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# ONOMIC EVALUATION OF MOBILE AND MODULAR USING SHIPMENTS BY HIGHWAY

## Vol. II Appendices

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DEPARTMENT OF TRANSPORTATION ★ UNITED STATES OF AMERICA ★

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

**April 1974**
**Final Report**

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16. Abstract

The objective was to obtain data needed to reach rational decisions regarding state regulations so that wide-load movements can be made as safely as possible, without undue economic burdens to the purchasers of such homes, to the states, or to other users of the highways. The project included extensive photographic and visual observations of vehicular traffic in the vicinity of 12- and 14-ft wide mobile and modular homes in 20 states, with about 12,000 miles being logged on 63 trips. Nearly 3,000 motorists were stopped on the highways of six states and interviewed. These interviews and associated mail-back questionnaires were analyzed to determine public opinions concerning many vehicles including mobile homes. Extensive costs and operational data were obtained from carriers of wide loads. Additionally, cost and resulation information were gathered from officials of most states.

After assembling and combining all of these data, a number of subjects were addressed, including: (1) the need for permits; (2) the advisability of multiple-trip permits; (3) permit costs; (4) permit reciprocity; (5) the advisability of divisible loads; (6) the use of divided vs two-lane roads; (7) reasonable speeds for wide loads; (8) rear lighting needs; (9) the advisability of escort vehicles; (10) differences between 12- and 14-wides; (11) differences between mobiles and modulars; (12) specific safety hazards noted; and (13) regulatory questions such as signing, flagging, etc.

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UNITED STATES GOVERNMENT

*Memorandum*

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

DATE: DEC 2 1974

In reply refer to: HRS-41

SUBJECT: Transmittal of Research Report: "Economic Evaluation of Mobile and Modular Housing Shipments by Highway"

FROM : Director, Office of Research
Washington, D.C. 20590

TO : Regional Federal Highway Administrators
Regions 1, 3 - 10

This report will be of interest to personnel responsible for traffic operations, traffic safety, highway systems planning and highway administration. The results of this study identify and evaluate various aspects of traffic safety and costs associated with shipment of mobile and modular housing by highway, and describe public attitudes regarding such shipments. Recommendations are made regarding the conditions under which such shipments should be permitted, and various regulatory and administrative measures which might be taken to increase their safety and acceptability.

Sufficient copies of this report are being distributed to provide four copies for each regional office, one copy for each division, and additional copies for each State highway or transportation department in amounts corresponding to their estimated need and interest. Copies of this report for the division offices and State highway and transportation departments are being sent directly to the division offices for distribution.

A limited number of additional copies of the report are available for official use from the Environmental Design and Control Division, Office of Research. Copies for the public are available from the National Technical Information Service (NTIS), Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22151. A small charge is imposed for each copy ordered from NTIS.

D. Solomon
for Charles F. Scheffey

ERRATA
in

HIGHWAY TRANSPORTATION OF MOBILE AND MODULAR HOMES
Volume II: Appendices

| Page | Location | Comment |
|---|---|---|
| C-2 | Third paragraph, first line | Change "entires" to entries" |
| D-15 | Third paragraph, first line | Change "slide" to "film" |

# APPENDIX A

## ANNOTATED BIBLIOGRAPHY

There is very little literature dealing with the subject of this project, "Economic Evaluation of Mobile and Modular Housing Shipments by Highway." Most information referenced touches only on a small element of the project, or simply provides a number or a concept used in the course of one or more of the analyses.

The most highly utilized documents in this project were copies of the individual states' regulations concerning the movement of oversize loads. These documents provide the formal basis under which the carriers operate. The major common carriers have complied compendia of these regulations which serve as basic reference documents for their drivers and agents. The compendia summarize the pertinent parts of the state regulations as they apply to mobile and modular housing transportation and, in many cases, include the effects of additional operational procedures and interpretations. The compiling and continual updating of such compendia is a monumental task, as the state laws and their interpretations undergo periodic change. Appendices B and C of this report contain summaries, in tabular form, of the state regulations and the compendia, as of 1 July 1973.

