Development of an Electronic Means of Weighing Vehicles in Motion

Ben W. Carr Jr.*  Rolands L. Rizenbergs†
MEMORANDUM

MEMORANDUM TO: J. R. Harbison, State Highway Engineer
Chairman, Research Committee

SUBJECT: Research Report, "Development of an Electronic Means of Weighing Vehicles in Motion"; KYHPR - 61 - 27; HPR - 1 (6), Part II

Despite overwhelming hardware failures which beset us in the development of an automatic, in-stream, vehicle weighing system -- which we are now convinced we must abandon -- significant measures of success were achieved. In other words, we have created an automaton which almost works. The decision to abandon the prototype installation arose from pilot operations and proof testing. The basic defect is in the weighing platform in the pavement. Unfortunately, it is a design defect.

Tie rods anchoring the platform in the pit induce a purposeful preload on the load-sensing elements. These tie rods change the preload as the temperature fluctuates. Thus, the balance or null point drifts. The noticeable effect was a triggering of the counting and weighing circuits when there was no live load on the platform. Since this load was not transient -- but sustained -- the circuitry "locked in" on the excess preload.

The preload and tie rods were intended to keep the platform in firm bearing on the load-sensing units and to eliminate resonances and friction. Conceivably, it would be possible to control the temperature in the pit, but other factors were equally dissuasive.

The pit structure extends almost four feet below pavement elevation. Access is made by removing the top plates. Whereas walk-in pits were constructed in the entrance ramp to weighing station on I 64, near Shelbyville (Westward side) and on a farm road at the University of Kentucky, it seemed unnecessary to require this feature in roadway installations. In fact, we visualized a "lift-out" platform which could be replaced by a "dummy" if or when repairs were needed. We did not achieve the "lift-out" simplicity.

In the recent past, opportunities to build automatic weighing systems into an Ohio River bridge were forsaken because there was no practical way to fit the platform into the deck system. Consideration was given to incorporating the device into a pit or cavity in the abutment. A later alternative considered was to build the pit and platform completely remote from the bridge -- in a ramp section on an earth embankment. Fortunately, our suspicions regarding the reliability of the pilot installation prevented us from advancing any of the aforesaid plans to the final design stage.

The developmental research on this project began in 1960 and was originally programmed by the Division of Planning [HPS - 1 (22)]. Responsibility transferred to the Division of Research with HPS - HPR - 1 (25), FY 1963-1964. The project was contracted to the University of Kentucky Research Foundation until June 30, 1969. In December 1969, the Research Division was authorized to begin a pilot period of operation. The report submitted herewith pertains only to this final phase -- and our summary evaluation of the system from an operational standpoint. Approximately $198,000 will have
been expended in sustaining the project.

Whereas an early decision was made to adopt the so-called "broken-back bridge" platform in order to achieve a triangular form of output wave as a wheel passed over the platform, others have developed a weighing platform which can be recessed into a pavement (requires only a three-inch inset). The wave form is trapezoidal and would not directly couple with the digitizing system we have. We understand that matching instrument packages will be available soon. This was a persuasive factor in our decision to discontinue this project.

Enclosure

cc's:  
Research Committee  
Assistant State Highway Engineer, Research and Development  
Assistant State Highway Engineer, Planning and Programming  
Assistant State Highway Engineer, Pre-Construction  
Assistant State Highway Engineer, Construction  
Assistant State Highway Engineer, Operations  
Assistant Pre-Construction Engineer  
Assistant Operations Engineer  
Executive Director, Office of Computer Services  
Executive Director, Office of Equipment and Properties  
Director, Division of Bridges  
Director, Division of Construction  
Director, Division of Design  
Director, Division of Maintenance  
Director, Division of Materials  
Director, Division of Photogrammetry  
Director, Division of Traffic  
Director, Division of Planning  
Director, Division of Right of Way  
Director, Division of Roadside Development  
Director, Division of Rural Roads  
Division Engineer, Federal Highway Administration  
Chairman, Department of Civil Engineering, University of Kentucky  
Associate Dean for Continuing Education, College of Engineering, University of Kentucky  
All District Engineers
DEVELOPMENT OF AN ELECTRONIC MEANS OF WEIGHING VEHICLES IN MOTION

FINAL REPORT
KYHPR - 61 - 27, HPR - 1 (6), Part II

by

Ben W. Carr, Jr.
Research Engineer Assistant

and

Rolands L. Rizenbergs
Chief Research Engineer

Division of Research
DEPARTMENT OF HIGHWAYS
Commonwealth of Kentucky

in cooperation with the
U.S. Department of Transportation
Federal Highway Administration

The opinions, findings, and conclusions in this report are not necessarily those of the Department of Highways or the Federal Highway Administration.

April 1971
ABSTRACT

DEVELOPMENT OF AN ELECTRONIC MEANS OF WEIGHING VEHICLES IN MOTION

An in-stream weighing platform was designed and installed in the eastbound lane of I 64 and 75 near Lexington, Kentucky. The broken-bridge scale platform was designed with the outer edges of the two sections supported on hinges and contiguous edges supported by two 20,000-pound capacity load cells. The assembled scale measures 4' 6" x 10' 6" with a total weight of about 2,000 pounds.

The electronics developed for the system included digitizing circuitry which processed the load cell signals and recorded the data on digital magnetic tape. Computer processing of the field data produced tabular information on vehicle speed, axle spacing, number of axles, vehicle classification, time of day, and weight for each vehicle, as well as voluminous statistical data such as average daily traffic and equivalent axleloads.

Conceptually, the system was good, but numerous electronic and mechanical problems compounded to render the present system inoperative. Future dynamic weighing system designs should consider portable, lightweight scales and electronic instrumentation suitable for mounting in a vehicle, thus providing a flexible data-gathering system that will be more readily maintainable. Immediate data output in the field would be highly desirable.
# TABLE OF CONTENTS

PAGE

INTRODUCTION .................................................................................. 1  
  Background .................................................................................. 1  
  Current Phase of Study ............................................................... 1  
RESEARCH EFFORTS ........................................................................ 2  
  Initial Efforts - FY 70 ................................................................. 2  
  Other Problems ............................................................................ 3  
  Additional Efforts - FY 71 ............................................................. 3  
RESULTS ............................................................................................ 4  
CONCLUSIONS .................................................................................. 4  
RECOMMENDATIONS ...................................................................... 4  
REFERENCES .................................................................................. 5  
APPENDIX A -- Example of Output Data ....................................... 6  
APPENDIX B -- PL/1 Program for Tabular Output ....................... 17
INTRODUCTION

BACKGROUND

The forces which pavements must withstand are dynamic and differ from the static weights of the vehicles. Whereas impact factors relating these forces are sometimes used for designing bridges and pavements, the relationship is variable and only approximate. With regard to law enforcement, it is now necessary to require vehicles to be diverted from the traffic stream and to stop in order to be weighed. A more desirable situation would be to be able to check vehicle weights without requiring them to stop or to at least screen them for suspected overloads.

Basic investigations have been conducted to determine the most practical means of measuring and recording dynamic loads produced by vehicles in motion. The study was initiated in 1960 by the Department of Civil Engineering, University of Kentucky, in cooperation with the Kentucky Department of Highways and the Bureau of Public Roads. Its purpose was to determine the optimum mechanical configuration for a scale which would perform the dynamic axle-weighing function in an overall data-gathering system and to construct and furnish a suitable scale with an appropriate transducer system and automatic data recording system (1, 2, 5). As a result of this study a broken-bridge scale was placed in the outside eastbound lane of I 64 and 75, north of Lexington, Kentucky. An automatic data collection system was installed at the scale site in a vandal-proof structure on the right of way. A final report on that phase of the study was submitted by the University of Kentucky Research Foundation in November 1969 (5).

CURRENT PHASE

Following the completion of the final phase of research and development contracted by the University of Kentucky Research Foundation, in behalf of the subject study, the Division of Research planned to operate the installation for a pilot period to verify the in-stream weighing and recording system. A continuation plan was approved by the Bureau of Public Roads in December 1969. Operation of the scales for data collection and data processing was begun, a method of calibration for weight, speed, axle spacing, and other parameters was developed, and the computer programs for producing statistical data from field data were expanded to meet Departmental needs. Those procedures were developed and used to test the ability of the system to meet the original specifications as defined in February 1967 when the purchase order for the electronic data system was issued to Robert Perelman, DGE Instruments, University Heights, Ohio. These specifications (5) were as follows:

1. The vehicle may have from two to ten axles.
2. The vehicle may travel at legal speeds up to 70 miles per hour; therefore, an actual timing up to 80 miles per hour would be desirable.
3. Dynamic loads will range from 1,000 to 30,000 pounds per axle.
4. The dynamic measurement of load should be recorded with an accuracy of plus or minus 200 pounds per axle.
5. The speed of the vehicle must be recorded or deduced at an accuracy of plus or minus five miles per hour.
6. The system will be designed so that the number of axles per vehicle can be deduced from the data on the digital tape.
7. It is desirable to be able to deduce the spacing between axles within plus or minus 1/2 foot.
8. It is desirable that the measurement system operate unattended over a minimum period of 24 hours, with a longer period preferred.
9. Dual-axle trucks may have the load of two axles on the scale simultaneously. Therefore, under this condition, the trace will not return to zero between the axles. In addition, the noise peaks on the sides of the signal are characteristic and must not be accepted as peaks of minor waves.

10. It should be possible to determine the approximate time of day and date for the passage of each vehicle, from the data on the digital tape.

This report covers the pilot-operation period.

RESEARCH EFFORTS

INITIAL EFFORTS - FY 70

After assuming responsibility for the study following the completion of the research and development phase by the University of Kentucky Research Foundation, the Division of Research began a trial period of data collection. Problems with the system became immediately apparent. The signal conditioner had an inherent voltage drift which tended to either mask or diminish the input signal to the digitizing circuitry. The digital tape recorder, which was used to store the field data, was malfunctioning and was returned to the manufacturer for repairs and updating modifications.

Several modifications were made to the original signal conditioning unit. The power supply was redesigned to produce a more stable output voltage. The low pass filter was modified to extract a more ideal output signal. Temperature insensitive components were used throughout the unit. Results of these changes were still not satisfactory. Instead of completely redesigning the unit, two commercially available, highly stable signal conditioning units were purchased and installed in the system. An active low pass filter and operational amplifiers were used to extract a nearly ideal output signal. Upon its return from the manufacturer, the digital tape recorder required further modifications to re-adapt it for use with the output circuitry of the system. These modifications were required to make the logic levels of the tape recorder and the digitizing circuitry compatible.

Component failures and replacements were common. Some of the components used in the original construction of the system were of poor quality, others had marginal ratings, others were the wrong components to use altogether. Plastic transistors used to drive the indicator lights had to be replaced en masse by transistors with higher power ratings. Throughout the system, several transistors, integrated circuits, and capacitors were replaced. Precision resistors were used to replace common resistors in application where resistance variation had to be held to a minimum.

Loose circuit cards and poor electrical connections between the cards and their connectors were a constant problem. The cards were of such poor construction that they seldom matched with their connectors and had to be forced into a correct position. The printed circuits were not tinned, i.e., covered with solder, and the surface layer of the copper paths quickly oxidized. Each card had to be periodically removed, and the copper paths had to be manually cleaned to assure a proper electrical connection between the card and its connector. Deterioration of the printed circuits, due to the oxidation of the untinned copper, was a continuing source of open circuits and high-resistance current paths.

Throughout the period of the pilot study, the recurring breakdowns of the digitizing circuitry were often traced back to the above mentioned problems with components and circuit cards. These problems were only temporarily alleviated by component replacements and modifications to existing circuit cards and could have been eliminated only by a complete redesign and proper construction of the entire system.
OTHER PROBLEMS

With the system functioning properly, the scales were statically calibrated using a vehicle of known weight. Preparations were made to check accuracy in determining the speed, axle spacing, and weight of several test vehicles. Before these tests were run, a voltage transient in the system damaged one of the two new signal conditioners, destroyed several integrated circuits and other semiconductor components in the digitizing circuitry, and damaged one of the two load cells in the scale platform to the extent that it had to be replaced if data collection were to begin.

ADDITIONAL EFFORTS - FY 71

Due to a lack of sufficient data collection and the numerous problems encountered with the system during FY 70, additional efforts were proposed to verify the system during FY 71. Approval to continue the study was received from the Bureau of Public Roads in August 1970.

To eliminate the cost of purchasing a new load cell, and the inherent delay in delivery, it was decided to replace the above mentioned defective load cell with a previously used, but operative, load cell. This load cell was used in the first phase of this study in the scale installation at the loadometer station near Shelbyville, Kentucky (1). It was also used for approximately one year in the present scales, but had been removed in February 1961 when the other cell in the scales was found to be defective and was replaced (5).

At this time the updated computer programs were stored on magnetic tape, thereby simplifying the processing of field data by virtually eliminating the handling of computer cards.

With the system operational again, serious problems with the scales became apparent. After a vehicle crossed the scales, the output voltage of the signal unit returned to a voltage other than zero. Investigations revealed that hysteresis was caused by insufficient preload. After increasing the preload, a change of temperature in the scale pit caused a drift of signal output. This was determined to be the result of excess preload on the platform.

Another factor entering into the problem of preload adjustment was the oscillations impressed on the platform by a vehicle crossing the scales. Insufficient preload allowed these oscillations to increase in magnitude to such an extent that the digitizing circuitry was triggered, treating the peaks of the oscillations as individual axles.

These problems had been masked by the inherent voltage drift in the original signal conditioning unit. Due to the downtime of the system, they became apparent only after the system was operable over a period of a few days.

While adjusting the preload mechanism, one of the preload rods sheared. New preload rods of a special stainless steel alloy were fabricated and installed in the system. These rods were adjusted to give the best compromise between the effects of hysteresis, oscillations, and output signal drift. Although these adjustments did reduce the above effects, the results were not within acceptable limits. The output signal still had a significant drift which was related to the temperature in the scale pit. Also, the oscillations impressed on the platform by a vehicle crossing the scales significantly distorted the input signal so as to spuriously trigger the digitizing circuitry. Some hysteresis in the platform was still apparent; the platform halves came to rest, following the crossing of the scales by a vehicle, in a position which was slightly higher or lower than the position prior thereto. Thus, it became apparent that to eliminate these problems a new design for the weighing platform was needed.

In October 1970, it was decided by the Division of Research to continue trying to make the system operational but to discontinue work on the present system at the end of the present fiscal year. This decision was prompted by the numerous problems encountered with the system and because of the obvious deterioration of the electronic data system with age.
Data collection was begun, but after a few days a malfunction in the digital tape recorder interfered. A minor repair was made and data collection was begun. A faulty voltage regulator in the tape recorder power supply destroyed several components in the recorder’s logic network, again preventing data collection.

While major repairs on the digital tape recorder were in process, the scales were again calibrated, using the same procedures as before. Results of this calibration showed that the load cell installed in the scale in July 1970 was now defective. Its output was approximately 40 per cent below the output of the other load cell. Probable cause of this defect was the load cell’s length of time in service and the overloads it had sustained while in use. Thus, replacement of this load cell was necessary.

In February 1971, all efforts to make the system operable were halted. With the scales malfunctioning, the recorder damaged, and the circuit boards deteriorating, further work was deemed unproductive.

RESULTS

As an example of the statistical data obtainable with an operational system, the computer print-out for a single day in November 1970 is included in APPENDIX A. The updated computer program for extracting such data is included in APPENDIX B.

CONCLUSIONS

Conceptually, the system is good, but mechanical and electrical difficulties compound to render the system at hand inoperative. The existing scales, however, have basic inherent deficiencies. Due to its size and weight, the platform exhibits hysteresis, preload, and temperature drift problems of such magnitude as to seriously limit the accuracy obtainable with the system.

Insufficient data has been collected to prove that this system meets the original specifications listed in the INTRODUCTION of this report.

Extensive work had been done to obtain the largest possible amount of statistical data output from the field data. The computer programs designed for use with this system, and adaptable to similar systems, would prove invaluable in highway planning and evaluating applications when used to process extensive amounts of field data.

RECOMMENDATIONS

A portable, lightweight scale similar to the one developed at the University of Texas at Austin should be considered in future in-stream weighing platforms. This scale has no problem with hysteresis and temperature drift and requires no preload. Maintenance can be performed in the laboratory, thus reducing the hazards of on-site repairs and maintenance while diverting traffic around the site. The system is portable, and data can be gathered from several selected sites (7).

