------------')
```

```
C
3685   STOP
       END
       SUBROUTINE  STAT
       REAL*8 X(200),Y(200),AX,ESL
       INTEGER N,IFL
       COMMON IFL,IFC,W
       N=0
       WRITE(1000,10100)
       WRITE(1000,10110)
       WRITE(1000,10120)
4000   READ(IFL,7000,END=4100)AX,ESL
         N=N+1
           X(N) = AX
           Y(N) = ESL
       WRITE(1000,7500)N,X(N),Y(N)
         GOTO 4000
4100   XSUM=0
       YSUM=0
       DO 4200 I=1,N
          XSUM=XSUM+X(I)
          YSUM=YSUM+Y(I)
4200   CONTINUE
       IF (N.GT.0) GOTO 4210
       WRITE(1000,*)"                        NO RECORD FOR THIS CATEGORY"
       WRITE(1500,11000)IFC,W
       WRITE(1000,10120)
       WRITE(1000,10100)
       GOTO 4350
4210   IF (N.GT.1) GOTO 4220
       XAVG=XSUM
       YAVG=YSUM
       XSTD=0
       YSTD=0
       WRITE(1000,10120)
       WRITE(1000,10150)XAVG,YAVG
       WRITE(1000,10170)XSTD,YSTD
       WRITE(1000,10100)
       WRITE(1500,11010)IFC,W,N,XAVG,XSTD,YAVG,YSTD
       GOTO 4350
4220   XAVG=XSUM/N
       YAVG=YSUM/N
       SUMX=0
       SUMY=0
       DO 4300 I=1,N
          SUMX=SUMX+(X(I)-XAVG)**2
          SUMY=SUMY+(Y(I)-YAVG)**2
4300   CONTINUE
       XVAR=SUMX/(N-1)
       YVAR=SUMY/(N-1)
       WRITE(1000,10120)
       WRITE(1000,10150)XAVG,YAVG
       XSTD=SQRT(XVAR)
       YSTD=SQRT(YVAR)
       WRITE(1000,10170)XSTD,YSTD
       WRITE(1000,10100)
       WRITE(1500,11010)IFC,W,N,XAVG,XSTD,YAVG,YSTD
7000   FORMAT(39X,F6.3,3X,F6.3)
7500   FORMAT(22X,I3,5X,F6.3,7X,F5.3)
10100  FORMAT('')
10110  FORMAT(22X,'  #   AXLES/TRUCK    ESAL/AXLE')
10120  FORMAT(22X,'-----------------------------')
10150  FORMAT(22X,'MEAN :'2X,F6.3,7X,F5.3)
10170  FORMAT(22X,'STD  :'2X,F6.3,7X,F5.3)
```

```
11000   FORMAT(12X,I3,' / ',A2,'  NO RECORD FOR THIS CATEGORY')
11010   FORMAT(12X,I3,' / ',A2,2X,I4,3X,F6.3,1X,F6.3,4X,F5.3,2X,F5.3)
4350    RETURN
        END
```

" NCOALR1" COMPUTER PROGRAM OUTPUT

1993 KENTUCKY NON COAL-HAUL ROADS

*** FUNCTIONAL CLASS = 1***

#	AXLES/TRUCK	ESAL/AXLE
1	4.326	.210
2	4.510	.212
3	4.390	.212
4	4.491	.212
5	4.580	.213
6	4.617	.210
7	4.590	.209
MEAN :	4.501	.211
STD :	.109	.001

*** FUNCTIONAL CLASS = 2***

#	AXLES/TRUCK	ESAL/AXLE
1	3.547	.213
2	3.919	.264
3	3.336	.213
4	4.076	.267
5	3.717	.235
6	3.860	.259
7	3.365	.206
8	4.346	.207
9	3.108	.214
10	3.516	.229
11	3.909	.208
12	3.331	.211
13	4.248	.218
14	3.654	.214
15	4.179	.227
16	3.412	.269
17	3.153	.200
18	2.386	.220
19	4.222	.228
MEAN :	3.647	.226
STD :	.490	.022

*** FUNCTIONAL CLASS = 6***

#	AXLES/TRUCK	ESAL/AXLE
NO RECORD FOR THIS CATEGORY		

*** FUNCTIONAL CLASS = 7***

#	AXLES/TRUCK	ESAL/AXLE
1	2.976	.142
2	3.074	.198
3	3.027	.217
4	2.642	.225
5	2.487	.157
6	2.506	.164
7	3.552	.123
8	3.237	.158
9	3.210	.290
10	2.663	.137
11	2.192	.124
12	2.422	.141
13	2.871	.198
14	1.942	.184
15	2.585	.178
16	2.284	.188
17	3.448	.246
18	3.469	.134
19	3.487	.222
20	2.930	.265
21	2.900	.144
22	3.572	.158
23	3.513	.133
24	2.958	.161
25	2.920	.194
26	3.302	.212
27	3.226	.176
28	3.178	.130
29	2.833	.315
30	2.741	.215
31	2.525	.164
32	3.769	.138
33	2.318	.154
34	3.373	.151
35	3.087	.633
36	2.889	.152
37	2.267	.144
38	2.519	.174
39	2.408	.167
40	3.773	.172
41	2.714	.289
42	2.985	.204
43	2.650	.148
44	2.803	.138
MEAN :	2.914	.190
STD :	.447	.083

*** FUNCTIONAL CLASS = 8***

#	AXLES/TRUCK	ESAL/AXLE
NO RECORD FOR THIS CATEGORY		

*** FUNCTIONAL CLASS = 9***

#	AXLES/TRUCK	ESAL/AXLE
NO RECORD FOR THIS CATEGORY		

*** FUNCTIONAL CLASS 1 TO 9 (COMBINED) ***

#	AXLES/TRUCK	ESAL/AXLE
1	2.976	.142
2	3.547	.213
3	3.919	.264
4	3.074	.198
5	3.027	.217
6	2.642	.225
7	3.336	.213
8	2.487	.157
9	2.506	.164
10	4.076	.267
11	3.552	.123
12	3.237	.158
13	3.210	.290
14	4.326	.210
15	3.717	.235
16	2.663	.137
17	4.510	.212
18	2.192	.124
19	2.422	.141
20	3.860	.259
21	2.871	.198
22	1.942	.184
23	3.365	.206
24	2.585	.178
25	2.284	.188
26	3.448	.246
27	4.390	.212
28	3.469	.134
29	3.487	.222
30	2.930	.265
31	2.900	.144
32	4.491	.212
33	3.572	.158
34	3.513	.133
35	2.958	.161
36	2.920	.194

37	3.302	.212
38	4.346	.207
39	3.226	.176
40	3.178	.130
41	2.833	.315
42	2.741	.215
43	3.108	.214
44	2.525	.164
45	3.516	.229
46	3.909	.208
47	4.580	.213
48	3.769	.138
49	2.318	.154
50	3.373	.151
51	3.331	.211
52	4.248	.218
53	3.654	.214
54	3.087	.633
55	2.889	.152
56	2.267	.144
57	2.519	.174
58	4.179	.227
59	2.408	.167
60	3.773	.172
61	2.714	.289
62	3.412	.269
63	2.985	.204
64	3.153	.200
65	4.617	.210
66	2.650	.148
67	2.803	.138
68	4.590	.209
69	2.386	.220
70	4.222	.228
MEAN :	3.272	.202
STD :	.679	.068

1993 KENTUCKY NON COAL-HAUL ROADS
********** SUMMARY **********

FUNC.CLASS	N	AXL/TRK	STD	ESAL/AXL	STD
1 /	7	4.501	.109	.211	.001
2 /	19	3.647	.490	.226	.022
6 /	NO RECORD FOR THIS CATEGORY				
7 /	44	2.914	.447	.190	.083
8 /	NO RECORD FOR THIS CATEGORY				
9 /	NO RECORD FOR THIS CATEGORY				
99 /	70	3.272	.679	.202	.068

Note : 99 = COMBINED DATA FOR F.CLS
1 TO 9 (RURAL ROADS)

III. "EALCOMP" COMPUTER PROGRAM

III.1. OVERVIEW

This program is used for computing ESAL/Axle and Axles/Truck values of specific road segments by processing outputs of "CLASSUM" (PC version) and "UNIT EAL" programs. The output of the program can be used directly for processing "COALR" and "NCOALR" programs, as their input file. The name of the program is "EALCOMP.EXE".

III.2. INPUT FILES

The input files for this program are : VCRYRxx.EAL which is one of the "CLASSUM" PC version output files, and unit ESAL from "UNITEAL". The samples of these two input files begins on page 135.

III.3. DESCRIPTION OF PROCEDURES AND OUTPUT FILES

The general information (route name, milepoint, county, functional class code, etc.), volumes of each vehicle type, volume of coal truck (COALV) of a specific road segment are from CLASSUM output. COALV is distributed to each vehicle type using distribution factors obtained from UNIT EAL output (distribution factor D(i) = COAL Vol(i)/ (COAL VOL.total). COALV(i) is set to zero or equal to TRUCK VOL (i) is TRUCK VOL(i) equal to zero or less than COAL Vol(i). The unbalance [COALV-SUM{COAL vol(i)}] is then iterated until they converge. The volumes of coal truck and non coal truck of each vehicle type are converted to ESAL/vehicle using the data given in UNIT EAL output.

The Program listing, sample of the "EALCOMP" input and output files begins on page 135. The name of this output file is EALYRxx.OUT.

III.4. RUNNING THE PROGRAM :

Type "EALCOMP" after the DOS prompt followed by <ENTER> to start the program, and enter the names of input files. The program then processes the information from input files. At the end of execution the following message appears on the screen :