Other basic source documents used in this study are the I.C.C.-approved tariffs published by the Mobile Homes Carriers Conference, Inc., 501 13th Street, N.W., Washington, D.C. 20004. Three of these tariffs are of importance to this project. They are the MF-I.C.C. No. 23 (Mobile Home Initial Movement Tariff), MF-I.C.C. No. 24 (Modular Buildings Tariff) and MF-I.C.C. No. 25 (Mobile Home Secondary Movement Tariff). Initial movements are those from manufacturer to dealer or from dealer to first owner. All other moves are secondary moves. The tariffs detail not only the allowed basic line-haul charges but also the charges which will be levied as a result of add-ons such as permit acquisition, special lighting, escorts, special power, etc.

Various compacts of state highway officials have banded to promote regulatory uniformity among the states. Several of these groups such as AASHTO and WASHO have developed and published their own recommendations which aim at increased uniformity. AASHTO's current recommendations are published as, "Recommended Policies on Maximum Dimensions and Weights of Motor Vehicles to be Operated Over the Highways of the United States," whereas WASHO has published, "Mobile and Modular Home Transportation Requirements and Procedures."

Other reports and documents which were of particular importance to this project are annotated below.

Jorgensen, Roy and Associates, "Oversize-Overweight Permit Operation on State Highways," NCHRP Report 80 (1969).

This report covers a project conducted to analyze oversize and overweight permit operations of the states. It involved an examination of over 61,000 permits issued by the 48 contiguous states and the District of Columbia. The permits were analyzed as to the characteristics of the commodity, length of haul, type of carriage, etc. The study also included a review and analysis of state regulations on dimensional requirements (legal, routine extra legal, and absolute extra legal). Permit fees, multiple trip permits, enforcement, and other related subjects were also analyzed and reported.

The study found that there was extreme variance in the laws, regulations, and philosophies governing issuance of permits and conditions imposed on the carriers. Recommendations were made for changes in permit practices and for further research.

Weir, David H. and Calvin F. Sihilling, "Measures of the Lateral Placement of Passenger Cars and Other Vehicles in Proximity to Intercity Buses on Two-Lane and Multi-Lane Highways," Contract FH-11-7570, October 1972.

Using photographic techniques, overtaking and oncoming vehicle trajectories were determined on a variety of highway types. Most of the data are of overtaking and passing maneuvers, to ascertain aerodynamic disturbance effects of a 96-in. and 102-in. wide bus.

The two-lane, oncoming data were taken on a road with 13-ft lanes, excellent shoulders, no significant grade, crown, or curves, and almost unlimited sight distance. The buses traveled in the center of their lane at a speed of 50-55 mph. The speeds of oncoming vehicles (passenger cars and pickup trucks) were unknown but the speed limit was 65. Results showed that the average lateral clearance between vehicles was 7 to 7-1/2 ft, independent of bus width and minor variations in lane placement of the bus. Usable pavement between the oncoming vehicles and the shoulder was 3 ft, except in one data set in which the bus was about 1/2 ft to the right of the center of his lane; for this set there were 4 ft of remaining usable pavement for the oncomers.

Winfrey, Robley, Economic Analysis for Highways, International Textbook Company (1969).

This is a major reference document for any study concerned with the costs of highway transportation. It is an extremely thorough reference with a chapter devoted to each major element of cost, basic economics, and the various kinds of problems demanding economic analysis.

Of particular importance to the present study are the sections of the text dealing with vehicle running cost. The author categorizes each of the cost elements associated with operating a vehicle on the highway and has numerous tables in an appendix relating these costs to speed, vehicle type, roadway conditions, and geometrics.

Claffey, Paul J., "Running Costs of Motor Vehicles as Affected by Road Design and Traffic," NCHRP Report 111 (1971).