The electronics package in future designs should be installed in a van-type vehicle to provide portability. The electronic design should include facilities to store field data and simultaneously display desired results such as vehicle speed, axle weights, gross weights, etc.
REFERENCES


APPENDIX A

Example of Output Data
VEHICLE DATA FOR DAY 112

STATION IDENTIFICATION = 4

NUMBER OF AXLES FOR THIS DAY = 9557

NUMBER OF VEHICLES FOR THIS DAY = 4280

CURRENT LOAD EQUIVALENCY FACTORS (AS OF 3-20-69)

<table>
<thead>
<tr>
<th>LOAD (KIPS)</th>
<th>SINGLE AXLES</th>
<th>TANDEM AXLES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>KENTUCKY</td>
<td>AASHO</td>
</tr>
<tr>
<td>1-3</td>
<td>0</td>
<td>0.0002</td>
</tr>
<tr>
<td>3-5</td>
<td>0</td>
<td>0.002</td>
</tr>
<tr>
<td>5-7</td>
<td>0</td>
<td>0.01</td>
</tr>
<tr>
<td>7-9</td>
<td>0</td>
<td>0.03</td>
</tr>
<tr>
<td>9-11</td>
<td>1</td>
<td>0.09</td>
</tr>
<tr>
<td>11-13</td>
<td>2</td>
<td>0.19</td>
</tr>
<tr>
<td>13-15</td>
<td>4</td>
<td>0.36</td>
</tr>
<tr>
<td>15-17</td>
<td>8</td>
<td>0.62</td>
</tr>
<tr>
<td>17-19</td>
<td>16</td>
<td>1.00</td>
</tr>
<tr>
<td>19-21</td>
<td>32</td>
<td>1.51</td>
</tr>
<tr>
<td>21-23</td>
<td>64</td>
<td>2.18</td>
</tr>
<tr>
<td>23-25</td>
<td>128</td>
<td>3.03</td>
</tr>
<tr>
<td>25-27</td>
<td>256</td>
<td>4.09</td>
</tr>
<tr>
<td>27-29</td>
<td>512</td>
<td>5.39</td>
</tr>
<tr>
<td>29-31</td>
<td>1024</td>
<td>6.97</td>
</tr>
</tbody>
</table>

NOTE: KENTUCKY DOES NOT IDENTIFY TANDEM AXLES SEPARATELY FOR PURPOSES OF COMPUTATION.

THE FACTORS USED BY AASHO RELATE TO TRUCK AXLES. IN ADDITION, TWO-AXLE, FOUR TIRED VEHICLES ARE ASSUMED TO CONTRIBUTE 0.0002 KIPS PER VEHICLE.

SINGLE AXLE, AASHO FACTORS RELATE TO FLEXIBLE PAVEMENTS HAVING A TERMINAL SERVICEABILITY INDEX OF 2.5 AND A STRUCTURAL NUMBER OF 5.

1, 2 AND 3 INDICATE SINGLE, BITANDEM AND TRITANDEM AXLES
### Gross Operating Weight versus Operating Speed

<table>
<thead>
<tr>
<th>Gross Operating Weight (Kips)</th>
<th>Under 20</th>
<th>20-40</th>
<th>40-50</th>
<th>50-55</th>
<th>55-60</th>
<th>60-65</th>
<th>65-70</th>
<th>70-80</th>
<th>80-90</th>
<th>Over 90</th>
<th>Total Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-10</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>11</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>27</td>
</tr>
<tr>
<td>10-15</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>15-20</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>20-22</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>22-24</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>24-26</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>26-28</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>28-30</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>30-32</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>32-34</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>34-36</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>36-38</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>38-40</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>40-45</td>
<td>0</td>
<td>270</td>
<td>530</td>
<td>1347</td>
<td>977</td>
<td>0</td>
<td>0</td>
<td>371</td>
<td>165</td>
<td>25</td>
<td>3685</td>
</tr>
<tr>
<td>45-50</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>50-55</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>55-60</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>60-65</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>65-70</td>
<td>0</td>
<td>32</td>
<td>30</td>
<td>92</td>
<td>61</td>
<td>0</td>
<td>0</td>
<td>20</td>
<td>6</td>
<td>2</td>
<td>243</td>
</tr>
<tr>
<td>70-75</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>75-80</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>80-85</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>85-90</td>
<td>0</td>
<td>25</td>
<td>43</td>
<td>78</td>
<td>31</td>
<td>0</td>
<td>0</td>
<td>13</td>
<td>8</td>
<td>2</td>
<td>200</td>
</tr>
<tr>
<td>90-95</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>OVER 95</td>
<td>0</td>
<td>11</td>
<td>15</td>
<td>43</td>
<td>23</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>8</td>
<td>1</td>
<td>108</td>
</tr>
<tr>
<td>TOTAL VEHICLES</td>
<td>0</td>
<td>341</td>
<td>622</td>
<td>1579</td>
<td>1104</td>
<td>0</td>
<td>0</td>
<td>416</td>
<td>187</td>
<td>31</td>
<td>4280</td>
</tr>
</tbody>
</table>

### Mean Gross Weight

- **Mean Gross Weight**: 0.0
- **Standard Deviation**: 0.0

<table>
<thead>
<tr>
<th>Deviation</th>
<th>0.0</th>
<th>0.0</th>
<th>0.0</th>
<th>0.0</th>
<th>0.0</th>
<th>0.0</th>
<th>0.0</th>
<th>0.0</th>
<th>0.0</th>
<th>0.0</th>
<th>0.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>17.4</td>
<td>15.8</td>
<td>15.7</td>
<td>13.5</td>
<td>0.0</td>
<td>0.0</td>
<td>13.2</td>
<td>17.5</td>
<td>18.3</td>
<td>12.1</td>
<td>10.7</td>
</tr>
</tbody>
</table>
### Gross Operating Weight Versus Axle Placement

**AAASO Categories**

**Tandem Spacing is 40 Inches or Less**

1, 2 and 3 indicate single, bi-tandem and tri-tandem axles.

<table>
<thead>
<tr>
<th>Gross Operating Weight</th>
<th>Under AXLE Placement</th>
</tr>
</thead>
<tbody>
<tr>
<td>(kips)</td>
<td>110</td>
</tr>
<tr>
<td>Under 4</td>
<td>27</td>
</tr>
<tr>
<td>4 - 10</td>
<td>0</td>
</tr>
<tr>
<td>10 - 15</td>
<td>0</td>
</tr>
<tr>
<td>15 - 20</td>
<td>0</td>
</tr>
<tr>
<td>20 - 25</td>
<td>0</td>
</tr>
<tr>
<td>25 - 30</td>
<td>0</td>
</tr>
<tr>
<td>30 - 35</td>
<td>0</td>
</tr>
<tr>
<td>35 - 40</td>
<td>0</td>
</tr>
<tr>
<td>40 - 45</td>
<td>0</td>
</tr>
<tr>
<td>45 - 50</td>
<td>0</td>
</tr>
<tr>
<td>50 - 55</td>
<td>0</td>
</tr>
<tr>
<td>55 - 60</td>
<td>0</td>
</tr>
<tr>
<td>60 - 65</td>
<td>0</td>
</tr>
<tr>
<td>65 - 70</td>
<td>0</td>
</tr>
<tr>
<td>70 - 75</td>
<td>0</td>
</tr>
<tr>
<td>75 - 80</td>
<td>0</td>
</tr>
<tr>
<td>80 - 85</td>
<td>0</td>
</tr>
<tr>
<td>85 - 90</td>
<td>0</td>
</tr>
<tr>
<td>90 - 95</td>
<td>0</td>
</tr>
<tr>
<td>Over 95</td>
<td>0</td>
</tr>
</tbody>
</table>

| Total VEHICLES        | 27  | 3694 | 244 | 1   | 202 | 1   | 2   | 0   | 92  | 0   | 0   | 2   | 1   | 0   | 2   |

**Mean Gross Weight**

- 2.5
- 43.9
- 65.3
- 86.0
- 88.0
- 109.5

**Standard Deviation**

- 0.4
- 6.3
- 10.0
- 0.0
- 0.0
- 0.0
- 2.0
- 0.0
- 0.0
- 4.3
- 0.0
- 0.0
- 0.0
- 0.0
- 0.0
- 0.0

**Gross Weight**

- 0.0
- 0.0
- 0.0
- 0.0
- 0.0
- 0.0
- 0.0
- 0.0
- 0.0
- 0.0
- 0.0
- 0.0
- 0.0
- 0.0
- 0.0
- 0.0

**Tied Weight**

- 0.0
- 0.0
- 0.0
- 0.0
- 0.0
- 0.0
- 0.0
- 0.0
- 0.0
- 0.0
- 0.0
- 0.0
- 0.0
- 0.0
- 0.0
- 0.0
| OVERALL OPERATING WEIGHT [KIPS] | AXLE PLACEMENT \( \leq 40 \text{ INCHES} \) TOTAL \( \geq 50 \) \( \geq 100 \) \( \geq 150 \) \( \geq 200 \) \( \geq 250 \) \( \geq 300 \) \( \geq 350 \) \( \geq 400 \) \( \geq 450 \) \( \geq 500 \) \( \geq 550 \) \( \geq 600 \) \( \geq 650 \) \( \geq 700 \) \( \geq 750 \) \( \geq 800 \) \( \geq 850 \) \( \geq 900 \) OVER 6 VEHICLES |
|-------------------------------|--------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| UNDER 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 27 |
| 4 - 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 |
| 10 - 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 15 - 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 20 - 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 22 - 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 24 - 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 26 - 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 28 - 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 30 - 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 32 - 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 34 - 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 36 - 38 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 38 - 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40 - 45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3685 |
| 45 - 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 50 - 55 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 55 - 60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 60 - 65 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65 - 70 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 70 - 75 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 243 |
| 75 - 80 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 80 - 85 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 85 - 90 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 200 |
| 90 - 95 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| OVER 95 | 9 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 108 |
| TOTAL VEHICLES | 9 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 4280 |
| MEAN GROSS WEIGHT | 132.0 | 132.0 | 0.0 | 0.0 | 132.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 154.0 | --- |
| STANDARD DEVIATION | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | --- |

GRCSS OPERATING WEIGHT VERSUS AXLE PLACEMENT (CONTINUED FROM PRECEDING PAGE)

TANDEM SPACING IS 40 INCHES OR LESS
(AASHO CATEGORIES)

1, 2 AND 3 INDICATE SINGLE, BITANDEM AND TRITANDEM AXLES
# OPERATING SPEED VERSUS AXLE PLACEMENT

**TANDEM SPACING IS 40 INCHES OR LESS**

(AASHTO CATEGORIES)

1, 2, AND 3 INDICATE SINGLE, BITANDEM AND TRITANDEM AXLES

## AXLE PLACEMENT

<table>
<thead>
<tr>
<th>OPERATING SPEED (MPH)</th>
<th>UNDER 20</th>
<th>20 - 40</th>
<th>40 - 50</th>
<th>50 - 55</th>
<th>55 - 60</th>
<th>60 - 65</th>
<th>65 - 70</th>
<th>70 - 80</th>
<th>80 - 90</th>
<th>OVER 90</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>110</td>
<td>110</td>
<td>111</td>
<td>112</td>
<td>111</td>
<td>120</td>
<td>111</td>
<td>121</td>
<td>112</td>
<td>1120</td>
<td>1300</td>
</tr>
<tr>
<td>VEHICLES</td>
<td>27</td>
<td>3694</td>
<td>244</td>
<td>1</td>
<td>202</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>92</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>MEAN</td>
<td>58.7</td>
<td>55.7</td>
<td>53.8</td>
<td>50.5</td>
<td>52.9</td>
<td>49.6</td>
<td>39.1</td>
<td>0.0</td>
<td>54.8</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>STANDARD</td>
<td>341</td>
<td>341</td>
<td>341</td>
<td>341</td>
<td>341</td>
<td>341</td>
<td>341</td>
<td>341</td>
<td>341</td>
<td>341</td>
<td>341</td>
</tr>
<tr>
<td>DEVIATION</td>
<td>1.1</td>
<td>1.1</td>
<td>1.1</td>
<td>1.1</td>
<td>1.1</td>
<td>1.1</td>
<td>1.1</td>
<td>1.1</td>
<td>1.1</td>
<td>1.1</td>
<td>1.1</td>
</tr>
</tbody>
</table>

## AXLE PLACEMENT

<table>
<thead>
<tr>
<th>OPERATING SPEED (MPH)</th>
<th>110111</th>
<th>112110</th>
<th>112110</th>
<th>111210</th>
<th>111120</th>
<th>122100</th>
<th>112200</th>
<th>121200</th>
<th>132000</th>
<th>123000</th>
<th>131000</th>
<th>113100</th>
<th>111300</th>
<th>OVER 6 VEHICLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>VEHICLES</td>
<td>9</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>MEAN</td>
<td>67.5</td>
<td>39.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>52.3</td>
</tr>
<tr>
<td>STANDARD</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>DEVIATION</td>
<td>15.4</td>
<td>1.0</td>
<td>0.1</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>1</td>
</tr>
</tbody>
</table>
## AXLE LOAD VERSUS AXLE PLACEMENT

**TANDEM SPACING IS 40 INCHES OR LESS (AASHO CATEGORIES)**

1, 2, and 3 indicate single, tandem and tritandem axles.

<table>
<thead>
<tr>
<th>AXLE LOAD</th>
<th>UNDER AXLE PLACEMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10</td>
</tr>
<tr>
<td>OVER 35</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>54</td>
</tr>
<tr>
<td>MEAN AXLE</td>
<td>27</td>
</tr>
<tr>
<td>WEIGHT</td>
<td>1.3</td>
</tr>
<tr>
<td>STANDARD</td>
<td>0.3</td>
</tr>
<tr>
<td>DEVIATION</td>
<td>0.3</td>
</tr>
</tbody>
</table>
AXLE LOAD VERSUS AXLE PLACEMENT (CONTINUED FROM LAST PAGE)

TANDEM SPACING IS 40 INCHES OR LESS
(AASHO CATEGORIES)

1, 2 AND 3 INDICATE SINGLE, BITANDEM AND TRITANDEM AXLES

<table>
<thead>
<tr>
<th>AXLE LOAD (KIPS)</th>
<th>AXLE PLACEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNDER 1</td>
<td>0</td>
</tr>
<tr>
<td>1 - 3</td>
<td>0</td>
</tr>
<tr>
<td>3 - 5</td>
<td>0</td>
</tr>
<tr>
<td>5 - 7</td>
<td>0</td>
</tr>
<tr>
<td>7 - 9</td>
<td>0</td>
</tr>
<tr>
<td>9 - 11</td>
<td>0</td>
</tr>
<tr>
<td>11 - 13</td>
<td>0</td>
</tr>
<tr>
<td>13 - 15</td>
<td>0</td>
</tr>
<tr>
<td>15 - 17</td>
<td>0</td>
</tr>
<tr>
<td>17 - 19</td>
<td>0</td>
</tr>
<tr>
<td>19 - 21</td>
<td>0</td>
</tr>
<tr>
<td>21 - 23</td>
<td>54</td>
</tr>
<tr>
<td>23 - 25</td>
<td>0</td>
</tr>
<tr>
<td>25 - 27</td>
<td>0</td>
</tr>
<tr>
<td>27 - 29</td>
<td>0</td>
</tr>
<tr>
<td>29 - 31</td>
<td>0</td>
</tr>
<tr>
<td>31 - 33</td>
<td>0</td>
</tr>
<tr>
<td>33 - 35</td>
<td>0</td>
</tr>
<tr>
<td>OVER 35</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL AXLES</td>
<td>54</td>
</tr>
<tr>
<td>TOTAL VEHICLES</td>
<td>9</td>
</tr>
<tr>
<td>MEAN AXLE WEIGHT</td>
<td>22.0</td>
</tr>
<tr>
<td>STANDARD DEVIATION</td>
<td>0.0</td>
</tr>
</tbody>
</table>
# Axle Load Versus Axle Placement

Tandem spacing is 40 inches to 120 inches (Kentucky categories)

1, 2 and 3 indicate single, bitandem and tritandem axles

<table>
<thead>
<tr>
<th>Axle Load (kips)</th>
<th>110</th>
<th>110</th>
<th>111</th>
<th>120</th>
<th>1111</th>
<th>1210</th>
<th>1120</th>
<th>11300</th>
<th>11110</th>
<th>11210</th>
<th>11310</th>
<th>11130</th>
<th>112200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 1</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1 - 3</td>
<td>48</td>
<td>6</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3 - 5</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5 - 7</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>7 - 9</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>9 - 11</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>11 - 13</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>13 - 15</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>15 - 17</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>17 - 19</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>19 - 21</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>21 - 23</td>
<td>0</td>
<td>7371</td>
<td>618</td>
<td>35</td>
<td>56</td>
<td>132</td>
<td>192</td>
<td>21</td>
<td>25</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>23 - 25</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>25 - 27</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>27 - 29</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>29 - 31</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>31 - 33</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>33 - 35</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>OVER 35</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total Axles</td>
<td>54</td>
<td>7388</td>
<td>627</td>
<td>70</td>
<td>60</td>
<td>198</td>
<td>294</td>
<td>46</td>
<td>25</td>
<td>3</td>
<td>0</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>Total Vehicles</td>
<td>27</td>
<td>3694</td>
<td>209</td>
<td>35</td>
<td>15</td>
<td>66</td>
<td>98</td>
<td>23</td>
<td>5</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Mean Axle Weight</td>
<td>1.3</td>
<td>22.0</td>
<td>21.7</td>
<td>33.0</td>
<td>20.6</td>
<td>29.3</td>
<td>28.9</td>
<td>40.6</td>
<td>22.0</td>
<td>27.5</td>
<td>0.0</td>
<td>27.5</td>
<td>0.0</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>0.3</td>
<td>0.0</td>
<td>1.1</td>
<td>5.2</td>
<td>0.0</td>
<td>0.0</td>
<td>1.0</td>
<td>0.0</td>
<td>1.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>1.0</td>
</tr>
</tbody>
</table>
AXLE LOAD VERSUS AXLE PLACEMENT (CONTINUED FROM LAST PAGE)