```
*********** JOB COMPLETED **********
 THE OUTPUT FILE IS : EALYRxx.OUT
```

SAMPLES OF "EALCOMP" INPUTS

1. FROM "CLASSUM" (FILE NAME = CLASSYxx.EAL)

```
1CO  5STA831RTE    I  65 MP 49900YR92AADT 23900FED. AID1FUNC 1                 5 831   1 1
3 0 099 115  7599 2307 123  363  84   21306 5193  83 354  66  31    0 -17625   5 831   1 6
1CO  6STA288RTE    I  64 MP122199YR92AADT 13100FED. AID1FUNC 1                 6 288   1 1
3 0 099  18  9736 3390  71  496  33    1 176 1987  12  68   4   1    3 -15991   6 288   1 6
1CO  8STA338RTE    I  75 MP171899YR92AADT 42000FED. AID1FUNC 1                 8 338   1 1
3 0 099  55 27463 7081 328  744 373 134 908 6068  78 371  80  50    0 -43733   8 338   1 6
1CO  8STA767RTE    I 275 MP 12699YR92AADT 16100FED. AID1FUNC 1                 8 767   1 1
3 0 099  38 15144 3373  64  362  59   201232 1070  14  67   7   5    0 -21456   8 767   1 6
1CO 10STA017RTE    I  64 MP191595YR92AADT 14800FED. AID1FUNC 1                10 017   1 1
3 0 099   0  6662 4882   0  867   1 122   0 4814   0   0   0   01562 -17347  10 017   1 6
1CO 10STA022RTE    I  64 MP188199YR92AADT 14400FED. AID1FUNC 1                10 022   1 1
3 0 099  44  9590 4106 132  705 139  36 230 1691  66  45   8  10    0 -16802  10 022   1 6
1CO 15STA503RTE    I  65 MP103400YR92AADT 30100FED. AID1FUNC 1                15 503   1 1
3 0 099  12 10877 5289  68 1006 134  10 230 7835  64 328  39   0    0 -25891  15 503   1 6
1CO 22STAP47RTE    I  64 MP170899YR92AADT 11900FED. AID1FUNC 1                22 P47   1 1
3 0 099  30  5809 2995  39  570 170  94 115 2603  87  66   0   2 137 -12578  22 P47   1 6
1CO 22STA554RTE    I  64 MP159000YR92AADT  8800FED. AID1FUNC 1                22 554   1 1
3 0 099  27  8689 1498  66  221  55   7 696 1538  15  67   9   0    0 -12887  22 554   1 6
1CO 39STA257RTE    I  71 MP 62299YR92AADT 18800FED. AID1FUNC 1                39 257   1 1
3 0 099  25 10709 4196  41  626  93  42  99 6361  14 156  57   2    0 -22422  39 257   1 6
1CO 41STAP23RTE    I  75 MP164192YR92AADT 30700FED. AID1FUNC 1                41 P23   1 1
3 0 099  96 17984 5657 223  476 191  461101 4785  51 305  70  14    0 -31001  41 P23   1 6
1CO 47STAP50RTE    I  65 MP 89400YR92AADT 28000FED. AID1FUNC 1                47 P50   1 1
3 0 099  48 14698 6250 128  712  91   6 849 6459  30 336  22   9    0 -29638  47 P50   1 6
1CO 52STAP48RTE    I  71 MP 36349YR92AADT 17600FED. AID1FUNC 1                52 P48   1 1
3 0 099  54 17238 4417 129  725 197  37 895 8471  69 406  62  13    0 -32712  52 P48   1 6
1CO 56STA019RTE    I  64 MP 19799YR92AADT 31200FED. AID1FUNC 1                56 019   1 1
3 0 099  77 23937 8462  81 1249 193  44 543 5021  56 240  17   0    0 -39921  56 019   1 6
1CO 59STA521RTE    I  75 MP171699YR92AADT 29000FED. AID1FUNC 1                59 521   1 1
3 0 099  74 2242910075 112 1298 354  51 267 6172 103 335  39   0    3 -41307  59 521   1 6
1CO 72STAP51RTE    I  24 MP 37400YR92AADT 14600FED. AID1FUNC 1                72 P51   1 1
3 0 099  47  6900 3704  31  577  53   1 129 3906  60 274   6   0    1 -15690  72 P51   1 6
1CO 72STA054RTE    I  24 MP 47200YR92AADT  8610FED. AID1FUNC 1                72 054   1 1
3 0 099 206  6484 2525  57  222 190  24 297 1900 428 165  27   0    0 -12525  72 054   1 6
1CO 73STA006RTE    I  24 MP 13300YR92AADT 17400FED. AID1FUNC 1                73 006   1 1
3 0 099   9  9654 4579  72  572 127  60  84 3441  16 281  13   1    1 -18910  73 006   1 6
1CO 79STA049RTE    I  24 MP 29500YR92AADT 13900FED. AID1FUNC 1                79 049   1 1
3 0 099  52 10235 5819  30  606  85  57 125 3507  42 248   2   0    0 -20807  79 049   1 6
1CO 87STA002RTE    I  64 MP112199YR92AADT 13600FED. AID1FUNC 1                87 002   1 1
3 0 099   1  8853 4065   2  462  20   2   1 1830   0   1   0   0    0 -15238  87 002   1 6
1CO 93STA315RTE    I  71 MP 23799YR92AADT 28400FED. AID1FUNC 1                93 315   1 1
3 0 099  37 13676 4521  89  772 152  33 207 6713  82 173 113   0    0 -26568  93 315   1 6
1CO102STA070RTE    I  75 MP 70400YR92AADT 24300FED. AID1FUNC 1               102 070   1 1
3 0 099  72 22010 7237 130 1059 122  61 406 5917  47 398  38  12    0 -37510 102 070   1 6
1CO103STA769RTE    I  64 MP135649YR92AADT 10100FED. AID1FUNC 1               103 769   1 1
3 0 099  19  5765 2604  23  510  40   8 117 2655  28  63   4   1    0 -11836 103 769   1 6
1CO106STAP22RTE    I  64 MP 38200YR92AADT 27600FED. AID1FUNC 1               106 P22   1 1
3 0 099  51 14168 4718  91  728 110  55 517 3758  63 174  12   7    0 -24453 106 P22   1 6
1CO114STA065RTE    I  65 MP 35200YR92AADT 31500FED. AID1FUNC 1               114 065   1 1
3 0 099  57 15973 7313 166 1013 178  44 234 7991  41 442  23   2    0 -33477 114 065   1 6
1CO118STA051RTE    I  75 MP 26600YR92AADT 26000FED. AID1FUNC 1               118 051   1 1
3 0 099  36 14193 7714  94 1065 164  11 192 6101  39 337  43   0   81 -29991 118 051   1 6
1CO  3STA043RTE   US 127 MP  9899YR92AADT  8550FED. AID2FUNC 2                 3 043   2 1
3 0 099   9  6908 1254  20  100  65   5  62  175   9   0   0   0    0  -8606   3 043   2 6
1CO  4STA251RTE   US  60 MP 10800YR92AADT  4800FED. AID2FUNC 2                 4 251   2 1
3 0 099  11  3162 2257  30  190  50   1  27  371   2   9   0   0    0  -6111   4 251   2 6
1CO  5STA341RTE   KY9008 MP 18000YR92AADT  3640FED. AID2FUNC 2                 5 341   2 1
3 0 099   2  1900  913  22  182  78  25 105  494   6  16   1   0    0  -3745   5 341   2 6
1CO  5STA598RTE   KY9008 MP 13000YR92AADT  5810FED. AID2FUNC 2                 5 598   2 1
3 0 099   0  2635 1573  12  268  37   9  42  676  10  12   1   0    2  -5277   5 598   2 6
1CO  7STAP31RTE   US  25EMP 19034YR92AADT  7410FED. AID2FUNC 2                 7 P31   2 1
3 0 099  15  4081 2788  16  441 518  91  38  769  23  10   0   0 114  -8790   7 P31   2 6
1CO  9STAP26RTE   US  68 MP  4183YR92AADT  6560FED. AID2FUNC 2                 9 P26   2 1
3 0 099  21  4410 2763  33  299  46  12  21  263   9   3   0   0    0  -7879   9 P26   2 6
1CO 10STAP42RTE   US  23 MP   100YR92AADT  8610FED. AID2FUNC 2                10 P42   2 1
3 0 099   9  5553 1407  45  233 138  15 172 16151300   2   1   5    0 -10495  10 P42   2 6
1CO 12STA002RTE   KY 546 MP 11100YR92AADT  1000FED. AID2FUNC 2                12 002   2 1
3 0 099   4  1479  752   0   96  19   5  52  287   9   2   0   0    8  -2705  12 002   2 6
1CO 12STA003RTE   KY 546 MP 15300YR92AADT  1000FED. AID2FUNC 2                12 003   2 1
3 0 099  10  1810  383   5   67  33   0  38  257   9   2   1   0    0  -2615  12 003   2 6
1CO 13STA755RTE   KY  15 MP 14300YR92AADT  6560FED. AID2FUNC 2                13 755   2 1
3 0 099   3  3884 2626  28  218  57   3   1  299 112   0   0   0 207  -7230  13 755   2 6
```