This study involved road testing of passenger cars, pickup trucks, single unit trucks and semis. From the tests the running costs associated with fuel consumption, tire wear, maintenance, and oil consumption were determined. The results are presented in graphical form as a function of speed, and are summarized in a tabular format for the convenience of the user. The data of Claffey complement and supplement those in Winfrey's text.

Curry, David A., and Dudley G. Anderson, "Procedures for Estimating Highway User Costs, Air Pollution, and Noise Effects," NCHRP Report 133 (1972).

The purpose of this study was to prepare a manual of procedures to be used by highway engineers and planners for comparing alternative routes, alignments, levels of service, etc. Drawing on references such as Winfrey and Claffey, the authors developed forms and procedures which can be used with relative ease. The procedures include the effects of geometrics, traffic volumes, traffic control devices, and other factors which influence highway user costs.

The major use of this reference in the current project was in estimating incremental pollutant emissions. Chapter 4 of Curry and Anderson describes the effect of speed and speed changes on carbon monoxide and hydrocarbon emissions. It also presents derived data on air pollution as a function of traffic volume-to-capacity ratio, service level, type of road, etc.

Thomas, Thomas C., and Gordon I. Thompson, "The Value of Time Saved by Trip Purpose," Contract FH-11-6881, Stanford Research Institute Project MSU-7362 (1970).

This is the most recent in a series of studies aimed at determining the value of a motorist's time--more specifically, the incremental value of time savings. The technique used was to interview motorists who had made a choice between a faster toll route and a slower free route. The implication was that the cost of the toll route was related to the amount of time saved by using that route.

The results of the study are presented in tabular form, showing the incremental value of each minute of time saved as a function of the trip purpose and the income level of the motorist. The major importance of their findings is that the value of a minute of time to a motorist depends strongly on how many minutes are saved. If only a few minutes of savings are possible, the motorist does not value each minute very highly. However, as the time savings increase to 10, 20, 30 min or more the value per minute increases markedly. This means that, in application, the highway economist must know the total time savings of one route over another; it is not sufficient to examine just parts of a route.

# APPENDIX B

## STATE LISTINGS OF APPLICABLE REGULATIONS AND ATTENDANT COSTS AS OF 1 JULY 1973

Appendix B groups regulations by state. The appendix is comprised of two sections, one for 12-wides, and one for 14-wides. The section on 14-wides contains only the 36 states which allow moves of that width.

Formatting of both sections is similar. States are listed vertically along the left-hand margin, and listed horizontally are the regulations which apply in each of six major areas:

1. Accessories (signs, flags, lights);
2. Escorts;
3. Operations (time of operation, speed limits, routing);
4. Towing Vehicle;
5. Coach Equipment (brakes, axles); and
6. Dimensions.

Each state may have significant regulations in some or all of these categories, and each entry denotes a specific regulation. Where there are no applicable regulations in an entire category, "NR" signifies no regulations are established in that state.

Some regulations are associated with a cost, either a cost passed directly on to the shipper or an absorbed cost included in the per mile line-haul rate. Throughout Appendices B and C significant costs are listed directly after the regulation causing them. These costs are coded in one of four ways utilizing underlines and parenthesis. An example of each follows:

1. \$10.00 - direct cost to shipper (add-on);
2. \$<u>10.00</u> - conditional add-on cost (may or may not arise);
3. (\$10.00) - cost absorbed by carrier; and
4. (\$<u>10.00</u>) - conditional cost absorbed (may or may not arise).

For reading convenience, these costs are totaled by category, add-on (costs passed on to the shipper) or absorbed, in the right columns of each row. If costs arise conditionally, a range depicts the possible low and high cost totals in each category.