TANDEM SPACING IS 40 INCHES TO 120 INCHES
(KENTUCKY CATEGORIES)

1, 2 AND 3 INDICATE SINGLE, BITANDEM AND TRITANDEM AXLES

<table>
<thead>
<tr>
<th>AXLE LOAD (KIPS)</th>
<th>UNDER 1</th>
<th>1 - 3</th>
<th>3 - 5</th>
<th>5 - 7</th>
<th>7 - 9</th>
<th>9 - 11</th>
<th>11 - 13</th>
<th>13 - 15</th>
<th>15 - 17</th>
<th>17 - 19</th>
<th>19 - 21</th>
<th>21 - 23</th>
<th>23 - 25</th>
<th>25 - 27</th>
<th>27 - 29</th>
<th>29 - 31</th>
<th>31 - 33</th>
<th>33 - 35</th>
<th>OVER 35</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL AXLES</td>
<td>0</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL VEHICLES</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>MEAN AXLE WEIGHT</td>
<td>0.0</td>
<td>26.4</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>33.0</td>
<td>0.0</td>
<td>33.0</td>
<td>0.0</td>
<td>44.0</td>
<td>44.0</td>
<td>0.0</td>
<td>0.0</td>
<td>33.0</td>
<td>22.0</td>
<td>-----</td>
<td>----</td>
<td></td>
</tr>
<tr>
<td>MEAN DEVIATION</td>
<td>0.0</td>
<td>9.3</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>12.7</td>
<td>0.0</td>
<td>12.7</td>
<td>0.0</td>
<td>19.7</td>
<td>19.7</td>
<td>0.0</td>
<td>0.0</td>
<td>12.7</td>
<td>22.0</td>
<td>----</td>
<td>----</td>
<td></td>
</tr>
</tbody>
</table>

Note: The table shows the distribution of axle loads across different axle placements, categorized by their placement on the vehicle. The first column lists the axle load categories in Kips, followed by the counts for each category across different axle placement categories (1 to 35). The last two rows show the mean values for axle weight and deviation respectively.
### Equivalent Axle Load per Vehicle

<table>
<thead>
<tr>
<th>Categories</th>
<th>Under 2 Tons</th>
<th>110</th>
<th>111</th>
<th>112</th>
<th>1141</th>
<th>11210</th>
<th>11110</th>
<th>11120</th>
<th>11112</th>
<th>11211</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum EAL</td>
<td>0.0</td>
<td>128.0</td>
<td>192.9</td>
<td>1088.0</td>
<td>256.0</td>
<td>1152.0</td>
<td>1152.0</td>
<td>1088.0</td>
<td>320.0</td>
<td>1216.0</td>
</tr>
<tr>
<td>Minimum EAL</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>1088.0</td>
<td>0.0</td>
<td>1152.0</td>
<td>0.0</td>
<td>0.0</td>
<td>320.0</td>
</tr>
<tr>
<td>Kentucky Mean EAL</td>
<td>0.0</td>
<td>1127.0</td>
<td>1152.0</td>
<td>1088.0</td>
<td>238.9</td>
<td>1152.0</td>
<td>1152.0</td>
<td>1088.0</td>
<td>238.9</td>
<td>1216.0</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>0.0</td>
<td>22.8</td>
<td>0.0</td>
<td>66.1</td>
<td>0.0</td>
<td>163.4</td>
<td>312.9</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total Vehicles</td>
<td>27</td>
<td>3059</td>
<td>321</td>
<td>19</td>
<td>60</td>
<td>57</td>
<td>23</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Categories</th>
<th>12110</th>
<th>11120</th>
<th>11110</th>
<th>11220</th>
<th>11111</th>
<th>112110</th>
<th>112110</th>
<th>111120</th>
<th>111120</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum EAL</td>
<td>0.0</td>
<td>1216.0</td>
<td>0.0</td>
<td>1152.0</td>
<td>2112.0</td>
<td>0.0</td>
<td>1152.0</td>
<td>0.0</td>
<td>1216.0</td>
</tr>
<tr>
<td>Minimum EAL</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>1152.0</td>
<td>1088.0</td>
<td>1152.0</td>
<td>1088.0</td>
<td>1216.0</td>
</tr>
<tr>
<td>Kentucky Mean EAL</td>
<td>0.0</td>
<td>1216.0</td>
<td>0.0</td>
<td>1152.0</td>
<td>1127.0</td>
<td>0.0</td>
<td>1152.0</td>
<td>238.9</td>
<td>1216.0</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>1152.0</td>
<td>0.0</td>
<td>1152.0</td>
<td>238.9</td>
<td>0.0</td>
</tr>
<tr>
<td>Total Vehicles</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>79</td>
<td>0</td>
<td>79</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Categories</th>
<th>12210</th>
<th>11220</th>
<th>11210</th>
<th>112200</th>
<th>113110</th>
<th>111120</th>
<th>1111120</th>
<th>1080.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum EAL</td>
<td>0.0</td>
<td>2112.0</td>
<td>0.0</td>
<td>2112.0</td>
<td>2112.0</td>
<td>0.0</td>
<td>2112.0</td>
<td>448.0</td>
</tr>
<tr>
<td>Minimum EAL</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>2112.0</td>
<td>0.0</td>
<td>2112.0</td>
<td>2112.0</td>
</tr>
<tr>
<td>Kentucky Mean EAL</td>
<td>0.0</td>
<td>2112.0</td>
<td>0.0</td>
<td>2112.0</td>
<td>2112.0</td>
<td>0.0</td>
<td>2112.0</td>
<td>2112.0</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total Vehicles</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Categories</th>
<th>12210</th>
<th>11220</th>
<th>11210</th>
<th>112200</th>
<th>113110</th>
<th>111120</th>
<th>1111120</th>
<th>1080.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum EAL</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Minimum EAL</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Kentucky Mean EAL</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total Vehicles</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
APPENDIX B

PL/1 Program for Tabular Output
PROGRAM OPTIONS (MAIN):

OPEN FILE(SYSPRINT) OUTPUT LINESIZE(132);
DECLARE SLASH CHAR(1);
DECLARE

(OVSXAX(30,11) INIT(33010), GOWSXAX(30,27) INIT(81010),
GOWSOS(1,27) INIT(29710), AXLVSAXA(30,21) INIT(63010),
CA INIT(0),
CAD INIT(0),
DAY INIT(0),
NUMOFAXLES INIT(0),
AXLENUM INITIAL(0),
DAYHOLD INIT(0),
NUMBER INIT(0),
SPD INIT(0),
FIXED BINARY(31) STATIC;

DECLARE

(STORF(9,3) INIT(2710),
SDSRAX(3,30) INIT(9010),
SDGOWAX(3,30) INIT(12010),
SDLDAX(3,29) INIT(8710),
MAXDAASHO(29) INIT(2910),
MEANAXAHO(29) INIT(2910),
MAXLOADKY(29) INIT(2910),
MINLOADKY(29) INIT(2910),
LD INIT(0),
DWT INIT(0),
WEIGHT INIT(0,0),
TA INIT(0),
SPACING INIT(0,0),
MINLOADKY(29) INIT(291099999),
MINLOADKY(29) INIT(291099999))

DECLARE

(MAXIMA ENTRY (FIXED BINARY (31)),
MAXMIN ENTRY (FIXED BINARY (31)),
GOWCHK ENTRY (FIXED BINARY (31)),
SPDCHK ENTRY (FIXED BINARY (31)),
AXLOAD ENTRY (FLOAT BINARY(16), FIXED BINARY (31)),
ADAXL ENTRY (FIXED BINARY(31), FIXED BINARY (31),
ADAXLAA ENTRY (FIXED BINARY(31), FIXED BINARY (31), FIXED BINARY (31),
ADOVEH ENTRY (FIXED BINARY(31), FIXED BINARY (31), FIXED BINARY (31),
TANDAA ENTRY (FLOAT BIN (16)),
ADOVHY ENTRY (FIXED BINARY (31)),
ADOVWA ENTRY (FIXED BINARY (31)));

ON ENDFILE (TAPE) BEGIN; CALL SUMMARY; GO TO DONE; END;
BEGIN: GET FILE(TAPE) EDIT (WEIGHT,SPEED,SPACING,DAY,AXLENUM,ID,SLASH) TBL00530

(IF(3,1),F(4,1),F(3,1),F(3,0),X(9),2 F(1,0),A(1));

IF ID=0 THEN GO TO BEGIN;
IF DAY=0 THEN GO TO BEGIN;
IF SLASH ^= '*' THEN DO; A1:PUT FILE(SYSPRINT) SKIP(5) EDIT TBL00570

(************25 NUMBERS WERE NOT FOUND ***)

IF SLASH ^= '/' THEN GO TO A1; A1:PUT FILE(SYSPRINT) SKIP(5) EDIT TBL00580

(IF(3,1),F(4,1),F(3,1),F(3,0),X(9),2 F(1,0),A(1));

IF SLASH ^= '/' THEN GO TO A1; A1:PUT FILE(SYSPRINT) SKIP(5) EDIT TBL00590

(IF(3,1),F(4,1),F(3,1),F(3,0),X(9),2 F(1,0),A(1));

IF SLASH ^= '/' THEN GO TO A1; A1:PUT FILE(SYSPRINT) SKIP(5) EDIT TBL00600

(IF(3,1),F(4,1),F(3,1),F(3,0),X(9),2 F(1,0),A(1));

IF SLASH ^= '/' THEN GO TO A1; A1:PUT FILE(SYSPRINT) SKIP(5) EDIT TBL00610

(IF(3,1),F(4,1),F(3,1),F(3,0),X(9),2 F(1,0),A(1));

IF SLASH ^= '/' THEN GO TO A1; A1:PUT FILE(SYSPRINT) SKIP(5) EDIT TBL00620

IF SLASH ^= '/' THEN GO TO A1; A1:PUT FILE(SYSPRINT) SKIP(5) EDIT TBL00630

GO TO G2; END;
IF RFCOR = 0 THEN: RFCOR = 1; DAYHOLD = DAY; IDHOLD = ID; GO TO G3; TBL00650
END;

IF ID = IDHOLD THEN DO: CALL SUMMARY; IDHOLD = ID; DAYHOLD = DAY; TBL00670
GO TO G1; END;

IF DAY = DAYHOLD THEN DO: CALL SUMMARY; DAYHOLD = DAY; GO TO G1; END; TBL00690

G1: IF AXLENUM = 1 THEN TBL00700

G2: DO; IF NUML = 1 THEN DO: STORE(1,1) = WEIGHT; STORE(1,2) = SPEED;
STORE(1,3) = SPACING; VEHWT = WEIGHT; GO TO BEGIN; END; NUMVEH = TBL00720
END; TBL00730

G3: NUMBER = AXLENUM; STORE(NUMBER,1) = WEIGHT; STORE(NUMBER,2) = SPEED;
STORE(NUMBER,3) = SPACING; VEHWT = VEHWT + WEIGHT; NUMOFAXLES = TBL00750
END;

B1: CALL SPOCHK(SPO); CALL GOWCHK(W); TBL00770

IF NUMBER = 2 THEN DO; IF VEHWT <= 4.0 THEN CALL AXLE2L; ELSE CALL
AXLE2H; GO TO G4; END;

IF NUMBER = 3 THEN DO; CALL AXLE3; GO TO G4; END;

IF NUMBER = 4 THEN DO; CALL AXLE4; GO TO G4; END;

IF NUMBER = 5 THEN DO; CALL AXLE5; GO TO G4; END;

IF NUMBER = 6 THEN DO; CALL AXLE6; GO TO G4; END;

CALL AXLE6; TBL00790

G4: VEHWT = 0.0; GO TO G3;

SUMMARY : PROCEDURE;

PUT FILE(SYSPRINT) PAGE LINE(2) EDIT (** * * * * DO I=1 TO 8), TBL00870
' VEHICLE DATA FOR DAY ',DAYHOLD, (** * * * * DO I=1 TO 8)) TBL00880
(COLUMN(5),9 A,F(3,0),X(1),8 A); TBL00890

PUT FILE(SYSPRINT) SKIP(2) EDIT ('STATION IDENTIFICATION = ', TBL00900
IDHOLD) (COLUMN(53),9 A,F(1,0)); TBL00910

PUT FILE(SYSPRINT) SKIP(2) EDIT (** NUMBER OF AXLES FOR THIS DAY =** TBL00920
NUMOFAXLES) (COLUMN(48),9 A,F(5,0)); TBL00930

PUT FILE(SYSPRINT) SKIP(2) EDIT (** NUMBER OF VEHICLES FOR THIS DAY** TBL00940
= ' , NUMVEH) (COLUMN(47),2 A,F(3,0)); TBL00950

PUT FILE(SYSPRINT) SKIP(4) EDIT (
' CURRENT LOAD EQUIVALENCY FACTORS (AS OF 3-20-69)** TBL00960
'SINGLE AXLES TANDEM AXLES', TBL00980
'KIP (KIP)', TBL01000
'KIP (KIP)', TBL01020
'KIP (KIP)', TBL01030
'KIP (KIP)', TBL01040
'KIP (KIP)', TBL01050
'KIP (KIP)', TBL01060
'KIP (KIP)', TBL01070
'KIP (KIP)', TBL01080
'KIP (KIP)', TBL01090
'KIP (KIP)', TBL01100
'KIP (KIP)', TBL01110
'KIP (KIP)', TBL01120
'KIP (KIP)', TBL01130
'KIP (KIP)', TBL01140
'KIP (KIP)', TBL01150
'KIP (KIP)', TBL01160
'KIP (KIP)', TBL01170
'KIP (KIP)', TBL01180
'KIP (KIP)', TBL01190
'KIP (KIP)', TBL01200
'KIP (KIP)', TBL01210
'KIP (KIP)', TBL01220
'KIP (KIP)', TBL01230
'KIP (KIP)', TBL01240
'KIP (KIP)', TBL01250

'NOTE: KENTUCKY DOES NOT IDENTIFY TANDEM AXLES SEPARATELY ** TBL01160
'FOR PURPOSES OF COMPUTATION',
'THE FACTORS USED BY AASHTO RELATE TO TRUCK AXLES. IN ' TBL01170
'ADDITION, TWO-AXLE, FOUR TIERD VEHICLES ARE ASSUMED', TBL01180
'TO CONTRIBUTE 0.0002 KIPS PER VEHICLE.', TBL01190
'SINGLE AXLE, AASHTO FACTORS RELATE TO FLEXIBLE PAVEMENTS HAVING A TERMINAL SERVICEABILITY INDEX OF 2.5', TBL01200
'AND A STRUCTURAL NUMBER OF 5.', TBL01210
'(COLUMN(38),A,SKIP(2),18(COLUMN(36),A),SKIP(2), 8(COLUMN(36),A)); TBL01220
'TBL01230
'TBL01240
'TBL01250
DECLARE FIXED BINARY (31);

MAXMINA : PROCEDURE (CA);
DECLARE CA FIXED BINARY (31);
IF TA < MINLOADSHA(OA) THEN MINLOADSHA(OA) = TA;
IF TA > MAXLOADSHA(OA) THEN MAXLOADSHA(OA) = TA;
MEANLOADSHA(OA) = MEANLOADSHA(OA) + TA ** 2;
TA = 0.0;
END MAXMINA;

MAXMINK : PROCEDURE (CA);
DECLARE CA FIXED BINARY (31);
IF TK < MINLOADKY(CA) THEN MINLOADKY(CA) = TK;
IF TK > MAXLOADKY(CA) THEN MAXLOADKY(CA) = TK;
MEANLOADKY(CA) = MEANLOADKY(CA) + TK ** 2;
TK = 0.0;
END MAXMINK;