```
1CO 13STA784RTE  KY  15 MP 24399YR92AADT  5010FED. AID2FUNC 2                    13 784  2 1
3 0 099   6  3339 2287  63  233   2 501  40   37   0   0   0   4 229  -6512  13 784  2 6
```

2. UNIT EAL OUTPUT

FUNCTIONAL CLASS 1   YEAR 1990, 91, 92

NUMBER OF VEHICLES WEIGHED

VEH TYPE	NON-COAL	COAL	ALL
4	4446	0	4446
5	13635	0	13635
6	4746	24	4770
7	1627	8	1635
8	12983	0	12983
9	138849	643	139492
10	1282	80	1362
11	9253	0	9253
12	1005	0	1005
13	14	0	14
14	187840	755	188595

EALS PER AXLE

VEH TYPE	NON-COAL	COAL	ALL
4	0.28958	0.00000	0.28958
5	0.15403	0.00000	0.15403
6	0.25695	2.04958	0.26598
7	0.58245	4.53284	0.60176
8	0.24447	0.00000	0.24447
9	0.17609	0.74690	0.17872
10	0.23062	1.12150	0.28203
11	0.31683	0.00000	0.31683
12	0.16786	0.00000	0.16786
13	0.50249	0.00000	0.50249
14	0.19305	0.85081	0.19594

EALS PER VEHICLE

VEH TYPE	NON-COAL	COAL	ALL
4	0.66729	0.00000	0.66729
5	0.30807	0.00000	0.30807
6	0.76998	6.14875	0.79704
7	2.33303	18.13135	2.41033
8	0.91586	0.00000	0.91586
9	0.88044	3.73449	0.89359
10	1.40998	6.72902	1.72241
11	1.58414	0.00000	1.58414
12	1.00718	0.00000	1.00718
13	3.91224	0.00000	3.91224
14	0.88527	4.28109	0.89886

AXLES PER VEHICLE

VEH TYPE	NON-COAL	COAL	ALL
4	2.30432	0.00000	2.30432
5	2.00000	0.00000	2.00000
6	2.99663	3.00000	2.99664
7	4.00553	4.00000	4.00550
8	3.74628	0.00000	3.74628
9	5.00000	5.00000	5.00000
10	6.11388	6.00000	6.10719
11	5.00000	0.00000	5.00000
12	6.00000	0.00000	6.00000
13	7.78571	0.00000	7.78571
14	4.58571	5.03179	4.58749

Sample of "EALCOMP" program output

5	831	I	65	49.900	1	23900	4.608	.197	2
6	288	I	64	122.199	1	13100	4.320	.185	1
8	338	I	75	171.899	1	42000	4.471	.201	2
8	767	I	275	12.699	1	16100	3.997	.213	2
10	017	I	64	191.595	1	14800	4.531	.345	1
10	022	I	64	188.199	1	14400	4.032	.195	2
15	503	I	65	103.400	1	30100	4.624	.183	2
22	P47	I	64	170.899	1	11900	4.390	.218	1
22	554	I	64	159.000	1	8800	4.327	.199	2
39	257	I	71	62.299	1	18800	4.697	.182	2
41	P23	I	75	164.192	1	30700	4.493	.198	2
47	P50	I	65	89.400	1	28000	4.577	.189	2
52	P48	I	71	36.349	1	17600	4.646	.189	2
56	019	I	64	19.799	1	31200	4.328	.189	2
59	521	I	75	171.699	1	29000	4.413	.189	1
72	P51	I	24	37.400	1	14600	4.599	.187	1
72	054	I	24	47.200	1	8610	4.670	.204	2
73	006	I	24	13.300	1	17400	4.507	.193	1
79	049	I	24	29.500	1	13900	4.526	.191	2
87	002	I	64	112.199	1	13600	4.379	.175	2
93	315	I	71	23.799	1	28400	4.646	.183	2
102	070	I	75	70.400	1	24300	4.484	.191	2
103	769	I	64	135.649	1	10100	4.483	.182	2
106	P22	I	64	38.200	1	27600	4.410	.193	2
114	065	I	65	35.200	1	31500	4.595	.187	2
118	051	I	75	26.600	1	26000	4.509	.192	1
3	043	US	127	9.899	2	8550	3.693	.237	2
4	251	US	60	10.800	2	4800	3.828	.192	2
5	341	KY9008		18.000	2	3640	3.988	.236	2
5	598	KY9008		13.000	2	5810	4.082	.195	1
7	P31	US	25E	19.034	2	7410	3.674	.367	1
9	P26	US	68	4.183	2	6560	3.378	.212	2
10	P42	US	23	.100	2	8610	4.992	.238	2
12	002	KY	546	11.100	2	1000	4.153	.239	1
12	003	KY	546	15.300	2	1000	4.207	.203	2
13	755	KY	15	14.300	2	6560	3.976	.752	1
13	784	KY	15	24.399	2	5010	3.383	.996	1

the output name is : EALYxx.OUT (xx is the year, e.g. 90, 93), the formats are :
FORMAT(I4,1X,A3,A8,2X,F7.3,2X,I2,1X,I7,2X,F6.3,4X,F5.3,2X,I2)
the variables are : County #, Station, Route, Milepoint, Functional class code, AADT, Axles\Truck, ESAL/Axle, and Code (1 : % of coal truck > 0, and 2: % of coal truck =0, according to classum results) respectively.

"EALCOMP" PROGRAM LISTING