In addition to common abbreviations which appear in Appendices B and C, several "nonstandard" abbreviations appear. Widely used throughout are the following:

1. NC - No change required
2. NR - No regulation
3. Spc. Pwr. - Special power required

Other nonstandard abbreviations related to particular sections of Appendices B and C as follows:

1. Accessories

   S - Signs
   F - Flags
   L - Lights

2. Escorts

   Div. - Divided highways
   Undiv. - Undivided highways

3. Operations

   Ops. - Operations
   R.H. - Rush hour
   SR - Sunrise
   SS - Sunset

4. Towing Vehicle

   C.W. - Curb weight
   G.C.W. - Gross combination weight
   G.V.W. - Gross vehicle weight
   WB - Wheelbase

5. Coach Equipment

   Comb. - Combination
   L - Length

6. Dimensions

   CL - Maximum combination length
   H - Maximum height
   LL - Maximum load length
   W - Maximum width

The reader should be aware that distance-related costs are not reflected in Appendices B and C. In particular, additional distance-related costs are associated with escorts and flagmen as well as lowboy trailer usage. Examples of their impact in selected states may be found in Section V.G - Regulatory Effect on Hypothetical Trips.

TABLE B-1

STATE LISTING OF APPLICABLE REGULATIONS FOR 12 WIDES

| State | Regulations | | | | | | Total Costs | |
|---|---|---|---|---|---|---|---|---|
| | Accessories | Escorts | Operations | Towing Vehicle | Coach Equipment | Dimensions | Absorbed ($) | Add-On ($) |
| Alabama | NR | NR | Daily: Daylight<br>No Interstate on Sat. or Sun.<br>6 Holidays<br>Speed limit: As posted | NR | NR | CL 85 ft<br>W 14 ft | -0- | -0- |
| Arizona | S (3.75)<br>F (1.25) | Front and rear except on Interstates | Mon-Fri: Daylight<br>R.H. Curfew in cities<br>7 Holidays<br>Speed limit: 45 | 1-1/2 Ton capacity (1.25)<br>2 Tons if load > 65 ft (2.00)<br>2 Tons on Interstate (2.00)<br>90 in. WB, 99 Interstate | Adequate brakes | LL 65 ft<br>W 14 ft | (6.25-8.25) | -0- |
| Arkansas | S (3.75)<br>F (1.25) | Front on 2 lane if comb. > 75 ft or if lane width < 11 ft | Mon-Fri: Daylight<br>R.H. Curfew in cities<br>9 Holidays<br>Speed limit: 35 and posted min. on Interstate | 1 Ton capacity<br>Cabtop light | Brakes on 2 axles 30.00 | W 14 ft | (5.00) | 30.00 |
| California | S (3.75)<br>F (1.25) | Front on routes designated by state map | Mon-Fri: Daylight<br>R.H. Curfew in cities<br>12 Holidays<br>Speed limit: 55 | 1-1/2 Ton capacity (1.25) | Brakes on 2 axles 30.00<br>2 Axles<br>3 Axles if load > 60 ft 120.00<br>6,000 lb max/axle | LL 70 ft<br>CL 85 ft<br>W 12 ft<br>H 13 ft 6 in. | (6.25) | 30.00-150.00 |
| Colorado | S (3.75) | Front on routes designated by state map | Mon-Sat Noon: Daylight<br>11 Holidays<br>Speed limit: As posted | 1/2-Ton capacity | Brakes on all axles 30.00 | W 14 ft<br>H 13 ft 6 in. | (3.75) | 30.00 |
| Connecticut | S (3.75)<br>F (1.25) | Front on all moves | Mon-Fri: 9-4 (0-22.50)<br>11 3-Day holidays<br>Speed limit: Min. 40 | 10,000 G.V.W. | Brakes on all axles 30.00 | LL 60 ft<br>CL 75 ft<br>W 14 ft<br>H 13 ft 6 in. | (5.00-27.50) | 30.00 |