GOWCHK : PROCEDURE (W);
DECLARE W FIXED BINARY (31);
IF VEWH < 4.0 THEN DO; W = 1; GO TO FINISH; END;
IF VEWH > 4.0 THEN DO; W = 2; GO TO FINISH; END;
IF VEWH < 15.0 THEN DO; W = 3; GO TO FINISH; END;
IF VEWH > 15.0 THEN DO; W = 4; GO TO FINISH; END;
IF VEWH < 20.0 THEN DO; W = 5; GO TO FINISH; END;
IF VEWH > 20.0 THEN DO; W = 6; GO TO FINISH; END;
IF VEWH < 26.0 THEN DO; W = 7; GO TO FINISH; END;
IF VEWH > 26.0 THEN DO; W = 8; GO TO FINISH; END;
IF VEWH < 30.0 THEN DO; W = 9; GO TO FINISH; END;
IF VEWH > 30.0 THEN DO; W = 10; GO TO FINISH; END;
IF VEWH < 34.0 THEN DO; W = 11; GO TO FINISH; END;
IF VEWH > 34.0 THEN DO; W = 12; GO TO FINISH; END;
IF VEWH < 38.0 THEN DO; W = 13; GO TO FINISH; END;
IF VEWH > 38.0 THEN DO; W = 14; GO TO FINISH; END;
IF VEWH < 40.0 THEN DO; W = 15; GO TO FINISH; END;
IF VEWH > 40.0 THEN DO; W = 16; GO TO FINISH; END;
IF VEWH < 50.0 THEN DO; W = 17; GO TO FINISH; END;
IF VEWH > 50.0 THEN DO; W = 18; GO TO FINISH; END;
IF VEWH < 60.0 THEN DO; W = 19; GO TO FINISH; END;
IF VEWH > 60.0 THEN DO; W = 20; GO TO FINISH; END;
IF VEWH < 70.0 THEN DO; W = 21; GO TO FINISH; END;
IF VEWH > 70.0 THEN DO; W = 22; GO TO FINISH; END;
IF VEHWT >= 75. VEHWT < 80. THEN DO; W = 22; GO TO FINISH; END;
IF VEHWT >= 80. VEHWT < 85. THEN DO; W = 23; GO TO FINISH; END;
IF VEHWT >= 85. VEHWT < 90. THEN DO; W = 24; GO TO FINISH; END;
IF VEHWT >= 90. VEHWT < 95. THEN DO; W = 25; GO TO FINISH; END;
W = 26;
FINISH: END GOWCHK;
SPDCHK: PROCEDURE (SPD);
DECLARE SPD FIXED BINARY (31);
DECLARE SPD FIXED BINARY (31);
IF STORE(1,2) <= 20.0 THEN DO; SPD = 1; GO TO FINISH; END;
IF STORE(1,2) >= 20.0 & STORE(1,2) < 40. THEN DO; SPD = 2; GO TO FINISH; END;
IF STORE(1,2) >= 40.0 & STORE(1,2) < 50. THEN DO; SPD = 3; GO TO FINISH; END;
IF STORE(1,2) >= 50.0 & STORE(1,2) < 60. THEN DO; SPD = 4; GO TO FINISH; END;
IF STORE(1,2) >= 60.0 & STORE(1,2) < 80. THEN DO; SPD = 5; GO TO FINISH; END;
IF STORE(1,2) >= 80.0 & STORE(1,2) < 90. THEN DO; SPD = 6; GO TO FINISH; END;
IF STORE(1,2) >= 90.0 & STORE(1,2) < 95. THEN DO; SPD = 7; GO TO FINISH; END;
IF STORE(1,2) >= 95.0 & STORE(1,2) < 100. THEN DO; SPD = 8; GO TO FINISH; END;
IF STORE(1,2) >= 100.0 & STORE(1,2) < 110. THEN DO; SPD = 9; GO TO FINISH; END;
SPD = 10;
FINISH: END SPDCHK;
AXLOAD: PROCEDURE (LOAD, AL);
DECLARE LOAD FLOAT BINARY (16), AL FIXED BINARY (31);
IF LOAD < 1.0 THEN DO; AL = 1; LOADKY = 0.0; LDAASHO = 0.0; GO TO FINISH; END;
IF LOAD >= 1.0 & LOAD < 3.0 THEN DO; AL = 2; LOADKY = 0.0; LDAASHO = 2.0; GO TO FINISH; END;
IF LOAD >= 3.0 & LOAD < 5.0 THEN DO; AL = 3; LOADKY = 0.0; LDAASHO = 4.0; GO TO FINISH; END;
IF LOAD >= 5.0 & LOAD < 7.0 THEN DO; AL = 4; LOADKY = 0.0; LDAASHO = 6.0; GO TO FINISH; END;
IF LOAD >= 7.0 & LOAD < 9.0 THEN DO; AL = 5; LOADKY = 0.0; LDAASHO = 8.0; GO TO FINISH; END;
IF LOAD >= 9.0 & LOAD < 11.0 THEN DO; AL = 6; LOADKY = 0.0; LDAASHO = 10.0; GO TO FINISH; END;
IF LOAD >= 11.0 & LOAD < 13.0 THEN DO; AL = 7; LOADKY = 2.0; LDAASHO = 12.0; GO TO FINISH; END;
IF LOAD >= 13.0 & LOAD < 15.0 THEN DO; AL = 8; LOADKY = 4.0; LDAASHO = 14.0; GO TO FINISH; END;
IF LOAD >= 15.0 & LOAD < 17.0 THEN DO; AL = 9; LOADKY = 6.0; LDAASHO = 16.0; GO TO FINISH; END;
IF LOAD >= 17.0 & LOAD < 19.0 THEN DO; AL = 10; LOADKY = 8.0; LDAASHO = 18.0; GO TO FINISH; END;
IF LOAD >= 19.0 & LOAD < 21.0 THEN DO; AL = 11; LOADKY = 10.0; LDAASHO = 20.0; GO TO FINISH; END;
IF LOAD >= 21.0 & LOAD < 23.0 THEN DO; AL = 12; LOADKY = 12.0; LDAASHO = 22.0; GO TO FINISH; END;
IF LOAD >= 23.0 & LOAD < 25.0 THEN DO; AL = 13; LOADKY = 14.0; LDAASHO = 24.0; GO TO FINISH; END;
IF LOAD >= 25.0 & LOAD < 27.0 THEN DO; AL = 14; LOADKY = 16.0; LDAASHO = 26.0; GO TO FINISH; END;
IF LOAD >= 27.0 & LOAD < 29.0 THEN DO; AL = 15; LOADKY = 18.0; LDAASHO = 28.0; GO TO FINISH; END;
IF LOAD >= 29.0 & LOAD < 31.0 THEN DO; AL = 16; GO TO A; END;
IF LOAD >= 31.0 & LOAD < 33.0 THEN DO; AL = 17; GO TO A; END;
IF LOAD >= 33.0 & LOAD < 35.0 THEN DO; AL = 18; GO TO A; END;
IF AL = 19; A: LOADKY = 102.4; LDAASHO = 6.97; GO TO FINISH; END;
FINISH: END AXLOAD;
ADDAXL: PROCEDURE (CA, CAD, LD);
DECLARE (CA, CAD) FIXED BINARY(31), LD FLOAT BINARY(16);
AXLDSAX(CA, CAD) = AXLDSAX(CA, CAD) + 1;
AXLDSAX(30, CAD) = AXLDSAX(30, CAD) + 1;
AXLDSAX(CA, 20) = AXLDSAX(CA, 20) + 1;
SDDLAX(1, CA) = SDDLAX(1, CA) + LD;
FINISH: END AXLOAD;
SOLDAAX(7,CAI) = SOLDAAX(2,CAI) + LD ** 2;
END ADDAXL;
TBL02480
ADDAXLAA : PROCEDURE (CAI,CAD,LD);
TBL02490
DECLAR (CAI,CAD) FIXED BINARY(31), LD FLOAT BINARY(16);
TBL02500
AXLDVSAAXA(CAI,CAI) = AXLDVSAAXA(CAI,CAD) + 1;
TBL02510
AXLDVSAAXA(30,CAD) = AXLDVSAAXA(30,CAD) + 1;
TBL02520
AXLDVSAAXA(20,CAI) = AXLDVSAAXA(20,CAI) + 1;
TBL02530
SOLDAAXA(1,CAI) = SOLDAAXA(1,CAI) + LD;
TBL02540
SOLDAAXA(2,CAI) = SOLDAAXA(2,CAI) + LD ** 2;
TBL02550
END ADDAXLAA;
TBL02560
ADDVEH : PROCEDURE (CAI,SPD,W);
TBL02570
DECLAR (CAI,SPD,W) FIXED BINARY(31);
TBL02580
OSVSAX(30,SPD) = OSVSAX(30,SPD) + 1; OSVSAX(CAI,11) = OSVSAX(CAI,11) + 1;
TBL02590
GOWVSAX(30,W) = GOWVSAX(30,W) + 1; GOWVSAX(CAI,27) = GOWVSAX(CAI,27) + 1;
TBL02600
OSVSAX(CAI,SPD) = OSVSAX(CAI,SPD) + 1; GOWVSAX(CAI,W) = GOWVSAX(CAI,W) + 1;
TBL02610
GOWVSOS(30,27) = GOWVSOS(30,27) + 1; GOWVSOS(CAI,11,W) = GOWVSOS(CAI,11,W) + 1;
TBL02620
GOWVSOS(30,W) = GOWVSOS(30,W) + 1;
TBL02630
SGOWOS(1,SPD) = SGOWOS(1,SPD) + VEHWT;
TBL02640
SGOWOS(2,SPD) = SGOWOS(2,SPD) + VEHWT ** 2;
TBL02650
SGOSAX(1,CAI) = SGOSAX(1,CAI) + STORE(1,2);
TBL02660
SGOSAX(2,CAI) = SGOSAX(2,CAI) + STORE(1,2) ** 2;
TBL02670
SGOWAX(1,CAI) = SGOWAX(1,CAI) + VEHWT;
TBL02680
SGOWAX(2,CAI) = SGOWAX(2,CAI) + VEHWT ** 2;
TBL02690
END ADDVEH;
TBL02700
TANDAA : PROCEDURE (LOAD);
TBL02710
DECLAR LOAD FLOAT BINARY(16);
TBL02720
IF LOAD < 10.0 THEN DO; LOADASHO = 0.0; GO TO F; END;
TBL02730
IF LOAD >= 10.0 & LOAD < 14.0 THEN DO; LOADASHO = .01; GO TO F; END;
TBL02740
IF LOAD >= 14.0 & LOAD < 18.0 THEN DO; LOADASHO = .05; GO TO F; END;
TBL02750
IF LOAD >= 18.0 & LOAD < 22.0 THEN DO; LOADASHO = .12; GO TO F; END;
TBL02760
IF LOAD >= 22.0 & LOAD < 26.0 THEN DO; LOADASHO = .26; GO TO F; END;
TBL02770
IF LOAD >= 26.0 & LOAD < 30.0 THEN DO; LOADASHO = .50; GO TO F; END;
TBL02780
IF LOAD >= 30.0 & LOAD < 34.0 THEN DO; LOADASHO = .81; GO TO F; END;
TBL02790
IF LOAD >= 34.0 & LOAD < 38.0 THEN DO; LOADASHO = 1.38; GO TO F; END;
TBL02800
IF LOAD >= 38.0 & LOAD < 42.0 THEN DO; LOADASHO = 2.08; GO TO F; END;
TBL02810
IF LOAD >= 42.0 & LOAD < 46.0 THEN DO; LOADASHO = 3.00; GO TO F; END;
TBL02820
IF LOAD >= 46.0 & LOAD < 50.0 THEN DO; LOADASHO = 4.17; GO TO F; END;
TBL02830
IF LOAD >= 50.0 & LOAD < 54.0 THEN DO; LOADASHO = 5.63; GO TO F; END;
TBL02840
IF LOAD >= 54.0 & LOAD < 58.0 THEN DO; LOADASHO = 7.41; GO TO F; END;
TBL02850
LOADASHO = 9.59;
TBL02860
F ;END TANDAA;
TBL02870
ADDVHVKY : PROCEDURE (CAI);
TBL02880
DECLAR CAI FIXED BINARY(31);
TBL02890
AXLDVSAAXA(CAI,21) = AXLDVSAAXA(CAI,21) + 1;
TBL02900
END ADDVHVKY;
TBL02910
ADDVHAA : PROCEDURE (CAI);
TBL02920
DECLAR CAI FIXED BINARY(31);
TBL02930
AXLDVSAAXA(CAI,21) = AXLDVSAAXA(CAI,21) + 1;
TBL02940
END ADDVHAA;
TBL02950
AXLE2L : PROCEDURE;
TBL02960
CALL ADDVHVKY(1,SPD,W); CALL ADDVHAA(1); CALL ADDVHAA(1); DC I=1 TO 2; CALL AXLOADSTORE(1,1,AL);
TBL02970
CALL ADDAXL(1,AL,STORE(1,1)); TA=TA+LOADASHO; TK=TK+LOADKY;
TBL03000
CALL MAXMINA(1); CALL MAXMINA(1);
TBL03010
END AXLE2L;
TBL03020
AXLEZH : PROCEDURE;
TBL03030
CALL AXLEZH(1,SPD,W); CALL ADDVHVKY(2); CALL ADDVHAA(2); DC I=1 TO 2; CALL AXLOADSTORE(1,1,AL);
TBL03040
CALL ADDAXL(2,AL,STORE(1,1)); TA=TA+LOADASHO; TK=TK+LOADKY;
TBL03070
CALL ADDAXLAA(2,AL,STORE(1,1)); END;
TBL03080

CALL MAXMINA(2); CALL MAXMINK(2);
END AXLE2;

AXLE3 : PROCEDURE;

IF STORE(3,3) <= 3.33 THEN DO; CALL ADDVHAA(4); CALL ADDVEH(4,SPD,W); CALL AXLOAD(STORE(1,1),AL); TA=TA+LDAASHO;
DWT = STORE(2,1) + STORE(3,1); CALL ADAXLAA(4,AL,STORE(1,1)); CALL AXLOAD(DWT,AL); CALL TANADA(DWT); TA=TA+LDAASHO;
RETURN; END;
CALL ADDVHAA(3); DO I=1 TO 3; CALL AXLOAD(STORE(I,1),AL); CALL ADAXLAA(3,AL,STORE(I,1)); TA=TA+LDAASHO;
RETURN; END;

IF STORE(3,3) > 10.0 THEN DO; CALL ADDVHAA(4); CALL ADDVEH(4,SPD,W); CALL AXLOAD(STORE(1,1),AL); TA=TA+LDAASHO;
DWT = STORE(2,1) + STORE(3,1); CALL TANADA(DWT); TA=TA+LDAASHO;
RETURN; END;

IF STORE(I,3) <= 3.33 THEN DO; CALL ADDVHAA(6); CALL ADDVEH(6,SPD,W); CALL AXLOAD(STORE(I,1),AL); TA=TA+LDAASHO;
DWT = STORE(I,1) + STORE(I,2); CALL ADAXLAA(6,AL,STORE(I,1)); CALL AXLOAD(DWT,AL); CALL TANADA(DWT); TA=TA+LDAASHO;
RETURN; END;

IF STORE(3,3) <= 3.33 THEN DO; CALL ADDVHAA(7); CALL ADDVEH(7,SPD,W); CALL AXLOAD(STORE(1,1),AL); TA=TA+LDAASHO;
DWT = STORE(2,1) + STORE(3,1); CALL ADAXLAA(7,AL,STORE(1,1)); CALL AXLOAD(DWT,AL); CALL TANADA(DWT); TA=TA+LDAASHO;
RETURN; END;

IF STORE(I,3) <= 3.33 THEN DO; CALL ADDVHAA(8); CALL ADDVEH(8,SPD,W); CALL AXLOAD(STORE(I,1),AL); TA=TA+LDAASHO;
DWT = STORE(I,1) + STORE(I,2); CALL ADAXLAA(8,AL,STORE(I,1)); CALL AXLOAD(DWT,AL); CALL TANADA(DWT); TA=TA+LDAASHO;
RETURN; END;

CALL ADDVHAA(5); CALL ADDVEH(5,SPD,W); DO I=1 TO 4; CALL AXLOAD(STORE(I,1),AL); CALL ADAXLAA(5,AL,STORE(I,1)); TA=TA+LDAASHO;
RETURN; END;

CALL MAXMINA(5); CALL MAXMINK(5);
END AXLE3;

AXLE4 : PROCEDURE;

IF STORE(3,3) <= 10.0 THEN DO; CALL ADDVHAA(6); CALL ADDVEH(6,SPD,W); CALL AXLOAD(STORE(1,1),AL); TA=TA+LDAASHO;
DWT = STORE(2,1) + STORE(3,1); CALL ADAXLAA(6,AL,STORE(1,1)); CALL AXLOAD(DWT,AL); CALL TANADA(DWT); TA=TA+LDAASHO;
RETURN; END;

CALL MAXMINA(6); CALL MAXMINK(6);
END AXLE4;