```
$DEBUG
      CHARACTER*8  RTE
      CHARACTER*12 INFA,INFB
      CHARACTER*11 FL,OUT,OUT1
      CHARACTER*2 YR
      CHARACTER*3 DD,DD1,STA
      INTEGER VTYP(13),AADT,IFCL,COU,FEDAID,ICODE
     *,CTRK(14),VOLCQ,NYR,RECNO,COALV
      REAL EALCV(14),EALALL(14),AXLNCV(14),AXLCV(14),NOAXLC
      REAL NOAXLE,NOAXLB,CTRKTOT
      REAL EALNCV(14),AXLALL(14),MP,TOTAL,NOCTRK(14),NOTRK(14)
      REAL*8 FCTRK(14),EALAX,AXTRK,AXPTRK,VOLC(14)
      CHARACTER*80 A
C**********************************************************************
C******************  'EALCOMP' COMPUTER PROGRAM     ******************
C*****  FOR COMPUTING ESAL/AXLE, AXLES/TRUCK OF EACH STATION *********
C*** USING THE OUTPUT OF 'UNITEAL' AND 'CLASSUM' COMPUTER PROGRAMS ***
C**********************************************************************
      DO 10 I=1,40
      WRITE(*,10009)
10009 FORMAT(' ')
 10   CONTINUE
      WRITE(*,'(A)')' THE INPUT UNIT EAL (UNITEAL OUTPUT) ='
       READ(*,'(A)')INFA
      OPEN(10,FILE=INFA,MODE='READ')
      READ(10,10000)IFC,YR
10000 FORMAT(T22,I2,12X,A2)
      WRITE(*,'(A)')' THE CLASS. DATA (CLASSUM OUTPUT) = '
       READ(*,'(A)')INFB
      OPEN(15,FILE=INFB,MODE='READ')
      FL='UNITEAL.Y'//YR
      DO 14 I=1,40
         WRITE(*,10009)
 14   CONTINUE
      WRITE(*,*)"                    *** ESAL COMPUTATION IN PROGRESS ***"
      WRITE(*,10009)
      WRITE(*,10009)
      WRITE(*,10009)
      WRITE(*,10009)
      WRITE(*,10009)
      WRITE(*,10009)
      WRITE(*,10009)
      WRITE(*,10009)
      OPEN(20,FILE=FL)
      REWIND 10
 15   READ(10,10000,END=50)IFC,YR
      READ(10,10010)A
      READ(10,10010)A
      OPEN(11,STATUS='SCRATCH')
      OPEN(12,STATUS='SCRATCH')
      OPEN(13,STATUS='SCRATCH')
      DO 20 I=1,11
         READ(10,10015)VOLCQ
         WRITE(11,10015)VOLCQ
 20   CONTINUE
      DO 22 I=1,15
         READ(10,10010)A
 22   CONTINUE
10015 FORMAT(T29,I6)
10010 FORMAT(A80)
      DO 25 I=1,11
        READ(10,10020)IVT,EALNCVQ,EALCVQ,EALALLQ
```

```
        WRITE(12,10030)IFC,IVT,EALNCVQ,EALCVQ,EALALLQ
 25     CONTINUE
10020 FORMAT(T8,I2,T18,F8.5,T27,F8.5,T36,F8.5)
10030 FORMAT(I2,1X,I2,1X,F8.5,1X,F8.5,1X,F8.5)
10033 FORMAT(3X,I2,1X,F8.5,1X,F8.5,1X,F8.5)
      READ(10,10010)A
      READ(10,10010)A
      DO 30 I=1,11
        READ(10,10020)IVT,AXLNCVQ,AXLCVQ,AXLALLQ
        WRITE(13,10030)IFC,IVT,AXLNCVQ,AXLCVQ,AXLALLQ
 30     CONTINUE
      REWIND 11
      REWIND 12
      REWIND 13
      DO 35 I=1,11
        READ(11,10015)VOLCQ
        READ(12,10033)IVT,EALNCVQ,EALCVQ,EALALLQ
        READ(13,10033)IVT,AXLNCVQ,AXLCVQ,AXLALLQ
        WRITE(20,10040)IFC,IVT,VOLCQ,EALNCVQ,EALCVQ,EALALLQ,AXLNCVQ,
     *                 AXLCVQ,AXLALLQ
 35     CONTINUE
10040 FORMAT(I2,1X,I2,I5,1X,F8.5,1X,F8.5,1X,F8.5,1X,F8.5,1X,F8.5,1X,
     *       F8.5)
10041 FORMAT(I2,1X,I2,F5.0,1X,F8.5,1X,F8.5,1X,F8.5,1X,F8.5,1X,F8.5,1X,
     *  F8.5)
      CLOSE(11,STATUS='DELETE')
      CLOSE(12,STATUS='DELETE')
      CLOSE(13,STATUS='DELETE')
      GOTO 15
 50   CLOSE(10)
      CLOSE(20)
C     ******************************************************************
      DATA DD/'STA'/
C     ******************************************************************
C     * INITIALIZING VARIABLES      *
C     ******************************************************************
      OPEN(15,FILE=INFB,STATUS='OLD',BLANK='ZERO')
      READ(15,10042)YR
10042 FORMAT(T35,A2)
      REWIND 15
      OUT='EALY'//YR//'.OUT'
      OUT1='ESAL'//YR//'.REP'
      OPEN(30,FILE=OUT)
      OPEN(51,FILE=OUT1)
 105  CONTINUE
      DO 110 I=4,14
         CTRK(I)=0
         NOCTRK(I)=0
         NOTRK(I)=0
         FCTRK(I)=0
         EALCV(I)=0
         EALNCV(I)=0
         EALALL(I)=0
         AXLNCV(I)=0
         AXLCV(I)=0
         VOLC(I)=0
 110  CONTINUE
      EALCT=0.
      EALCTA=0.
      EALT=0.
      EALTA=0.
      EALC=0.
      NOAXLC=0.
      NOAXLE=0.
      NOAXLB=0.
```