TABLE B-1 (Continued)

| | Regulations | | | | | | Total Costs | |
|---|---|---|---|---|---|---|---|---|
| State | Accessories | Escorts | Operations | Towing Vehicle | Coach Equipment | Dimensions | Absorbed ($) | Add-On ($) |
| Delaware | F (1.25) | Front if comb. > 75 ft<br>Front and rear if comb. > 85 ft on 2-lane | Mon-Fri: Daylight<br>9-3 in some areas<br>7 Holidaya<br>Speed limit: 45 | NR | Brakes on front axle | W 14 ft | (1.25) | -0- |
| Florida | S (3.75) | If > 75 ft comb.:<br>Front on 2-lane<br>Rear on 4-lane or div. | Mon-Fri: Daylight<br>7 Holidaya<br>Speed limit: 35 or as posted | 1 Ton capacity<br>15 ft Long | Brakes on 1 axle | LL 70 ft<br>CL 85 ft<br>W 12 ft<br>H 13 ft 6 in. | (3.75) | -0- |
| Georgia | S (3.75)<br>F (1.25) | Rear if comb. > 75 ft | Mon-Sat noon: Daylight<br>7 Holidaya<br>Speed limit: 50 | NR | NR | CL 83 ft<br>W 12 ft<br>H 13 ft 6 in. | (5.00) | -0- |
| Idaho | S (3.75)<br>F (1.25)<br>L 15.00 | Rear on 2 lane | Mon-Fri: Daylight<br>6 Holidaya<br>Speed limit: 40 in 60 zone | 7,500 Curb wt.<br>14,000 G.V.W. (1.25) | 2 Axles<br>Brakes on all axles 30.00<br>3 Axlea if load > 60 ft 150.00 | CL 85 ft<br>W 14 ft 6 in.<br>H 14 ft | (6.25) | 45.00-195.00 |
| Illinois | S (3.75)<br>F (1.25) | Riding flagman<br>Front if lane width < 11 ft | Mon-Sat Noon: Daylight<br>9-3:30 cities and expressways<br>6 1-1/2 Day holidays<br>Speed limit: 35 or min. +5 | 1 Ton capacity<br>If > 58 ft load: Spc. Pwr. 25.00 | Brakea on all axlea 30.00<br>Max., 18,000 lb/axle | CL 70 ft<br>W 12 ft<br>H 13 ft 6 in. | (5.00) | 30.00-55.00 |
| Indiana | S (3.75)<br>F (1.25) | Front and rear if coach > 1/2 roadway | Mon-Fri: Daylight<br>6 2-Day holidays<br>Speed limit: As posted | 120 in. WB<br>12 ft Min. truck length<br>If > 68 ft load: Spc. Pwr. 25.00 | NR | CL 80 ft<br>W 14 ft<br>H 13 ft 6 in. | (5.00) | 0-25.00 |

TABLE B-1 (Continued)