CALL MAXMINA(2); CALL MAXMINK(2);
END AXLE2;
TK=TK+LOADKY; CALL MAXMINK(7); RETURN; END;
CALL ADDVHYY(5); DO I=1 TO 4; CALL AXLOAD(STORE(I,1),AL); CALL AODAXL5,AL,STORE(I,1)); TK=TK+LOADKY; END; CALL MAXMINK(5);
END AXLE6;
AXLE5: PROCEDURE;
IF STORE(4,3)<=3.33 & STORE(5,3)<=3.33 THEN DO;
CALL ADDVHAA(14); CALL ADDVEH(14,SPD,W); DO I=1 TO 2; CALL AXLOAD(STORE(I,1),AL); CALL AODAXLAA(14,AL,STORE(I,1)); TA=TA+LOADKY;
TA=TA+LOADSHO; END; DWT=STORE(3,1)+STORE(4,1)+STORE(5,1); CALL AXLOAD(DWT,AL); CALL TANAA(DWT); TBLO3790
TA=TA+LOADSHO; CALL MAXMIN(14); RETURN; END;
TBLO3800
IF STORE(3,3)<=3.33 & STORE(5,3)<=3.33 THEN DO;
CALL ADDVHAA(13); CALL ADDVEH(13,SPD,W); CALL AXLOAD(STORE(1,1));AL); CALL AODAXLAA(13,AL,STORE(I,1)); TA=TA+LOADKY;
DWT=STORE(2,1)+STORE(3,1)+STORE(4,1); CALL AXLOAD(DWT,AL); CALL AODAXLAA(13,AL,DWT); CALL TANAA(DWT); TBLO3850
TA=TA+LOADSHO; CALL MAXMIN(15); RETURN; END;
TBLO3870
IF STORE(5,3)<=3.33 THEN DO;
CALL ADDVHAA(12); CALL ADDVEH(12,SPD,W); DO I=1 TO 3; CALL AXLOAD(STORE(I,1),AL); CALL AODAXLAA(12,AL,STORE(I,1)); TA=TA+LOADKY;
TA=TA+LOADSHO; END; DWT=STORE(4,1)+STORE(5,1); CALL AXLOAD(DWT,AL); CALL AODAXLAA(12,AL,DWT); CALL TANAA(DWT); TBLO3990
TA=TA+LOADSHO; CALL MAXMIN(12); RETURN; END;
TBLO4090
IF STORE(4,3)<=3.33 THEN DO;
CALL ADDVHAA(11); CALL ADDVEH(11,SPD,W); DO I=1 TO 2; CALL AXLOAD(STORE(I,1),AL); CALL AODAXLAA(11,AL,STORE(I,1)); TA=TA+LOADKY;
TA=TA+LOADSHO; END; DWT=STORE(3,1)+STORE(4,1); CALL AXLOAD(DWT,AL); CALL AODAXLAA(11,AL,DWT); CALL TANAA(DWT); TBLO4030
TA=TA+LOADSHO; CALL MAXMIN(11); RETURN; END;
TBLO4060
IF STORE(3,3)<=3.33 THEN DO;
CALL ADDVHAA(10); CALL ADDVEH(10,SPD,W); CALL AXLOAD(STORE(1,1));AL); CALL AODAXLAA(10,AL,STORE(I,1)); TA=TA+LOADKY;
TA=TA+LOADSHO; END; DWT=STORE(2,1)+STORE(3,1); CALL AXLOAD(DWT,AL); CALL AODAXLAA(10,AL,DWT); CALL TANAA(DWT); TBLO4100
TA=TA+LOADSHO; END; CALL MAXMIN(10); RETURN; END;
TBLO4130
CALL ADDVHAA(9); CALL ADDVEH(9,SPD,W); DO I=1 TO 5; CALL AXLOAD(I,1),AL); CALL AODAXLAA(9,AL,STORE(I,1));TA=TA+LOADSHO; TBLO4150
TBLO4140
IF STORE(4,3)<=10.0 & STORE(5,3)<=10.0 THEN DO;
CALL ADDVHYY(14); DO I=1 TO 2; CALL AXLOAD(STORE(I,1),AL); CALL AODAXL14,AL,STORE(I,1)); TK=TK+LOADKY;
END; DWT=STORE(3,1)+STORE(4,1); TBLO4170
TK=TK+LOADKY; CALL MAXMIN(14); RETURN; END;
TBLO4210
IF STORE(3,3)<=10.0 & STORE(4,3)<=10.0 THEN DO;
CALL ADDVHYY(13); CALL AXLOAD(STORE(I,1),AL); CALL AODAXL13,AL,STORE(I,1)); TK=TK+LOADKY;
DWT=STORE(2,1)+STORE(3,1)+STORE(4,1); CALL TBLO4260
AXLOAD(DWT,AL); CALL AODAXL13,AL,DWT); TK=TK+LOADKY;
CALL AXLOAD(STORE(5,1),AL); TBLO4280
+AL); CALL AODAXL13,AL,STORE(5,1)); TK=TK+LOADKY;
CALL MAXMIN(13); RETURN; END;
TBLO4300
IF STORE(3,3) <= 10.0 & STORE(5,3) <= 10.0 THEN DO;
  CALL ADDVHKY(15); CALL AXLOAD(STORE(1,1), AL); CALL ADDAXL(15, TBL0430
  AL, STORE(1,1)); TK = TK + LOADKY;
  DO I = 2 TO 4 BY 2; DWT = STORE(I,1) + STORE(I+1,1); TBL04340
  CALL AXLOAD(DWT, AL); CALL ADDAXL(15, AL, DWT); TK = TK + LOADKY; CALL
  TBL04350
  END; CALL MAXMINK(15); RETURN; END;
TBL04360
IF STORE(5,3) <= 10.0 THEN DO;
  CALL ADDVHKY(12); DO I = 1 TO 3; CALL AXLOAD(STORE(I,1), AL); CALL
  TBL04380
  ADDAXL(12, AL, STORE(I,1)); TK = TK + LOADKY;
  DWT = STORE(4,1) + STORE(5,1); CALL TBL04400
  CALL AXLOAD(DWT, AL); CALL ADDAXL(12, AL, DWT); TK = TK + LOADKY; CALL
  TBL04410
  MAXMINK(12); RETURN; END;
TBL04420
IF STORE(4,3) <= 10.0 THEN DO;
  CALL ADDVHKY(11); DO I = 1 TO 2; CALL AXLOAD(STORE(I,1), AL); CALL
  TBL04440
  ADDAXL(11, AL, STORE(I,1)); TK = TK + LOADKY;
  DWT = STORE(3,1) + STORE(4,1); CALL TBL04460
  CALL AXLOAD(DWT, AL); CALL ADDAXL(11, AL, DWT); TK = TK + LOADKY; CALL
  TBL04470
  MAXMINK(11); RETURN; END;
TBL04480
IF STORE(3,3) <= 10.0 THEN DO;
  CALL ADDVHKY(10); DO I = 1 TO 2; CALL AXLOAD(STORE(I,1), AL); CALL
  TBL04500
  ADDAXL(10, AL, STORE(I,1)); TK = TK + LOADKY;
  DWT = STORE(2,1) + STORE(3,1); CALL AXLOAD(DWT, AL); CALL
  TBL04530
  ADDAXL(10, AL, DWT); TK = TK + LOADKY;
  CALL ADDAXL(10, AL); DO I = 4 TO 5; CALL AXLOAD(STORE(I,1), AL); CALL
  TBL04560
  ADDAXL(10, AL, STORE(I,1)); TK = TK + LOADKY; END; TBL04570
  CALL MAXMINK(10); RETURN; END;
TBL04580
CALL ADDVHKY(9); DO I = 1 TO 5; CALL AXLOAD(STORE(I,1), AL); CALL
  TBL04590
  ADDAXL(9, AL, STORE(I,1)); TK = TK + LOADKY; END; CALL MAXMINK(9);
TBL04600
RETURN;
TBL04610
END AXLES;
AXLE6 : PROCEDURE;
TBL04620
IF STORE(3,3) <= 3.33 & STORE(5,3) <= 3.33 & STORE(6,3) <= 3.33 THEN DO;
  CALL ADDVHA(A25); CALL ADDVSH(25, SPD, W); CALL AXLOAD(STORE(1,1), AL);
  TBL04650
  CALL ADDAXL(A25, AL, STORE(1,1)); TTA = TTA + LOADSHO;
  DWT = TBL04660
  STORE(2,1) + STORE(3,1); CALL AXLOAD(DWT, AL); CALL ADDAXL(A25, AL);
  TBL04670
  DWT = STORE(2,1) + STORE(3,1); CALL AXLOAD(DWT, AL); CALL ADDAXL(A25, AL);
  TBL04680
  TTA = TTA + LOADSHO; DWT = STORE(4,1) + STORE(5,1) + STORE(6,1); CALL
  TBL04690
  AXLOAD(DWT, AL); CALL ADDAXL(A25, AL, STORE(1,1)); TTA = TTA + LOADSHO;
  DWT = TBL04700
  TTA = TTA + LOADSHO; END; TBL04710
IF STORE(3,3) <= 3.33 & STORE(4,3) <= 3.33 & STORE(6,3) <= 3.33 THEN DO;
  CALL ADDVHA(A24); CALL ADDVSH(24, SPD, W); CALL AXLOAD(STORE(1,1), AL);
  TBL04730
  CALL ADDAXL(A24, AL, STORE(1,1)); TTA = TTA + LOADSHO;
  DWT = TBL04740
  STORE(2,1) + STORE(3,1) + STORE(4,1); CALL AXLOAD(DWT, AL); CALL ADDAXL(A24, AL);
  TBL04750
  DWT = STORE(2,1) + STORE(3,1) + STORE(4,1); CALL AXLOAD(DWT, AL); CALL
  TBL04770
  ADDAXL(A24, AL, DWT); CALL TANDAA(DWT); TTA = TTA + LOADSHO;
  DWT = TBL04780
  TTA = TTA + LOADSHO; END; TBL04790
RETURN; END;
TBL04800
IF STORE(3,3) <= 3.33 & STORE(6,3) <= 3.33 THEN DO;
  CALL ADDVHA(A23); CALL ADDVSH(23, SPD, W); DO I = 1 TO 4 BY 3; CALL
  TBL04810
  AXLOAD(STORE(I,1), AL); CALL ADDAXL(A23, AL, STORE(I,1)); TTA = TTA + LOADSHO;
  DWT = TBL04820
  STORE(I,1) + STORE(I+1,1); CALL AXLOAD(DWT, AL); CALL ADDAXL(A23, AL, DWT);
  TBL04830
  TTA = TTA + LOADSHO; END; CALL MAXMINA(23); RETURN; END;
TBL04850
IF STORE(4,3) <= 3.33 & STORE(6,3) <= 3.33 THEN DO;
  CALL ADDVHA(A22); CALL ADDVSH(22, SPD, W); DO I = 1 TO 2; CALL
  TBL04860
  AXLOAD(STORE(I,1), AL); CALL ADDAXL(A22, AL, STORE(I,1)); TTA = TTA + LOADSHO;
  DWT = TBL04870
  STORE(I,1) + STORE(I+1,1); CALL AXLOAD(DWT, AL); CALL ADDAXL(A22, AL, DWT);
  TBL04880
  TTA = TTA + LOADSHO; END; DO I = 3 TO 5 BY 2; DWT = STORE(I,1) + STORE(I+1,1);
  TBL04890
  CALL AXLOAD(DWT, AL); CALL ADDAXL(A22, AL, DWT); CALL TANDAA(DWT); TTA = TTA + LOADSHO;
  DWT = TBL04900
  TTA = TTA + LOADSHO; END; CALL MAXMINA(22); RETURN; END;
TBL04910
IF \( \text{STORE}(3,3) < 3.3 \) & \( \text{STORE}(5,3) < 3.3 \) THEN DO;
CALL ADDVHAA(21); CALL ADDVEH(21, SPD, W); CALL AXLOAD(STORE(1), AL, STORE(1)); \( \text{TBL0}^4 929 \)
I = 2 TO 4 BY 2; DWT = STORE(I, 1) + STORE(I, 1); CALL AXLOAD(DWT, AL); \( \text{TBL0}^4 950 \)
END; CALL AXLOAD(STORE(6, 1), AL); CALL AXLOADA(21, AL); \( \text{TBL0}^4 970 \)
STORE(6, 1); \( \text{TBL0}^4 980 \)
IF \( \text{STORE}(6,3) < 3.3 \) & \( \text{STORE}(5,3) < 3.3 \) THEN DO;
CALL ADDVHAA(28); CALL ADDVEH(28, SPD, W); DO I = 1 TO 3; \( \text{TBL0}^5 000 \)
AXLOAD(STORE(I, 1), AL); CALL AXLOADA(28, AL, STORE(I, 1)); \( \text{TBL0}^5 010 \)
TBL0^5 020
TA = TA + LOADA; \( \text{TBL0}^5 030 \)
TBL0^5 040
IF \( \text{STORE}(5,3) < 3.3 \) & \( \text{STORE}(4,3) < 3.3 \) THEN DO;
CALL ADDVHAA(27); CALL ADDVEH(27, SPD, W); DO I = 1 TO 2; \( \text{TBL0}^5 050 \)
AXLOAD(STORE(1, 1), AL); CALL AXLOADA(27, AL, STORE(1, 1)); \( \text{TBL0}^5 060 \)
TA = TA + LOADA; \( \text{TBL0}^5 070 \)
TBL0^5 080
IF \( \text{STORE}(4,3) < 3.3 \) & \( \text{STORE}(3,3) < 3.3 \) THEN DO;
CALL ADDVHAA(20); CALL ADDVEH(20, SPD, W); DO I = 1 TO 4; \( \text{TBL0}^5 090 \)
AXLOAD(STORE(1, 1), AL); CALL AXLOADA(20, AL, STORE(1, 1)); \( \text{TBL0}^5 100 \)
TA = TA + LOADA; \( \text{TBL0}^5 110 \)
TA = TA + LOADA; \( \text{TBL0}^5 120 \)
IF \( \text{STORE}(3,3) < 3.3 \) THEN DO;
CALL ADDVHAA(19); CALL ADDVEH(19, SPD, W); DO I = 1 TO 4; \( \text{TBL0}^5 130 \)
AXLOAD(STORE(1, 1), AL); CALL AXLOADA(19, AL, STORE(1, 1)); \( \text{TBL0}^5 140 \)
TA = TA + LOADA; \( \text{TBL0}^5 150 \)
TBL0^5 160
IF \( \text{STORE}(2,3) < 3.3 \) THEN DO;
CALL ADDVHAA(18); CALL ADDVEH(18, SPD, W); DO I = 1 TO 2; \( \text{TBL0}^5 170 \)
AXLOAD(STORE(1, 1), AL); CALL AXLOADA(18, AL, STORE(1, 1)); \( \text{TBL0}^5 180 \)
TA = TA + LOADA; \( \text{TBL0}^5 190 \)
TBL0^5 200
IF \( \text{STORE}(1,3) < 10.0 \) & \( \text{STORE}(5,3) < 10.0 \) & \( \text{STORE}(6,3) < 10.0 \) THEN DO;
CALL ADDVHAA(17); CALL ADDVEH(17, SPD, W); CALL AXLOAD(STORE(1, 1), AL, STORE(1, 1)); \( \text{TBL0}^5 210 \)
TA = TA + LOADA; \( \text{TBL0}^5 220 \)
TBL0^5 230
IF \( \text{STORE}(3,3) < 10.0 \) & \( \text{STORE}(5,3) < 10.0 \) & \( \text{STORE}(6,3) < 10.0 \) THEN DO;
CALL ADDVHAA(16); CALL ADDVEH(16, SPD, W); DO I = 1 TO 6; \( \text{TBL0}^5 240 \)
AXLOAD(STORE(I, 1), AL); CALL AXLOADA(16, AL, STORE(I, 1)); \( \text{TBL0}^5 250 \)
END; \( \text{TBL0}^5 260 \)
TBL0^5 270
RETURN; \( \text{TBL0}^5 280 \)
TBL0^5 290
DWT = STORE(2,1) + STORE(3,1); CALL AXLOAD(DWT), TBL05530
AL; TK = TK + LOADKY;
CALL ADDAXL(25, AL, DWT); DWT = STORE(4,1) + STORE(5,1) + STORE(6,1); CALL ADDAXL(25, AL, DWT), TBL05550
(6,1); CALL AXLOAD(DWT, AL); CALL ADDAXL(25, AL, DWT), TBL05560
TK = TK + LOADKY; CALL MAXMIND(25); RETURN; END; TBL05570
IF STORE(3,3) < 10.0 & STORE(4,3) < 10.0 & STORE(6,3) < 10.0 THEN DO; TBL05580
CALL ADDVHKY(24); CALL AXLOAD(STORE(1,1), AL); CALL AXLOAD(24), TBL05590
AL, STORE(1,1); TK = TK + LOADKY;
DWT = STORE(2,1) + STORE(3,1) + STORE(4,1); CALL AXLOAD(DWT, AL), TBL05600
TK = TK + LOADKY;
CALL ADDAXL(24, AL, DWT); DWT = STORE(5,1) + STORE(6,1); CALL AXLOAD(DWT, AL), TBL05620
TK = TK + LOADKY; CALL MAXMIND(24); RETURN; END; TBL05640
IF STORE(3,3) < 10.0 & STORE(6,3) < 10.0 THEN DO; TBL05660
CALL ADDVHKY(23); DO I = 1 TO 4 BY 3; CALL AXLOAD(STORE(1,1), AL); TK = TK + LOADKY;
CALL ADDAXL(23, AL, STORE(1,1)): DWT = STORE(I + 1,1) STORE(I + 1,1), STORE(I + 1,1); TBL05700
IF STORE(4,3) < 10.0 & STORE(6,3) < 10.0 THEN DO; TBL05720
CALL ADDVHKY(22); DO I = 1 TO 2; CALL AXLOAD(STORE(I,1), AL); CALL ADDAXL(22, AL, DWT), TBL05730
TK = TK + LOADKY; CALL MAXMIND(22); RETURN; END; TBL05770
IF STORE(3,3) < 10.0 & STORE(5,3) < 10.0 THEN DO; TBL05780
CALL ADDVHKY(21); CALL AXLOAD(STORE(I,1), AL); CALL ADDAXL(21), TBL05790
AL, STORE(1,1); TK = TK + LOADKY;
DWT = STORE(I,1) + STORE(I,1); CALL AXLOAD(DWT, AL), TBL05800
DO I = 2 TO 4 BY 3; DWT = STORE(1,1) + STORE(I,1); TBL05810
CALL AXLOAD(DWT, AL); TK = TK + LOADKY; CALL ADDAXL(21, AL, DWT), TBL05820
(STORE(6,1), AL); CALL ADDAXL(21, AL, STORE(6,1)); TBL05840
TK = TK + LOADKY; CALL MAXMIND(21), RETURN; END; TBL05850
IF STORE(6,3) < 10.0 & STORE(5,3) < 10.0 THEN DO; TBL05860
CALL ADDVHKY(28); DO I = 1 TO 3; CALL AXLOAD(STORE(I,1), AL); CALL AXLOAD(DWT, AL), TBL05870
ADDAXL(28, AL, STORE(I,1)); TK = TK + LOADKY;
DWT = STORE(4,1) + STORE(5,1) + STORE(6,1); CALL AXLOAD(DWT, AL), TBL05890
TK = TK + LOADKY; CALL MAXMIND(28); RETURN; END; TBL05900
IF STORE(5,3) < 10.0 & STORE(4,3) < 10.0 THEN DO; TBL05920
CALL ADDVHKY(27); DO I = 1 TO 2; CALL AXLOAD(STORE(I,1), AL); CALL AXLOAD(DWT, AL), TBL05930
ADDAXL(27, AL, STORE(I,1)); TK = TK + LOADKY;
DWT = STORE(3,1) + STORE(4,1) + STORE(5,1); CALL AXLOAD(DWT, AL), TBL05940
(5,1); CALL AXLOAD(DWT, AL); TK = TK + LOADKY;
CALL ADDAXL(27, AL, DWT), TBL05950
AXLOAD(STORE(6,1), AL); CALL ADDAXL(27, AL, STORE(6,1)), TBL05970
TK = TK + LOADKY; CALL MAXMIND(27), RETURN; END; TBL05990
IF STORE(4,3) < 10.0 & STORE(3,3) < 10.0 THEN DO; TBL06000
CALL ADDVHKY(26); CALL AXLOAD(STORE(1,1), AL); CALL AXLOAD(26), TBL06010
AL, STORE(1,1); TK = TK + LOADKY;
DWT = STORE(2,1) + STORE(3,1) + STORE(4,1); CALL AXLOAD(DWT, AL), TBL06020
TK = TK + LOADKY; CALL ADDAXL(26, AL, DWT); DO I = 5 TO 6; CALL AXLOAD(STORE(I,1), AL), TBL06040
CALL ADDAXL(26, AL, DWT), TBL06050
TK = TK + LOADKY; END; CALL MAXMIND(26); RETURN; END; TBL06070
IF STORE(16,3) < 10.0 THEN DO; TBL06080
CALL ADDVHKY(20); DO I = 1 TO 4; CALL AXLOAD(STORE(I,1), AL); CALL AXLOAD(20), TBL06090
AL, STORE(1,1); TK = TK + LOADKY;
DWT = STORE(5,1) + STORE(6,1); CALL AXLOAD(DWT, AL), TBL06100
TK = TK + LOADKY; CALL ADDAXL(20, AL, DWT), TBL06120
TK = TK + LOADKY; CALL MAXMIND(20), RETURN; END; TBL06130
IF STORE(5,3)<=10.0 THEN DO:
  CALL ADDVHKY(19); DO I=1 TO 3; CALL AXLOADI(STORE(1,1),AL); CALL TBL06140
  ADDAXL(19,AL,STORE(1,1)); TK=TK+LOADKY;
  END; DWT=STORE(4,1)+STORE(5,1); CALL TBL06150
  AXLOAD(DWT,AL); TK=TK+LOADKY;
  CALL ADDVHKY(19,AL,STORE(6,1));
  CALL AXLOAD(19,AL,DTW); CALL TBL06160
  TK=TK+LOADKY; CALL TBL06170
END ;