```
      NOAXCAR=0.
      EALT=0.
      EALCTA=0.
      EALTAX=0.
      EALCAR=0.
      EALBUS=0.
      EALBUSA=0.
      EALAX=0.
      AXCTRK=0.
      AXTRK=0.
      TOTTRK=0.
      TOTAL=0
      COALV=0
      CTRKTOT=0
C
C     *****************************************************************
C     * READ CLASSUM OUTPUT
C     *****************************************************************
C
 560  READ(15,4225,END=780)COU,DD1,STA,RTE,MP,NYR,AADT,FEDAID,IFCL
 4225 FORMAT(T4,I3,A3,A3,T16,A9,T27,F6.3,T35,I2,T41,I6,T55,I1,T60,I2)
      IF(DD1.EQ.DD)GO TO 580
      READ(15,4125)A
 4125 FORMAT(A80)
      GO TO 560
  580 READ(15,4250)RECNO,(VTYP(I),I=1,13),COALV,TOTAL
 4250 FORMAT(I1,T8,I4,I6,I5,I4,I5,I4,2I4,I5,5I4,F7.0)
C
      FEDAID=1
      IF(FEDAID.EQ.8)FEDAID=5
      IF(COU.EQ.0.OR.COU.GT.120.OR.FEDAID.GT.5.OR.AADT.LE.
     +0.OR.FEDAID.EQ.0) GO TO 105
      TOTAL=ABS(TOTAL)
  670 CONTINUE
      OPEN(20,FILE=FL)
      REWIND 20
  672 READ(20,4275,END=105)IX
 4275 FORMAT(I2)
      IF (IX.EQ.IFCL) THEN
         BACKSPACE 20
         DO 675 I=4,14
             READ(20,10041)IFC,IVT,VOLC(I),EALNCV(I),EALCV(I),EALALL(I)
     *                         ,AXLNCV(I),AXLCV(I),AXLALL(I)
 675     CONTINUE
         GOTO 680
      ENDIF
      GOTO 672
 680  CONTINUE
      DO 690 I=4,13
        FCTRK(I)=(VOLC(I))/(VOLC(14))
          IF (COALV.EQ.0) FCTRK(I)=0
 690  CONTINUE
      GOTO 695
      DO 692 I=4,13
      FCTRK(I)= 0.
 692  CONTINUE
C695  CONTINUE
 695  COALVR=COALV
 697  CTRKTOT=0.
      DO 700 I=4,13
      NOCTRK(I)=NOCTRK(I)+COALVR*FCTRK(I)
         IF (VTYP(I).EQ.0) NOCTRK(I)=0.
         IF (VTYP(I).LT.NOCTRK(I)) NOCTRK(I)=VTYP(I)
      CTRKTOT=CTRKTOT+NOCTRK(I)
      NOTRK(I)=VTYP(I)-NOCTRK(I)
```

```
C          IF (VTYP(I).LT.NOCTRK(I)) NOTRK(I)=0
 700   CONTINUE
           IF (CTRKTOT.LT.(0.99*COALV).AND.CTRKTOT.NE.CTRKT)  THEN
              COALVR=COALV-CTRKTOT
              CTRKT=CTRKTOT
           GOTO 697
           ENDIF
       DO 720 I=4,13
       EALCT=EALCT+NOCTRK(I)*EALCV(I)
       EALT=EALT+NOTRK(I)*EALNCV(I)
 720   CONTINUE
       EALCAR=(((VTYP(2)+VTYP(3))*0.005)*365)/1000.
C      EALBUS=(VTYP(4)*EALNCV(4))
       DO 730 I=4,13
       NOAXLC=NOAXLC+NOCTRK(I)*AXLCV(I)
       NOAXLE=NOAXLE+NOTRK(I)*AXLNCV(I)
  730  CONTINUE
C      NOAXLB=(VTYP(4)*AXLNCV(4))
       NOAXCAR=(VTYP(2)+VTYP(3))*2
       IF (NOAXLC.EQ.0) THEN
          EALCTA=0
          GOTO  740
       ENDIF
       EALCTA=EALCT/NOAXLC
 740      EALBUSA=0
 745   IF (NOAXLE.EQ.0) THEN
          EALTA=0
          GOTO  750
       ENDIF
       EALTA=EALT/NOAXLE+EALBUSA
 750   TOTTRK=TOTAL-(VTYP(1)+VTYP(2)+VTYP(3))
       IF (TOTAL.LE.0) THEN
          PERTRK =0.0
          GOTO 752
       ENDIF
       PERTRK=100*(TOTTRK/TOTAL)
 752   IF (TOTTRK.LE.0) THEN
          PERCTRK=0.0
          GOTO 755
       ENDIF
C      PERTRK=100*(TOTTRK/TOTAL)
       PERCTRK=100*(COALV/TOTTRK)
C      EALAX=EALTA
 755   IF (TOTTRK.LE.0) THEN
           EALAX=0.0
           GOTO 757
       ENDIF
C      EALAX=(EALCTA*(COALV/TOTTRK))+(EALTA*((TOTTRK-COALV)/TOTTRK))
 757   IF (COALV.EQ.0) THEN
           AXCTRK=0
           GOTO 760
       ENDIF
       AXCTRK=NOAXLC/COALV
 760   IF (TOTTRK.LE.0) THEN
           AXTRK=0.0
           AXPTRK=0.0
           GOTO 763
        ENDIF
       AXTRK=(NOAXLE)/(TOTTRK-COALV)
       AXPTRK=(AXCTRK*(COALV/TOTTRK))+(AXTRK*((TOTTRK-COALV)/TOTTRK))
C******* WEIGHTED AVERAGE BASED ON NO. AXLE (REVISED ON 05/17/95)
       EALAX=(EALCTA*(NOAXLC/(NOAXLC+NOAXLE)))+(EALTA*(NOAXLE/(NOAXLC+
     *    NOAXLE)))
 763   IF (COALV.GT.0) THEN
           ICODE =1
```