IF STORE(4,3)<=10.0 THEN DO:
  CALL ADDVHKY(18); DO I=1 TO 2; CALL AXLOADI(STORE(1,1),AL); CALL TBL06220
  ADDAXL(18,AL,STORE(1,1)); TK=TK+LOADKY;
  END; DWT=STORE(3,1)+STORE(4,1); CALL TBL06240
  AXLOAD(DWT,AL); TK=TK+LOADKY;
  CALL ADDVHKY(18,AL,DTW); DO I=5 TO 6; CALL TBL06250
  CALL TBL06260
  CALL AXLOAD(18,AL,DTW);END; DWT=STORE(1,1),AL; CALL AXLOAD(18,AL,STORE(1,1));
  CALL TBL06280
  ADDAXL(18,AL,STORtl,111); TK=TK+LOADKY; END; CALL TBL06290
END AXLE6;

AXLE6: PROCEDURE;
TBL06300
  CALL ADDVHAA(29); CALL ADDVHKY(29); CALL ADDVEH(29,SPD,W); DO I=1 TO NUMBER;
  CALL AXLOADI(STORE(1,1),AL); CALL AXLOADAA(29,AL,STORE(1,1));
  T=A+TA+LOADSHO; CALL ADDAXL(29,AL,STORE(1,1)); TBL06400
  TK=TK+LOADKY; END; CALL TBL06410
END AXLE6;

EWLC: PROCEDURE;
TBL06420
  DO I=1 TO 29;
  IF MINLOADKY(I)=99999.0 THEN MINLOADKY(I)=0.0;
  IF MINLOADSHO(I)=99999.0 THEN MINLOADSHO(I)=0.0;
  N=AXLDSAXA(1,21)*AXLDSAXA(1,21)-1;
  IF N=0 THEN DO; SDAAASHO(I)=0; GO TO A1; END;
  DWT=(AXLDSAXA(1,21)*SDAAASHO(I)-MEANAAASHO(I)**2)/N;
  IF DWT<0 THEN DO; SDAAASHO(I)=-1; GO TO A1; END;
  SDAAASHO(I)=SQRT(DWT);
  A1: IF AXLDSAXAA(I,21)=0 THEN DO; MEANAAASHO(I)=0; GO TO A2; END;
  MEANAAASHO(I)=MEANAAASHO(I)/AXLDSAXAA(I,21);
  A2: N=AXLDSAXA(I,21)*AXLDSAXA(I,21)-1;
  IF N=0 THEN DO; SDKY(I)=0; GO TO A3; END;
  DWT=(AXLDSAXA(I,21)*SDKY(I)-MEANLOADKY(I)**2)/N;
  IF DWT<0 THEN DO; SDKY(I)=-1; GO TO A3; END;
  SDKY(I)=SQRT(DWT);
  A3: IF AXLDSAXA(I,21)=0 THEN DO; MEANLOADKY(I)=0; GO TO A4; END;
  MEANLOADKY(I)=MEANLOADKY(I)/AXLDSAXA(I,21);
  A4: END;
  PUT FILE(SYSPRINT) PAGE LINE(4) EDIT ('EQUIVALENT AXLE LOAD PER*', 'VEHICLE') (COLUMN(39),A,A);
  PUT FILE(SYSPRINT) SKIP(3) EDIT ('I UNDER','AXLE PLACEMENT') (COLUMN(20),A,X(31),A);
  PUT FILE(SYSPRINT) SKIP EDIT ('CATEGORIES 12 TONS') (A);
  PUT FILE(SYSPRINT) SKIP EDIT ('110 110 111 120', TBL12320
  111 1210 1120 1300 1111 12110') (TBL12330
PUT FILE(SYSPRINT) SKIP EDIT ('*AASHO CATEGORIES*) (COLUMN(49), A); TBL07390
PUT FILE(SYSPRINT) SKIP(2) EDIT ('* TANDEM SPACING IS 40 INCHES *'); TBL07400
*OR LESS *'(COLUMN(38), A, A); TBL07410
PUT FILE(SYSPRINT) SKIP(2) EDIT ('1, 2 AND 3 INDICATE SINGLE, BITAN'); TBL07420
*DEM AND TRITANDEM AXLES*); (COLUMN(31), A, A); TBL07430
PUT FILE(SYSPRINT) SKIP(5) LIST (* GROSS *'); TBL07440
PUT FILE(SYSPRINT) SKIP EDIT (*OPERATING UNDER*, 'AXLE PLACEMENT'); TBL07450
*T') (A, X(15), A); TBL07460
PUT FILE(SYSPRINT) SKIP LIST (* WEIGHT | 2 TONS*); TBL07470
PUT FILE(SYSPRINT) SKIP EDIT (' KIP5') | 110 110 111 1'; TBL07480
*20 1111 1210 1120 1300 11111 11210 11210 11120'); TBL07490
* 13100 11300 12200 *') (A, A, A); TBL07500
PUT FILE(SYSPRINT) SKIP(-1); TBL07510
DO I=1 TO 29; PUT FILE(SYSPRINT) EDIT ('---') (A); END; TBL07520
PUT FILE(SYSPRINT) SKIP LIST (* UNDER 4 *'); CALL PRGWAX(11); TBL07530
PUT FILE(SYSPRINT) SKIP LIST (* 4 - 10 *'); CALL PRGWAX(12); TBL07540
PUT FILE(SYSPRINT) SKIP LIST (* 10 - 15 *'); CALL PRGWAX(13); TBL07550
PUT FILE(SYSPRINT) SKIP LIST (* 15 - 20 *'); CALL PRGWAX(14); TBL07560
PUT FILE(SYSPRINT) SKIP LIST (* 20 - 22 *'); CALL PRGWAX(15); TBL07570
PUT FILE(SYSPRINT) SKIP LIST (* 22 - 24 *'); CALL PRGWAX(16); TBL07580
PUT FILE(SYSPRINT) SKIP LIST (* 24 - 26 *'); CALL PRGWAX(17); TBL07590
PUT FILE(SYSPRINT) SKIP LIST (* 26 - 28 *'); CALL PRGWAX(18); TBL07600
PUT FILE(SYSPRINT) SKIP LIST (* 28 - 30 *'); CALL PRGWAX(19); TBL07610
PUT FILE(SYSPRINT) SKIP LIST (* 30 - 32 *'); CALL PRGWAX(110); TBL07620
PUT FILE(SYSPRINT) SKIP LIST (* 32 - 34 *'); CALL PRGWAX(111); TBL07630
PUT FILE(SYSPRINT) SKIP LIST (* 34 - 36 *'); CALL PRGWAX(117); TBL07640
PUT FILE(SYSPRINT) SKIP LIST (* 36 - 38 *'); CALL PRGWAX(113); TBL07650
PUT FILE(SYSPRINT) SKIP LIST (* 38 - 40 *'); CALL PRGWAX(114); TBL07660
PUT FILE(SYSPRINT) SKIP LIST (* 40 - 45 *'); CALL PRGWAX(115); TBL07670
PUT FILE(SYSPRINT) SKIP LIST (* 45 - 50 *'); CALL PRGWAX(116); TBL07680
PUT FILE(SYSPRINT) SKIP LIST (* 50 - 55 *'); CALL PRGWAX(117); TBL07690
PUT FILE(SYSPRINT) SKIP LIST (* 55 - 60 *'); CALL PRGWAX(118); TBL07700
PUT FILE(SYSPRINT) SKIP LIST (* 60 - 65 *'); CALL PRGWAX(19); TBL07710
PUT FILE(SYSPRINT) SKIP LIST (* 65 - 66 *'); CALL PRGWAX(120); TBL07720
PUT FILE(SYSPRINT) SKIP LIST (* 70 - 75 *'); CALL PRGWAX(121); TBL07730
PUT FILE(SYSPRINT) SKIP LIST (* 75 - 80 *'); CALL PRGWAX(122); TBL07740
PUT FILE(SYSPRINT) SKIP LIST (* 80 - 85 *'); CALL PRGWAX(123); TBL07750
PUT FILE(SYSPRINT) SKIP LIST (* 85 - 90 *'); CALL PRGWAX(124); TBL07760
PUT FILE(SYSPRINT) SKIP LIST (* 90 - 95 *'); CALL PRGWAX(125); TBL07770
PUT FILE(SYSPRINT) SKIP LIST (* OVER 95 *'); CALL PRGWAX(126); TBL07780
PUT FILE(SYSPRINT) SKIP(1) LIST (* TOTAL *'); TBL07790
DO I=1 TO 15; PUT FILE(SYSPRINT) EDIT (' *') (A); END; TBL07800
PUT FILE(SYSPRINT) SKIP LIST (* VEHICLES *'); CALL PRGWAX(27); TBL07810
PUT FILE(SYSPRINT) SKIP LIST (* MEAN GROSS *'); TBL07820
DO I=1 TO 15; PUT FILE(SYSPRINT) EDIT ('*') (A); END; TBL07830
PUT FILE(SYSPRINT) SKIP LIST (* WEIGHT *'); TBL07840
DO I=1 TO 15; PUT FILE(SYSPRINT) EDIT ('SGDOWAX1(1), *') (F(5,1), TBL07850
* A); END; TBL07860
PUT FILE(SYSPRINT) SKIP LIST (* STANDARD *'); TBL07870
DO I=1 TO 15; PUT FILE(SYSPRINT) EDIT ('*') (A); END; TBL07880
PUT FILE(SYSPRINT) SKIP LIST (* DEVIATION*'); TBL07890
DO I=1 TO 15; PUT FILE(SYSPRINT) EDIT ('SGDOWAX(2,1), *') (F(5,1), TBL07900
A); END; TBL07910
DO I=1 TO 29; PUT FILE(SYSPRINT) EDIT ('---') (A); END; TBL07920
PUT FILE(SYSPRINT) PAGE LINE (6) EDIT ('GROSS OPERATING WEIGHT *', TBL07930
*VERSUS AXLE PLACEMENT (CONTINUED FROM PRECEDING PAGE*) TBL07940
(COLUMN(25), A, A); TBL07950
PUT FILE(SYSPRINT) SKIP(2) EDIT ('* TANDEM SPACING IS 40 INCHES *'); TBL07960
*OR LESS *'(COLUMN(38), A, A); TBL07970
PUT FILE(SYSPRINT) SKIP EDIT ('*AASHO CATEGORIES*) (COLUMN(49), A); TBL07980
PUT FILE(SYSPRINT) SKIP EDIT ('1, 2 AND 3 INDICATE SINGLE, BITAN'); TBL07990
DO 1=1 TO 11; PUT FILE(SYSPRINT) EDIT('I' 'TOTAL '*); TBL07010
DO 1=1 TO 11; PUT FILE(SYSPRINT) EDIT('I' 'VEHICLES '*); TBL07020
PUT FILE(SYSPRINT) SKIP LIST(' OVER 95 '*); TBL07030
PUT FILE(SYSPRINT) SKIP LIST(' AVERAGE '*); TBL07040
PUT FILE(SYSPRINT) SKIP LIST(' STANDARD '*); TBL07050
END PRGWOS; TBL07190
END GWXASC; TBL07200
* PROCESS ('OPT='1');
GWXASC : PROCEDURE (GOWVSAX,SDGOWAX);
DECLARE PRGWAX1 ENTRY (FIXED BIN (31)); TBL07260
PRGWAX2 ENTRY (FIXED BIN (31)); TBL000430
DCL GOWVSAX(30,27) FIXED BIN(31); TBL07261
(SDGOWAX,30,DWT) FLOAT BIN (16); TBL07262
DO I=1 TO 29; N=GOWVSAX(I,27) * (GOWVSAX(I,27) - 1); TBL07270
IF N=0 THEN DO;SDGOWAX(2,I) =0; GO TO G1; END; TBL07280
DWT = (GOWVSAX(1,27) * SDGOWAX(2,I) - SDGOWAX(1,1) ** 2) / N; TBL07290
IF DWT < 0 THEN DO; SDGOWAX(2,I) =-1; GO TO G1; END; TBL07300
SDGOWAX(2,I) = SQRT (DWT); TBL07310
G1: IF GOWVSAX(1,27)=0 THEN DO;SDGOWAX(1,1) = 0; GO TO G2; END; TBL07320
SDGOWAX(1,1) = SDGOWAX(1,1) / GOWVSAX(1,27); TBL07330
GOWVSAX(30,27) = GOWVSAX(30,27) + GOWVSAX(1,27); TBL07340
G2: END; TBL07350
PUT FILE(SYSPRINT) PAGE;
PUT FILE(SYSPRINT) SKIP(5) EDIT ('GROSS OPERATING WEIGHT VERSUS *'), TBL07370
'AXLE PLACEMENT')((COLUMN(35),A,A)); TBL07380
**PROCESS (OPT=1)***

**GWVSOC : PROCEDURE (GWVSOS,SOGOWOS);***

**DECLARE PRGWOS ENTRY (FIXED BIN (31));***

**DCL GWVSOS(11,27) FIXED BIN (31);***

**DO I=1 TO 10;***

**IF (GWVSOS(I,27) * (GWVSOS(I,27) - 1)) = 0 THEN DO; SOGOWOS(2,1) = 0; GO TO G2; END;***

**DO I=1 TO 10;***

**IF DWI = (GWVSOS(I,27) * (GWVSOS(I,27) - 1)) = 0 THEN DO; SOGOWOS(2,1) = 0; GO TO G2; END;***

**G1: IF GWVSOS(I,27) = 0 THEN DO; SOGOWOS(1,1) = 0; GO TO G2; END;***

**G2: END;***

**PUT FILE(SYSPRINT) PAGE;***

**PUT FILE(SYSPRINT) SKIP (4) EDIT ("GROSS OPERATING WEIGHT VERSUS", (A,A));***

**PUT FILE(SYSPRINT) SKIP (5) LIST ("GROSS", (A,S,31,A));***

**PUT FILE(SYSPRINT) SKIP (6) EDIT ("OPERATING WEIGHT UNDER", (A,A));***

**PUT FILE(SYSPRINT) SKIP (7) LIST ("50-55 55-60 60-65 65-70 70-80 80-90 90 VEHICLES", (40,S,(10,5),S,9,A));***

**PUT FILE(SYSPRINT) SKIP (8) EDIT ("50-", (40,S,(10,5),S,9,A));***

**PUT FILE(SYSPRINT) SKIP (9) EDIT ("40-50", (40,S,(10,5),S,9,A));***

**PUT FILE(SYSPRINT) SKIP (10) EDIT ("50-", (40,S,(10,5),S,9,A));***

**PUT FILE(SYSPRINT) SKIP (11) EDIT ("60-65", (40,S,(10,5),S,9,A));***

**PUT FILE(SYSPRINT) SKIP (12) EDIT ("65-70", (40,S,(10,5),S,9,A));***

**PUT FILE(SYSPRINT) SKIP (13) EDIT ("70-80", (40,S,(10,5),S,9,A));***

**PUT FILE(SYSPRINT) SKIP (14) EDIT ("80-90", (40,S,(10,5),S,9,A));***

**PUT FILE(SYSPRINT) SKIP (15) EDIT ("90", (40,S,(10,5),S,9,A));***

**PUT FILE(SYSPRINT) SKIP (16) EDIT ("PERCENT", (40,S,(10,5),S,9,A));***

**PUT FILE(SYSPRINT) SKIP (17) EDIT ("90-", (40,S,(10,5),S,9,A));***

**PUT FILE(SYSPRINT) SKIP (18) EDIT ("PERCENT", (40,S,(10,5),S,9,A));***

**PUT FILE(SYSPRINT) SKIP (19) EDIT ("-", (40,S,(10,5),S,9,A));***

**PUT FILE(SYSPRINT) SKIP (20) EDIT ("UNDER 4", (40,S,(10,5),S,9,A));***

**END EWLX;***

**DONE : END VEHDATA;***

* * *
*DEMO AND TRIANGULUM AXLES* (COLUMN(31),A,A);

PUT FILE(SYSPRINT) SKIP(5) LIST ('GROSS', 'AXLE PLACEMENT');

PUT FILE(SYSPRINT) SKIP EDIT ('OPERATING', 'AXLE PLACEMENT');

DCL CA FIXED BINARY (31); TBL08040

DO I=1 TO 15; PUT FILE(SYSPRINT) SKIP LIST ('WEIGHT', 'TOTAL', (A,X(35),A)); TBL08030

PUT FILE(SYSPRINT) SKIP EDIT ('AVERAGE', 'AVERAGE'); TBL08050

*1210 111120 122100 112200 121200 132000 132000 131100 11310*; TBL08070

*0 111300 OVER 6 VEHICLES* (A,A,A,A,A,A); TBL08080

PUT FILE(SYSPRINT) SKIP(0); TBL08090

DO I=1 TO 29; PUT FILE(SYSPRINT) EDIT('---*') (A); END; TBL08100

PUT FILE(SYSPRINT) SKIP LIST ('UNDER 4', 'Vehicles'); CALL PRGWAX2(11); TBL08110

PUT FILE(SYSPRINT) SKIP LIST ('4 - 10', 'Vehicles'); CALL PRGWAX2(2); TBL08120

PUT FILE(SYSPRINT) SKIP LIST ('10 - 15', 'Vehicles'); CALL PRGWAX2(3); TBL08130

PUT FILE(SYSPRINT) SKIP LIST ('15 - 20', 'Vehicles'); CALL PRGWAX2(4); TBL08140

PUT FILE(SYSPRINT) SKIP LIST ('20 - 22', 'Vehicles'); CALL PRGWAX2(5); TBL08150

PUT FILE(SYSPRINT) SKIP LIST ('22 - 24', 'Vehicles'); CALL PRGWAX2(6); TBL08160

PUT FILE(SYSPRINT) SKIP LIST ('24 - 26', 'Vehicles'); CALL PRGWAX2(7); TBL08170

PUT FILE(SYSPRINT) SKIP LIST ('26 - 28', 'Vehicles'); CALL PRGWAX2(8); TBL08180

PUT FILE(SYSPRINT) SKIP LIST ('28 - 30', 'Vehicles'); CALL PRGWAX2(9); TBL08190

PUT FILE(SYSPRINT) SKIP LIST ('30 - 32', 'Vehicles'); CALL PRGWAX2(10); TBL08200

PUT FILE(SYSPRINT) SKIP LIST ('32 - 34', 'Vehicles'); CALL PRGWAX2(11); TBL08210

PUT FILE(SYSPRINT) SKIP LIST ('34 - 36', 'Vehicles'); CALL PRGWAX2(12); TBL08220

PUT FILE(SYSPRINT) SKIP LIST ('36 - 38', 'Vehicles'); CALL PRGWAX2(13); TBL08230

PUT FILE(SYSPRINT) SKIP LIST ('38 - 40', 'Vehicles'); CALL PRGWAX2(14); TBL08240

PUT FILE(SYSPRINT) SKIP LIST ('40 - 45', 'Vehicles'); CALL PRGWAX2(15); TBL08250

PUT FILE(SYSPRINT) SKIP LIST ('45 - 50', 'Vehicles'); CALL PRGWAX2(16); TBL08260

PUT FILE(SYSPRINT) SKIP LIST ('50 - 55', 'Vehicles'); CALL PRGWAX2(17); TBL08270

PUT FILE(SYSPRINT) SKIP LIST ('55 - 60', 'Vehicles'); CALL PRGWAX2(18); TBL08280

PUT FILE(SYSPRINT) SKIP LIST ('60 - 65', 'Vehicles'); CALL PRGWAX2(19); TBL08290

PUT FILE(SYSPRINT) SKIP LIST ('65 - 70', 'Vehicles'); CALL PRGWAX2(20); TBL08300

PUT FILE(SYSPRINT) SKIP LIST ('70 - 75', 'Vehicles'); CALL PRGWAX2(21); TBL08310

PUT FILE(SYSPRINT) SKIP LIST ('75 - 80', 'Vehicles'); CALL PRGWAX2(22); TBL08320

PUT FILE(SYSPRINT) SKIP LIST ('80 - 85', 'Vehicles'); CALL PRGWAX2(23); TBL08330

PUT FILE(SYSPRINT) SKIP LIST ('85 - 90', 'Vehicles'); CALL PRGWAX2(24); TBL08340

PUT FILE(SYSPRINT) SKIP LIST ('90 - 95', 'Vehicles'); CALL PRGWAX2(25); TBL08350

PUT FILE(SYSPRINT) SKIP LIST ('95 OVER', 'Vehicles'); CALL PRGWAX2(26); TBL08360

PUT FILE(SYSPRINT) SKIP LIST ('TOTAL', 'Vehicles'); TBL08370

DO I=1 TO 15; PUT FILE(SYSPRINT) EDIT('---*') (A); END; TBL08380

PUT FILE(SYSPRINT) SKIP LIST ('Vehicles', 'GROSS'); CALL PRGWAX2(27); TBL08390

PUT FILE(SYSPRINT) SKIP LIST ('Vehicles', 'MEAN GROSS'); TBL08400

DO I=1 TO 15; PUT FILE(SYSPRINT) EDIT('---*') (A); END; TBL08410

PUT FILE(SYSPRINT) SKIP LIST ('WEIGHT', 'Vehicles'); TBL08420

DO I=16 TO 29; PUT FILE(SYSPRINT) EDIT ('SDGWAX2(I,1)', '(F(5,1),TBL08430)

A); END;

PUT FILE(SYSPRINT) EDIT ('---*') (A); TBL08450

PUT FILE(SYSPRINT) EDIT ('STANDARD') (A); TBL08460

DO I=1 TO 15; PUT FILE(SYSPRINT) EDIT('---*') (A); END; TBL08470

PUT FILE(SYSPRINT) SKIP LIST ('DEVATION', 'Vehicles'); TBL08480

DO I=16 TO 29; PUT FILE(SYSPRINT) EDIT ('SDGWAX2(2,1)', '(F(5,1),TBL08490)

A); END;

PUT FILE(SYSPRINT) EDIT ('---*') (A); TBL08500

PUT FILE(SYSPRINT) SKIP(0);

DO I=1 TO 29; PUT FILE(SYSPRINT) EDIT('---*') (A); END; TBL08530

PRGWAX1: PROCEDURE (CA);

DCL CA FIXED BINARY (31); TBL08550

DO I=1 TO 15;

PUT FILE(SYSPRINT) EDIT ('GOWASAX(I,CA)', '(F(5,0),A); END;

END PRGWAX1;

PRGWAX2: PROCEDURE (CA);

DCL CA FIXED BINARY (31); TBL08610
DO 1=16 TO 30;
  PUT FILE(SYSPRINT) EDIT (GOWVSA(1,CA), '*') (F(5,0),A); END;
END PRAWX2;
END GWAXC;
* PROCESS ('OPT=1')

OSVSA : PROCEDURE (OSVSA, SDSAX);

DECLARE PROSA1 ENTRY (FIXED BIN (31)),
  PROSA2 ENTRY (FIXED BIN (31));
DCL OSVSA(30,11) FIXED BIN (31),
  (SDSAX(3,30), DWT) FLOAT BIN(16);

DO I=1 TO 29;
  TBL08620
  N = OSVSA(1,11) * OSVSA(1,11) - 1;
  IF N=0 THEN DO; SDSAX(2,1) = 0; GO TO G1; END;
  DWT = (OSVSA(1,11) + SDSAX(1,1)) ** 2 / N;
  IF DWT<0 THEN DO; SDSAX(2,1) = -1; GO TO G1; END;
  SDSAX(2,1) = SQRT(DWT);
  G1: IF SDSAX(1,1) = 0 THEN DO; SDSAX(1,1) = 0; GO TO G2; END;
  SDSAX(1,1) = SDSAX(1,1) / SDSAX(1,1);
  SDSAX(30,11) = OSVSA(30,11) + SDSAX(1,1);
G2: END;

PUT FILE(SYSPRINT) PAGE LINE(4) EDIT ('OPERATING SPEED VERSUS AX', TBL08760
  'LE PLACEMENT', 'TANDEM SPACING IS 40 INCHES OR LESS', 'A(AASH), TBL08770
  'CATEGORIES', '1,2 AND 3 INDICATE SINGLE, TANDEM AND TRITA', TBL08780
  'NOEM AXLES', 'COLUMN(40), A,A,A,SKIP(2),COLUMN(39), A,COLUMN(49), TBL08790
  A,A,SKIP(2),COLUMN(31), A,A);

PUT FILE(SYSPRINT) SKIP(5) EDIT ('AXLE PLACEMENT', 'COLUMN(53), A); TBL08810

PUT FILE(SYSPRINT) SKIP EDIT ('OPERATING UNDER', 'SPEED', TBL08820
  'TUNS', (MPH) 1 10 110 1110 120 1111 1210 1211 0 1220, TBL08830
  '1120 1300 11111 1210 11120 13100 11300 1 1, TBL08840
  '2200') (A,SKIP, A,SKIP, A,A,A);

PUT FILE(SYSPRINT) SKIP EDIT ('-------------------------------', TBL08850
  '-------- ------------------------', TBL08860
  '--------------------------') (A,A,A);

PUT FILE(SYSPRINT) SKIP EDIT ('AXLE PLACEMENT', 'COLUMN(53), A); TBL08870

PUT FILE(SYSPRINT) SKIP EDIT ('OPERATING UNDER', 'SPEED', TBL08880
  'TUNS', (MPH) 1 10 110 1110 120 1111 1210 1211 0 1220, TBL08890
  '1120 1300 11111 1210 11120 13100 11300 1 1, TBL08890
  '2200') (A,SKIP, A,SKIP, A,A,A);

PUT FILE(SYSPRINT) SKIP EDIT ('-------------------------------', TBL08890
  '-------- ------------------------', TBL08890
  '--------------------------') (A,A,A);

PUT FILE(SYSPRINT) SKIP EDIT ('OPERATING UNDER', 'SPEED', TBL08900
  'TUNS', (MPH) 1 10 110 1110 120 1111 1210 1211 0 1220, TBL08900
  '1120 1300 11111 1210 11120 13100 11300 1 1, TBL08900
  '2200') (A,SKIP, A,SKIP, A,A,A);

PUT FILE(SYSPRINT) SKIP EDIT ('-------------------------------', TBL08900
  '-------- ------------------------', TBL08900
  '--------------------------') (A,A,A);

PUT FILE(SYSPRINT) SKIP EDIT ('-------------------------------', TBL08900
  '-------- ------------------------', TBL08900
  '--------------------------') (A,A,A);

PUT FILE(SYSPRINT) SKIP EDIT ('OPERATING UNDER', 'SPEED', TBL08900
  'TUNS', (MPH) 1 10 110 1110 120 1111 1210 1211 0 1220, TBL08900
  '1120 1300 11111 1210 11120 13100 11300 1 1, TBL08900
  '2200') (A,SKIP, A,SKIP, A,A,A);

PUT FILE(SYSPRINT) SKIP EDIT ('-------------------------------', TBL08900
  '-------- ------------------------', TBL08900
  '--------------------------') (A,A,A);

PUT FILE(SYSPRINT) SKIP EDIT ('OPERATING UNDER', 'SPEED', TBL08900
  'TUNS', (MPH) 1 10 110 1110 120 1111 1210 1211 0 1220, TBL08900
  '1120 1300 11111 1210 11120 13100 11300 1 1, TBL08900
  '2200') (A,SKIP, A,SKIP, A,A,A);