```
          GOTO 765
       ENDIF
       ICODE=2
 765   WRITE(30,11000)COU,STA,RTE,MP,IFCL,AADT,AXPTRK,EALAX,ICODE
       WRITE(51,11001)COU,STA,RTE,MP,IFCL,AADT,AXTRK,EALTA,AXCTRK,EALCTA,
      *PERTRK,PERCTRK
11000  FORMAT(I4,1X,A3,A8,2X,F7.3,2X,I2,1X,I7,2X,F6.3,4X,F5.3,2X,I2)
11001  FORMAT(I3,1X,A3,A8,1X,F7.3,1X,I2,1X,I7,1X,F6.3,2X,F5.3,1X,F6.3,1X,
      *  F5.3,1X,F6.2,1X,F6.2)
12000  FORMAT(9F7.2,2F7.2)
12500  FORMAT(10F5.0,F7.1,I6)
       GOTO 105
 780   WRITE(*,*)"                   *********** RUN COMPLETED **********"
       WRITE(*,*)"                    THE OUTPUT FILE IS :",OUT
       WRITE(*,*)"                                         AND ",OUT1
C      CLOSE(20,STATUS='DELETE')
       STOP
       END
```

IV. "ESALEST" COMPUTER PROGRAM

IV.1. OVERVIEW

This program is designated for estimating ESAL/Axle and Axles/Truck values of specific road segments of coal-haul roads.

The methodology developed for this program is based on the results of statistical and regression analyses of 1990 to 1992 Kentucky coal-haul data that have been processed by "COALR" computer programs. The name of the program is "ESALEST.EXE", a coal database named "COALDATA.TXT" should present in the same directory as the executable program is.

IV.2. INPUT AND OUTPUT

There is not input in form of file needed for this program. But a coal database is needed when running the program. The input required is type-in input, which are the answers of questions asked by the program at the beginning of running, those are : Route designation (e.g. I 64), milepoints (from - to), AADT, and its functional classification code.

The output is predicted ESAL/Axle, Axles/Truck and ESALS/Truck values of the route for 50, 60, 70, 80, 90 and 100 % reliability for a specific route. This appears on the monitor screen and save in form a text file named " ESAL.EST" as well.

IV.3. DESCRIPTION OF METHODS USED

The following data were put into the program :

1. The best fit regression equation of ESAL/Axle as the function of the annual coal hauled (W, in Tons), and AADT :

$$LOG_{10}(ESAL/Axle) = 0.01296*(W)^{0.28} - 0.247*LOG(AADT) + 0.1469$$

2. 50, 60, 70, 80, 90, 100 percentile of the cummulative distributions of W and Axles\Truck for each functional class code and weight category (Light, Medium and Heavy).

3. Weight category of specific routes from 1990-1992 coal-haul data

4. Weight category of specific counties

After required input is typed in, the program attempts to determine the weight category of the route (L,M, or H) by matching the input with the database No.3 above, if it fails to match, then the average weight category of the county (No.4) is used. The weight category determined by the program is then converted into W

(Tons) using database No.2 above. ESAL/Axle is computed by the regression equation (No.1 above). Axle/Truck is predicted using data No.2.

IV. RUNNING THE PROGRAM :

Type "ESALEST" followed by <ENTER> to start the program and answer all questions that appear on the monitor screen, the program then processes the typed-in information and presents the results on the screen and in form a file "ESAL.EST". The typical output is :

```
        FROM 1990-1992 DATABASE :
COUNTY # :119 ROUTE : KY9009   MP:   57.20-  57.20
              IS : "M" CATEGORY
% RELIABILITY ESAL/AXLE  AXLES/TRUCK  ESALS/TRUCK
      50         .320       3.615        1.158
      60         .334       3.660        1.223
      70         .349       3.850        1.345
      80         .367       3.930        1.441
      90         .388       4.000        1.550
     100         .413       4.169        1.723
```

The program listing and the typical output are given in page to page.

"ESALEST" COMPUTER PROGRAM LISTING

```
$DEBUG
C*********************************************************************
C   ****************       PROGRAM : ESALEST      *********************
C*********************************************************************
C* THIS PROGRAM WAS DEVELOPED FOR PREDICTING ESAL'S/AXLE VALUES OF A *
C* COAL HAUL ROAD SEGMENT IN THE CASE THAT WEIGHT OF COAL HAULED DATA*
C* IS NOT AVAILABLE **************************************************
C* *******************************************************************
C       REAL*8 RTA,RT
        REAL*8 AMP,BMP,CMP,DMP,LOGEAL,EAL,AX(6,3,6)
        INTEGER IW,IFC,IADT,ICO,JCO,NF,IOUT,NC,WP(6,3,6)
        CHARACTER*14 INFA, INFB,OUTA,OUTB
        CHARACTER*5 YR
        INTEGER IFL,REL
        COMMON IFL,IFC,W
        CHARACTER*8 RT,RTA,WT
        CHARACTER*1 W,WA,CT(120),XC
C**********************************************************************
C*  WEIGHT DATA
C**********************************************************************
       DATA WP(1,1,1),WP(1,1,2),WP(1,1,3),WP(1,1,4),WP(1,1,5),WP(1,1,6)/
      *23294,26193,28718,32049,38005,49992/
       DATA WP(1,2,1),WP(1,2,2),WP(1,2,3),WP(1,2,4),WP(1,2,5),WP(1,2,6)/
      *98149,124180,159084,204398,260900,327710/
       DATA WP(1,3,1),WP(1,3,2),WP(1,3,3),WP(1,3,4),WP(1,3,5),WP(1,3,6)/
      *510755,551417,621366,741379,950129,1326783/
       DATA WP(2,1,1),WP(2,1,2),WP(2,1,3),WP(2,1,4),WP(2,1,5),WP(2,1,6)/
      *11562,16316,21983,28865,37702,50000/
       DATA WP(2,2,1),WP(2,2,2),WP(2,2,3),WP(2,2,4),WP(2,2,5),WP(2,2,6)/
      *156973,186708,221850,265596,323115,400000/
       DATA WP(2,3,1),WP(2,3,2),WP(2,3,3),WP(2,3,4),WP(2,3,5),WP(2,3,6)/
      *1455752,1870052,2595370,4005744,7077240,14733299/
C*** NOTE : I=3 IS FUNC.CLASS 06
       DATA WP(3,1,1),WP(3,1,2),WP(3,1,3),WP(3,1,4),WP(3,1,5),WP(3,1,6)/
      *12256,18769,25487,32229,39854,50000/
       DATA WP(3,2,1),WP(3,2,2),WP(3,2,3),WP(3,2,4),WP(3,2,5),WP(3,2,6)/
      *128655,157105,193374,240847,304728,393188/
       DATA WP(3,3,1),WP(3,3,2),WP(3,3,3),WP(3,3,4),WP(3,3,5),WP(3,3,6)/
      *1174884,1465549,1957439,2875218,4770464,9182692/
C*** NOTE I=4 IS FUNC.CLASS 07
       DATA WP(4,1,1),WP(4,1,2),WP(4,1,3),WP(4,1,4),WP(4,1,5),WP(4,1,6)/
      *15365,19388,22521,26204,33235,50000/
       DATA WP(4,2,1),WP(4,2,2),WP(4,2,3),WP(4,2,4),WP(4,2,5),WP(4,2,6)/
      *170720,207947,249462,295259,345384,400000/
       DATA WP(4,3,1),WP(4,3,2),WP(4,3,3),WP(4,3,4),WP(4,3,5),WP(4,3,6)/
      *867593,999351,1227703,1662590,2565289,4661117/
C*** NOTE I=5 IS FUNC.CLASS 08
       DATA WP(5,1,1),WP(5,1,2),WP(5,1,3),WP(5,1,4),WP(5,1,5),WP(5,1,6)/
      *11281,15880,20871,26832,35351,50000/
       DATA WP(5,2,1),WP(5,2,2),WP(5,2,3),WP(5,2,4),WP(5,2,5),WP(5,2,6)/
      *149405,183359,224303,273285,331352,399485/
       DATA WP(5,3,1),WP(5,3,2),WP(5,3,3),WP(5,3,4),WP(5,3,5),WP(5,3,6)/
      *872185,983983,1166937,1497656,2141435,3511964/
C*** NOTE I=6 IS FUNC.CLASS 09
       DATA WP(6,1,1),WP(6,1,2),WP(6,1,3),WP(6,1,4),WP(6,1,5),WP(6,1,6)/
      *10719,15630,21147,27639,36330,50000/
       DATA WP(6,2,1),WP(6,2,2),WP(6,2,3),WP(6,2,4),WP(6,2,5),WP(6,2,6)/
      *134315,162603,198469,245554,309618,400000/
       DATA WP(6,3,1),WP(6,3,2),WP(6,3,3),WP(6,3,4),WP(6,3,5),WP(6,3,6)/
      *754983,853559,1008092,1271541,1751121,2691851/
C**********************************************************************
```