PUT FILE(SYSPRINT) SKIP EDIT ('-------------------------------', TBL08900
  '-------- ------------------------', TBL08900
  '--------------------------') (A,A,A);
* TOTAL*, (MPH) 111111 121110 112110 111210 111120 1221*, TBL09170
*00 112200 121200 132000 123000 131100 113100 111300 OVER 6*, TBL09180
*VEHICLES*) (A,SKIP,A,X(981)A,SKIP,A,A,A); TBL09190
PUT FILE(SYSPRINT) SKIP(0) EDIT (*---------------* (A,A,A); TBL09200
*---------------* (A,A,A); TBL09210
PUT FILE(SYSPRINT) SKIP EDIT (*UNDER 20 |)(A); CALL PROSAX2(1); TBL09220
PUT FILE(SYSPRINT) SKIP EDIT (* 20 - 40 |)(A); CALL PROSAX2(2); TBL09230
PUT FILE(SYSPRINT) SKIP EDIT (* 40 - 50 |)(A); CALL PROSAX2(3); TBL09240
PUT FILE(SYSPRINT) SKIP EDIT (* 50 - 55 |)(A); CALL PROSAX2(4); TBL09250
PUT FILE(SYSPRINT) SKIP EDIT (* 55 - 60 |)(A); CALL PROSAX2(5); TBL09260
PUT FILE(SYSPRINT) SKIP EDIT (* 60 - 65 |)(A); CALL PROSAX2(6); TBL09270
PUT FILE(SYSPRINT) SKIP EDIT (* 65 - 70 |)(A); CALL PROSAX2(7); TBL09280
PUT FILE(SYSPRINT) SKIP EDIT (* 70 - 80 |)(A); CALL PROSAX2(8); TBL09290
PUT FILE(SYSPRINT) SKIP EDIT (* 80 - 90 |)(A); CALL PROSAX2(9); TBL09300
PUT FILE(SYSPRINT) SKIP EDIT (* OVER 90 |)(A); CALL PROSAX2(10); TBL09310
PUT FILE(SYSPRINT) SKIP EDIT (* TOTAL |)(A); TBL09320
DO I=1 TO 15;PUT FILE(SYSPRINT) EDIT(' I')(A); END; TBL09330
PUT FILE(SYSPRINT) SKIP EDIT (* VEHICLES |)(A); CALL PROSAX2(11); TBL09340
PUT FILE(SYSPRINT) SKIP EDIT (*) (A); TBL09350
PUT FILE(SYSPRINT) SKIP EDIT (*) (A); TBL09360
PUT FILE(SYSPRINT) SKIP EDIT (*) (A); TBL09370
PUT FILE(SYSPRINT) SKIP EDIT (*) (A); TBL09380
PUT FILE(SYSPRINT) SKIP EDIT (*) (A); TBL09390
END; TBL09400
PUT FILE(SYSPRINT) EDIT (' --- |)(A); TBL09410
PUT FILE(SYSPRINT) SKIP EDIT (*) (A); TBL09420
PUT FILE(SYSPRINT) SKIP EDIT (*) (A); TBL09430
PUT FILE(SYSPRINT) SKIP EDIT (*) (A); TBL09440
PUT FILE(SYSPRINT) EDIT (*) (A); TBL09450
DO I=1 TO 15;PUT FILE(SYSPRINT) EDIT(' I')(A); END; TBL09460
DO I=16 TO 29;PUT FILE(SYSPRINT) EDIT(' SDOSAXA(1,1), I)(F(5,1),A); TBL09470
END; TBL09480
PUT FILE(SYSPRINT) EDIT (' --- |)(A); TBL09490
PUT FILE(SYSPRINT) EDIT (' --- |)(A); TBL09500
PUT FILE(SYSPRINT) EDIT (' --- |)(A); TBL09510
PUT FILE(SYSPRINT) EDIT (' --- |)(A); TBL09520
DO I=1 TO 15;PUT FILE(SYSPRINT) EDIT(' I')(A); END; TBL09530
DO I=16 TO 30;PUT FILE(SYSPRINT) EDIT(' I')(F(5,0),A); END; TBL09540
END OSVSAX; TBL09550
END OSVSAX; TBL09560
END OSVSAX; TBL09570
END OSVSAX; TBL09580
END OSVSAX; TBL09590
END OSVSAX; TBL09600
END OSVSAX; TBL09610
* PROCESS (*OPT=1*)
LDAXCA : PROCEDURE (AXLDVSAXA,SDLDAAXA);
DECLARE PRDAX1 ENTRY (FIXED BINARY (31));
DCL AXLDVSAXA(30,21) FIXED BINARY(31),
(SLDAAXA(3,29),DWT) FLOAT BINARY(16);
DO I=1 TO 29; N = AXLDVSAXA(I,20)\*AXLDVSAXA(I,20) - 1; TBL09720
IF N=0 THEN DO; SDLDAAXA(2,1)=0; GO TO A1; END; TBL09730
IF DWT = (AXLDVSAXA(I,20)\*SDLDAAXA(2,1) - SDLDAAXA(1,1)**2)/ N; TBL09740
IF DWT < 0 THEN DO; SDLDAAXA(2,1) = -1; GO TO A1; END; TBL09750
SDLDAAXA(2,1) = SQRT(DWT); TBL09760
A1: IF AXLDVSAXA(1,20) = 0 THEN DO; SDLDAAXA(1,1)=0; GO TO A2; END; TBL09770
SDLDAAXA(1,1) = SDLDAAXA(1,1) / AXLDVSAXA(1,20); TBL09780
AXLDVSAXA(30,20) = AXLDVSAXA(30,20) + AXLDVSAXA(1,20); TBL09790
A2: AXLDVSAXA(30,21) = AXLDVSAXA(30,21) + AXLDVSAXA(1,21); TBL09800
END;
TBL09810
TBL09820
'1210 111120 122100 112200 121200 123200 123300 121100 113100', TBL10440.
.*0 111300 OVEP 6 TOTALS *) (A);  TBL10450
PUT FILE(SYSPRINT) SKIP(0) EDIT ('*---* DO I=1 TO 29)) (A);  TBL10450
PUT FILE(SYSPRINT) SKIP EDIT (* UNDER I *) (A); CALL PRLDAX2(1);  TBL10470
PUT FILE(SYSPRINT) SKIP EDIT (* 1 - 3 *) (A); CALL PRLDAX2(2);  TBL10490
PUT FILE(SYSPRINT) SKIP EDIT (* 3 - 5 *) (A); CALL PRLDAX2(3);  TBL10490
PUT FILE(SYSPRINT) SKIP EDIT (* 5 - 7 *) (A); CALL PRLDAX2(4);  TBL10500
PUT FILE(SYSPRINT) SKIP EDIT (* 7 - 9 *) (A); CALL PRLDAX2(5);  TBL10510
PUT FILE(SYSPRINT) SKIP EDIT (* 9 - 11 *) (A); CALL PRLDAX2(6);  TBL10520
PUT FILE(SYSPRINT) SKIP EDIT (* 11 - 13 *) (A); CALL PRLDAX2(7);  TBL10530
PUT FILE(SYSPRINT) SKIP EDIT (* 13 - 15 *) (A); CALL PRLDAX2(8);  TBL10540
PUT FILE(SYSPRINT) SKIP EDIT (* 15 - 17 *) (A); CALL PRLDAX2(9);  TBL10550
PUT FILE(SYSPRINT) SKIP EDIT (* 17 - 19 *) (A); CALL PRLDAX2(10); TBL10560
PUT FILE(SYSPRINT) SKIP EDIT (* 19 - 21 *) (A); CALL PRLDAX2(11); TBL10570
PUT FILE(SYSPRINT) SKIP EDIT (* 21 - 23 *) (A); CALL PRLDAX2(12); TBL10580
PUT FILE(SYSPRINT) SKIP EDIT (* 23 - 25 *) (A); CALL PRLDAX2(13); TBL10590
PUT FILE(SYSPRINT) SKIP EDIT (* 25 - 27 *) (A); CALL PRLDAX2(14); TBL10600
PUT FILE(SYSPRINT) SKIP EDIT (* 27 - 29 *) (A); CALL PRLDAX2(15); TBL10610
PUT FILE(SYSPRINT) SKIP EDIT (* 29 - 31 *) (A); CALL PRLDAX2(16); TBL10620
PUT FILE(SYSPRINT) SKIP EDIT (* 31 - 33 *) (A); CALL PRLDAX2(17); TBL10630
PUT FILE(SYSPRINT) SKIP EDIT (* 33 - 35 *) (A); CALL PRLDAX2(18); TBL10640
PUT FILE(SYSPRINT) SKIP EDIT (* OVER 35 *) (A); CALL PRLDAX2(19); TBL10650
PUT FILE(SYSPRINT) SKIP EDIT (* TOTAL *) (A);  TBL10660
PUT FILE(SYSPRINT) EDIT ('* DO I=1 TO 15) (A);  TBL10670
PUT FILE(SYSPRINT) SKIP EDIT (* AXLES *) (A); CALL PRLDAX2(20); TBL10680
PUT FILE(SYSPRINT) SKIP EDIT (* TOTAL *) (A);  TBL10690
15) (A);  TBL10700
PUT FILE(SYSPRINT) SKIP EDIT (* VEHICLES *) (A); CALL PRLDAX2(21); TBL10710
PUT FILE(SYSPRINT) SKIP EDIT (*MEAN AXLE *) (A);  TBL10720
15) (A);  TBL10730
PUT FILE(SYSPRINT) SKIP EDIT (* WEIGHT *) (SOLDAXAA(I,1),*') (A);  TBL10740
DO I=1 TO 29(I,A),15 (F(5,1),A));  TBL10750
PUT FILE(SYSPRINT) EDIT ('* DO I=1 TO 15) (A);  TBL10760
PUT FILE(SYSPRINT) SKIP EDIT (* STANDARD *) (A);  TBL10770
DO I=1 TO TBL 10780
15) (A);  TBL10790
PUT FILE(SYSPRINT) SKIP EDIT (* DEVIATION *) (SOLDAXAA(2,1),*') (A);  TBL10800
DO I=1 TO 29) (A),15 (F(5,1),A));  TBL10810
PUT FILE(SYSPRINT) EDIT ('*-*') (A);  TBL10820
PUT FILE(SYSPRINT) SKIP(0) EDIT ('*---* DO I=1 TO 29) (A);  TBL10830
15) (A);  TBL10840
PUT FILE(SYSPRINT) SKIP EDIT (*AXLOVSAXAA(I,CA),*') (F(5,0),A);  TBL10850
END PRLDAX1;  TBL10860
DECLARE CA FIXED BINARY(31);  TBL10870
DO I=1 TO 15;  TBL10880
PUT FILE(SYSPRINT) EDIT (AXLOVSAXAA(I,CA),*') (F(5,0),A);  TBL10890
END PRLDAX1;  TBL10900
PRLDAX2 : PROCEDURE (CA);  TBL10910
DECLARE CA FIXED BINARY(31);  TBL10920
DO I=16 TO 30;  TBL10930
PUT FILE(SYSPRINT) EDIT (AXLOVSAXAA(I,CA),*') (F(5,0),A);  TBL10940
END PRLDAX2;  TBL10950
END LDAXCA;  TBL10960
* PROCESS (*OPT=1*)  TBL10970
LDAXCK : PROCEDURE (AXLOVSAX,SDLAX);  TBL10980
DECLARE PRLDAX3 ENTRY (FIXED BINARY (31));  TBL10990
PRLDAX4 ENTRY (FIXED BINARY (31));  TBL11000
DCL AXLOVSAX(30,31) FIXED BIN(31),  TBL11010
(SOLDAX(3,29),DWT) FLOAT BIN(16);
DO I=1 TO 29; N = AXLOVSAX (I,20)*AXLOVSAX (I,20) - 1;  TBL11020
IF N=0 THEN DO; SDLAX (2,1) = 0; GO TO A1; END;  TBL11030
DWT = (AXLOVSAX (I,20)*SDLAX (2,1) - SDLAX (1,1)*2)/ N;  TBL11040
IF DWT < 0 THEN DO; SDLAX (2,1) = 0; GO TO A1; END;  TBL11050
SDLAX (2,1) = SQRT(DWT);  TBL11060
A1: IF AXLOVSAX (1,20)=0 THEN GO TO A2; END; TBL1000
SOLDAX (1,1) = SOLDAX (1,1) / AXLOVSAX (1,20); TBL1010
AXLOVSAX (30,20) = AXLOVSAX (30,20) + AXLOVSAX (1,20); TBL1020
A2: AXLOVSAX (30,21) = AXLOVSAX (30,21) + AXLOVSAX (1,21); TBL1030
END; TBL1040
PUT FILE(SYSPRINT) PAGE LINE(6) EDIT ('AXLE LOAD VERSUS AXLE PLACE',TBL1050)
*EMENT*) (COLUMN(43),A,A); TBL1060
PUT FILE(SYSPRINT) SKIP(2) EDIT('TANDEM SPACING IS 40 INCHES TO 1',TBL1070)
*20 INCHES*) (COLUMN(38),A,A); TBL1080
PUT FILE(SYSPRINT) SKIP EDIT ('* KENTUCKY CATEGORIES*) (COLUMN(47),A,A); TBL1090
PUT FILE(SYSPRINT) SKIP(2) EDIT ('1,2 AND 3 INDICATE SINGLE',BITAN*,TBL1110
*DEM AND TRITANDEM AXLES*) (COLUMN(31),A,A); TBL1120
PUT FILE(SYSPRINT) SKIP(5) EDIT ('* AXLE | UNDER*','AXLE PLACEMENT',TBL1130
*ENT') (4,X(36),A,A); TBL1140
PUT FILE(SYSPRINT) SKIP EDIT ('LOAD 12 TONS*) (A); TBL1150
PUT FILE(SYSPRINT) SKIP EDIT ('(KIP$) | 110 110 111',TBL1160
*120 111 1210 1120 1130 1111 12110 11210 11210',TBL1170
*11300 11300 12200*1(A,AA,A); TBL1180
PUT FILE(SYSPRINT) SKIP(0) EDIT ('----------------------------------',TBL1190
*----------------------------------'); TBL1200
*----------------------------------; TBL1210
PUT FILE(SYSPRINT) SKIP EDIT ('* UNDER 1 |*) (A); CALL PRLDAX3(1); TBL1220
PUT FILE(SYSPRINT) SKIP EDIT (' 1 - 3 |*) (A); CALL PRLDAX3(2); TBL1230
PUT FILE(SYSPRINT) SKIP EDIT (' 3 - 5 |*) (A); CALL PRLDAX3(3); TBL1240
PUT FILE(SYSPRINT) SKIP EDIT (' 5 - 7 |*) (A); CALL PRLDAX3(4); TBL1250
PUT FILE(SYSPRINT) SKIP EDIT (' 7 - 9 |*) (A); CALL PRLDAX3(5); TBL1260
PUT FILE(SYSPRINT) SKIP EDIT (' 9 - 11 |*) (A); CALL PRLDAX3(6); TBL1270
PUT FILE(SYSPRINT) SKIP EDIT (' 11 - 13 |*) (A); CALL PRLDAX3(7); TBL1280
PUT FILE(SYSPRINT) SKIP EDIT (' 13 - 15 |*) (A); CALL PRLDAX3(8); TBL1290
PUT FILE(SYSPRINT) SKIP EDIT (' 15 - 17 |*) (A); CALL PRLDAX3(9); TBL1300
PUT FILE(SYSPRINT) SKIP EDIT (' 17 - 19 |*) (A); CALL PRLDAX3(10); TBL1310
PUT FILE(SYSPRINT) SKIP EDIT (' 19 - 21 |*) (A); CALL PRLDAX3(11); TBL1320
PUT FILE(SYSPRINT) SKIP EDIT (' 21 - 23 |*) (A); CALL PRLDAX3(12); TBL1330
PUT FILE(SYSPRINT) SKIP EDIT (' 23 - 25 |*) (A); CALL PRLDAX3(13); TBL1340
PUT FILE(SYSPRINT) SKIP EDIT (' 25 - 27 |*) (A); CALL PRLDAX3(14); TBL1350
PUT FILE(SYSPRINT) SKIP EDIT (' 27 - 29 |*) (A); CALL PRLDAX3(15); TBL1360
PUT FILE(SYSPRINT) SKIP EDIT (' 29 - 31 |*) (A); CALL PRLDAX3(16); TBL1370
PUT FILE(SYSPRINT) SKIP EDIT (' 31 - 33 |*) (A); CALL PRLDAX3(17); TBL1380
PUT FILE(SYSPRINT) SKIP EDIT (' 33 - 35 |*) (A); CALL PRLDAX3(18); TBL1390
PUT FILE(SYSPRINT) SKIP EDIT (' OVER 35 |*) (A); CALL PRLDAX3(19); TBL1400
PUT FILE(SYSPRINT) SKIP EDIT (' TOTAL |*) (A); TBL1410
PUT FILE(SYSPRINT) EDIT (' I' DO I=1 TO 151 (A); TBL1420
PUT FILE(SYSPRINT) SKIP EDIT (' AXLES |*) (A); CALL PRLDAX3(20); TBL1430
PUT FILE(SYSPRINT) SKIP EDIT (' TOTAL |*) (A); TBL1440
PUT FILE(SYSPRINT) EDIT (' I' DO I=1 TO 151 (A); TBL1450
PUT FILE(SYSPRINT) SKIP EDIT (' VEHICLES |*) (A); CALL PRLDAX3(21); TBL1460
PUT FILE(SYSPRINT) SKIP EDIT (' MEAN AXLE |*) (A); TBL1470
PUT FILE(SYSPRINT) EDIT (' I' DO I=1 TO 151 (A); TBL1480
DO I=1 TO 15) (A,15 F(5,1),A)); TBL1490
PUT FILE(SYSPRINT) SKIP EDIT (' STANDARD |',TBL1500
* I' DO I=1 TO 151 (A); TBL1510
15)) (A); TBL1520
PUT FILE(SYSPRINT) SKIP EDIT (' DEVIATION |',TBL1530
* I' DO I=1 TO 15) (A,15 F(5,1),A)); TBL1540
PUT FILE(SYSPRINT) SKIP EDIT (' I' DO I=1 TO 29)) (A); TBL1550
PUT FILE(SYSPRINT) PAGE LINE(6) EDIT ('AXLE LOAD VERSUS AXLE PLACE',TBL1560
*EMENT (CONTINUED FROM LAST PAGE)') (COLUMN(30),A,A); TBL1570
PUT FILE(SYSPRINT) SKIP(2) EDIT('TANDEM SPACING IS 40 INCHES TO 1',TBL1580
*20 INCHES*) (COLUMN(38),A,A); TBL1590
PUT FILE(SYSPRINT) SKIP EDIT ('KENTUCKY CATEGORIES'); TBL1600
// LABEL=(1,SL),DSNAME=TAPE01