```
C* WEIGHT CATEGORIES BASED ON COUNTY (CT=COUNTY)
C*********************************************************************
      DATA CT(1),CT(2),CT(3),CT(4),CT(5),CT(6),CT(7),CT(8),CT(9),
     *CT(10),CT(11)/'L','N','N','N','L','L','M','M','H','H','M'/
      DATA CT(12),CT(13),CT(14),CT(15),CT(16),CT(17),CT(18),CT(19),
     *CT(20),CT(21),CT(22)/'L','H','N','L','M','M','L','M','N','N','L'/
      DATA CT(23),CT(24),CT(25),CT(26),CT(27),CT(28),CT(29),CT(30),
     *CT(31),CT(32),CT(33)/"N","L","M","M","L","L","L","M","N","L","M"/
      DATA CT(34),CT(35),CT(36),CT(37),CT(38),CT(39),CT(40),CT(41),
     *CT(42),CT(43),CT(44)/"N","L","M","M","L","L","L","M","N","L","M"/
      DATA CT(45),CT(46),CT(47),CT(48),CT(49),CT(50),CT(51),CT(52),
     *CT(53),CT(54),CT(55)/"M","M","L","M","M","N","H","N","L","H","M"/
      DATA CT(56),CT(57),CT(58),CT(59),CT(60),CT(61),CT(62),CT(63),
     *CT(64),CT(65),CT(66)/"L","N","M","M","M","M","N","M","H","M","H"/
      DATA CT(67),CT(68),CT(69),CT(70),CT(71),CT(72),CT(73),CT(74),
     *CT(75),CT(76),CT(77)/"H","N","M","M","M","M","L","L","L","L","M"/
      DATA CT(78),CT(79),CT(80),CT(81),CT(82),CT(83),CT(84),CT(85),
     *CT(86),CT(87),CT(88)/"N","L","M","M","N","N","M","L","N","M","L"/
      DATA CT(89),CT(90),CT(91),CT(92),CT(93),CT(94),CT(95),CT(96),
     *CT(97),CT(98),CT(99)/"M","M","M","M","N","N","L","M","H","H","H"/
      DATA CT(100),CT(101),CT(102),CT(103),CT(104),CT(105),CT(106),
     *CT(107),CT(108),CT(109),CT(110)/"M","M","L","L","M","M","M","M",
     *"M","M","L"/
      DATA CT(111),CT(112),CT(113),CT(114),CT(115),CT(116),CT(117),
     *CT(118),CT(119),CT(120)/"N","N","H","L","M","L","H","M","M","M"/
C*********************************************************************
C*  AXLES/TRUCK DATA
C*********************************************************************
      DATA AX(1,1,1),AX(1,1,2),AX(1,1,3),AX(1,1,4),AX(1,1,5),AX(1,1,6)/
     *4.470,4.500,4.520,4.550,4.600,4.690/
      DATA AX(1,2,1),AX(1,2,2),AX(1,2,3),AX(1,2,4),AX(1,2,5),AX(1,2,6)/
     *4.470,4.500,4.520,4.550,4.600,4.690/
      DATA AX(1,3,1),AX(1,3,2),AX(1,3,3),AX(1,3,4),AX(1,3,5),AX(1,3,6)/
     *4.470,4.500,4.520,4.550,4.600,4.690/
      DATA AX(2,1,1),AX(2,1,2),AX(2,1,3),AX(2,1,4),AX(2,1,5),AX(2,1,6)/
     *3.672,3.700,3.780,4.050,4.300,4.636/
      DATA AX(2,2,1),AX(2,2,2),AX(2,2,3),AX(2,2,4),AX(2,2,5),AX(2,2,6)/
     *3.615,3.660,3.850,3.930,4.000,4.169/
      DATA AX(2,3,1),AX(2,3,2),AX(2,3,3),AX(2,3,4),AX(2,3,5),AX(2,3,6)/
     *3.914,4.030,4.190,4.300,4.800,5.000/
      DATA AX(3,1,1),AX(3,1,2),AX(3,1,3),AX(3,1,4),AX(3,1,5),AX(3,1,6)/
     *3.360,3.460,3.600,3.690,3.860,4.513/
      DATA AX(3,2,1),AX(3,2,2),AX(3,2,3),AX(3,2,4),AX(3,2,5),AX(3,2,6)/
     *3.554,3.640,3.820,3.872,3.980,4.503/
      DATA AX(3,3,1),AX(3,3,2),AX(3,3,3),AX(3,3,4),AX(3,3,5),AX(3,3,6)/
     *4.348,4.438,4.680,4.923,5.095,5.311/
      DATA AX(4,1,1),AX(4,1,2),AX(4,1,3),AX(4,1,4),AX(4,1,5),AX(4,1,6)/
     *3.075,3.250,3.275,3.304,3.492,4.613/
      DATA AX(4,2,1),AX(4,2,2),AX(4,2,3),AX(4,2,4),AX(4,2,5),AX(4,2,6)/
     *3.188,3.221,3.420,3.554,3.660,4.272/
      DATA AX(4,3,1),AX(4,3,2),AX(4,3,3),AX(4,3,4),AX(4,3,5),AX(4,3,6)/
     *4.102,4.173,4.242,4.343,4.518,4.659/
      DATA AX(5,1,1),AX(5,1,2),AX(5,1,3),AX(5,1,4),AX(5,1,5),AX(5,1,6)/
     *2.804,2.804,2.804,2.804,2.804,2.804/
      DATA AX(5,2,1),AX(5,2,2),AX(5,2,3),AX(5,2,4),AX(5,2,5),AX(5,2,6)/
     *3.309,3.309,3.309,3.309,3.309,3.309/
      DATA AX(5,3,1),AX(5,3,2),AX(5,3,3),AX(5,3,4),AX(5,3,5),AX(5,3,6)/
     *3.965,3.965,3.965,3.965,3.965,3.965/
      DATA AX(6,1,1),AX(6,1,2),AX(6,1,3),AX(6,1,4),AX(6,1,5),AX(6,1,6)/
     *2.804,2.804,2.804,2.804,2.804,2.804/
      DATA AX(6,2,1),AX(6,2,2),AX(6,2,3),AX(6,2,4),AX(6,2,5),AX(6,2,6)/
     *3.309,3.309,3.309,3.309,3.309,3.309/
      DATA AX(6,3,1),AX(6,3,2),AX(6,3,3),AX(6,3,4),AX(6,3,5),AX(6,3,6)/
     *3.965,3.965,3.965,3.965,3.965,3.965/
C*****************************************************************
```

```
C       INPUT DATA                                                    *
C*********************************************************************
        RT="XYZ"
        ICO=999
        DO 10 I=1,40
        WRITE(*,10009)
   10   CONTINUE
       WRITE(*,*)'      *****THIS PROGRAM IS FOR PREDICTING ESALS/AXLE VAL
     *UE OF A COAL    *****'
        WRITE(*,*)'      *****HAUL ROAD SEGMENT. THE REQUIRED INPUT ARE AA
     *DT, FUNTIONAL  *****'
        WRITE(*,*)'      *****CLASS CODE, ROUTE NAME AND MILEPOINTS.  THE
     *WEIGHT OF COAL *****'
        WRITE(*,*)'      *****HAULED W IS PREDICTED FROM THE 1990-1992 DAT
     *A BASE, SO MAKE*****'
        WRITE(*,*)'      ****SURE THAT DATABASE "COALDATA.TXT" IS AVAILABL
     *E *****'
        WRITE(*,*)'   '
        WRITE(*,*)'ENTER THE ROUTE NAME (IN UPPERCASE) WITHOUT ANY BLANK
     *SPACE, FOR EXAMPLE : '
        WRITE(*,*)'KY7'
        WRITE(*,*)'US300'
        WRITE(*,*)'US150B'
        WRITE(*,'(A)')' THE ROUTE IS = '
        READ(*,'(A)')RT
        WRITE(*,*)' ENTER THE COUNTY # <1,2,3,10,....>'
        READ(*,*)ICO
        WRITE(*,*)' MIPEPOINT ARE FROM : <USE 1 DIGIT DECIMAL>'
        READ(*,*)AMP
        WRITE(*,*)' TO : <USE 1 DIGIT DECIMAL>'
        READ(*,*)BMP
        WRITE(*,*)' FUNC. CLASS CODE ='
        WRITE(*,*)'    <1,2,6,7,8 OR 9 ?>'
        READ(*,*)IFC
        WRITE(*,*)' AADT OF THE ROUTE ='
        READ(*,*)IADT
        OPEN(11,FILE='FILE11')
        WRITE(11,10000)RT,ICO,AMP,BMP,IFC,IADT
10000   FORMAT(A8,I4,2F7.1,I2,I7)
10001   FORMAT(T9,A4)
        BACKSPACE 11
        READ(11,10000)RT,ICO,AMP,BMP,IFC,IADT
        WRITE(*,10000)RT,ICO,AMP,BMP,IFC,IADT
        CLOSE(11,STATUS='DELETE')
        OPEN(99,FILE='ESAL.EST')
        OPEN(1250,FILE='COALDATA.TXT')
 30     READ(1250,10010,END=60)JCO,RTA,CMP,DMP,W
10010   FORMAT(I4,2X,A8,2F7.1,T31,A1)
        WRITE(*,10010)JCO,RTA,CMP,DMP,W
        IF (JCO.EQ.ICO .AND. RTA.EQ.RT) GOTO 40
        GOTO 30
 40     IF (AMP.GE.CMP .AND. BMP.LE.DMP) GOTO 50
        GOTO 30
  50    DO 44 I=1,40
        WRITE(*,10009)
  44    CONTINUE
        WA=W
        WRITE(*,*)"                  FROM 1990-1992 DATABASE :"
        WRITE(*,10020)ICO,RT,AMP,BMP
        WRITE(*,10030)WA
        WRITE(99,*)"                  FROM 1990-1992 DATABASE :"
        WRITE(99,10020)ICO,RT,AMP,BMP
        WRITE(99,10030)WA
        GOTO 65
  60    DO 47 I=1,40
```

```
      WRITE(*,10009)
  47  CONTINUE
      WA=CT(ICO)
      WRITE(*,*)"                           FROM 1990-1992 DATABASE :"
      WRITE(*,10020)ICO,RT,AMP,BMP
      IF (CT(ICO).EQ.'N') THEN
      WRITE(99,*)"                           FROM 1990-1992 DATABASE :"
      WRITE(99,10020)ICO,RT,AMP,BMP
          WRITE(*,*)"                   IS PROBABLY A NON-COAL HAUL ROAD"
          WRITE(99,*)"                  IS PROBABLY A NON-COAL HAUL ROAD"
          GOTO 120
      ENDIF
      WRITE(*,10030)WA
      WRITE(99,10030)WA
 65   IF (IFC.EQ.1) I=1
      IF (IFC.EQ.2) I=2
      IF (IFC.EQ.6) I=3
      IF (IFC.EQ.7) I=4
      IF (IFC.EQ.8) I=5
      IF (IFC.EQ.9) I=6
      IF (IFC.GT.9) GOTO 120
      IF (IFC.EQ.3) GOTO 120
      IF (IFC.EQ.4) GOTO 120
      IF (IFC.EQ.5) GOTO 120
      IF (WA.EQ."L") J=1
      IF (WA.EQ."M") J=2
      IF (WA.EQ."H") J=3
      IF (WA.NE."L" .AND. WA.NE."M" .AND. WA.NE."H") GOTO 120
      REL=50
      WRITE(*,10050)
      WRITE(99,10050)
      DO 70 K=1,6
        LOGEAL=(0.0656232*(WP(I,J,K))**(0.18))-(0.228375*ALOG10(IADT))
     *         +0.016655
        EAL=10**(LOGEAL)
         WRITE(*,10060)REL,EAL,AX(I,J,K),EAL*AX(I,J,K)
         WRITE(99,10060)REL,EAL,AX(I,J,K),EAL*AX(I,J,K)
         REL=REL+10
 70   CONTINUE
      WRITE(*,10070)
      WRITE(*,10080)
C*********************************************************************
C  *  FORMAT STATEMENTS.                                             *
C  *******************************************************************
10020 FORMAT(10X,'COUNTY # :',I3,' ROUTE : ',A8,' MP: ',F7.2,'-',F7.2)
10030 FORMAT(24X,'IS : "',A1,'" CATEGORY')
10060 FORMAT(15X,I3,5X,F7.3,6X,F7.3,6X,F7.3)
10050 FORMAT(10X,'% RELIABILITY ESAL/AXLE  AXLES/TRUCK  ESALS/TRUCK')
10009 FORMAT('')
10070 FORMAT(10X,'-------------------------------------------------')
10080 FORMAT(10X,'THE NAME OF OUTPUT IS = ESAL.EST ')
120   STOP
      END
```

"ESALEST" COMPUTER PROGRAM OUTPUT

FROM 1990-1992 DATABASE :
COUNTY # :119 ROUTE : KY9009 MP: 57.20- 57.70
IS : "M" CATEGORY

% RELIABILITY	ESAL/AXLE	AXLES/TRUCK	ESALS/TRUCK
50	.337	3.615	1.220
60	.352	3.660	1.289
70	.368	3.850	1.417
80	.386	3.930	1.518
90	.408	4.000	1.633
100	.435	4.169	1.815