| State | Regulations: Accessories | Escorts | Operations | Towing Vehicle | Coach Equipment | Dimensions | Total Costs: Absorbed ($) | Add-On ($) |
|---|---|---|---|---|---|---|---|---|
| Iowa | S (3.75)<br>F (1.25) | Front if comb. > 75 ft or if coach > 1/2 roadway | Mon-Fri: Daylight<br>7 3-Day holidays<br>Speed limit: 35 or as posted<br>Routing: No Interstate | 1-1/2 Ton capacity (1.25)<br>≥ 6,000 Curb wt.<br>120 in. WB | NR | LL 68 ft<br>CL 80 ft<br>W 14 ft<br>H 13 ft 10 in. | (6.25) | -0- |
| Kansas | S (3.75)<br>F (1.25) | Front on 2-lane | Mon-Sat Noon: Daylight<br>10 Holidays<br>Speed limit: 50 | 2 Ton capacity (3.25)<br>99 in. WB | 2 Axles<br>3 Axles if load > 60 ft 120.00 | CL 85 ft<br>W 14 ft | (8.25) | 0-120.00 |
| Kentucky | F (1.25) | Front on 2-lane | Mon-Sat Noon: Daylight<br>6 1-1/2 Day holidays<br>Speed limit: As posted | 1-1/2 Ton capacity (1.25)<br>22,000 G.V.W.<br>If load > 68 ft: Spc. Pwr. 25.00 | NR | LL 70 ft<br>CL 80 ft<br>W 14 ft | (2.50) | 0-25.00 |
| Louisiana | S (3.75)<br>F (1.25) | Front if lane width < 10 ft | Mon-Sat: Daylight<br>13 Holidays<br>Speed limit: 45 | 1-1/2 Ton capacity (1.25) | Brakes on all axles 30.00 | CL 85 ft<br>W 14 ft<br>H 13 ft 6 in. | (6.25) | 30.00 |
| Maine | S (3.75)<br>F (1.25) | Front on 2-lane<br>Rear on 4-lane or div. | Mon-Fri: Daylight<br>9 Holidays<br>Speed limit: 45 | 2 Ton capacity (3.25) | Adequate brakes | NR | (8.25) | -0- |
| Maryland | S (3.75) | Front on all moves | Mon-Sat Noon: Daylight<br>8 Holidays<br>Speed limit: As posted | NR | NR | W 14 ft<br>H 14 ft | (3.75) | -0- |

TABLE B-1 (Continued)

| | Regulations | | | | | | Total Costs | |
|---|---|---|---|---|---|---|---|---|
| State | Accessories | Escorts | Operations | Towing Vehicle | Coach Equipment | Dimensions | Absorbed ($) | Add-On ($) |
| Massachusetts | F (1.25) | Front if comb. > 70 ft | Mon-Sat Noon: Daylight<br>12 Holidays<br>Speed limit: As posted | NR | NR | W 14 ft | (1.25) | -0- |
| Michigan | S (3.75)<br>F (1.25)<br>L 15.00<br>(If comb. > 80 ft) | Rear if comb. > 80 ft | Mon-Fri: Daylight<br>6 2-1/2 Day holidays<br>Speed limit: 45 | 1-1/2 Ton capacity (1.25)<br>Cabtop light if comb. > 80 ft | NR | LL 70 ft<br>CL 85 ft<br>W 14 ft<br>H 15 ft | (6.25) | 0-15.00 |
| Minnesota | S (3.75)<br>F (1.25) | NR | Mon-Fri: Daylight<br>R.H. curfew in cities<br>6 2-Day holidays<br>Speed limit: As posted | 2 Ton capacity (3.25)<br>100 in. WB | Brakes on 2 axles 30.00<br>3 Axles if load > 65 ft 120.00 | LL 70 ft<br>CL 85 ft<br>W 14 ft 6 in.<br>H 13 ft 6 in. | (8.25) | 30.00-150.00 |
| Mississippi | F (1.25) | NR | Mon-Sat Noon: Daylight<br>6 3-Day holidays<br>Speed limit: 30<br>Travel only on routes ≥ 20 ft | 3/4 Ton capacity<br>If load > 68 ft:<br>Spc. Pwr. 25.00 | NR | CL 80 ft<br>W 12 ft | (1.25) | 0-25.00 |
| Missouri | S (3.75)<br>F (1.25) | Front on 2-lane<br>Rear on 4-lane undiv.<br>None on div. and Interstate | Mon-Fri: Daylight<br>9 1-1/2 Day holidays<br>Speed limit: 50<br>Travel only on routes ≥ 20 ft | 1-1/2 Ton capacity (1.25) | 2 Axles<br>Brakes on 1 axle | LL 70 ft<br>CL 85 ft<br>W 12 ft 4 in.<br>H 14 ft | (6.25) | -0- |
| Montana | S (3.75)<br>F (1.25)<br>L 15.00 | Front on all moves | Mon-Fri: Daylight<br>7 Holidays<br>Speed limit: 50 | 2 Ton capacity (3.25) | NR | LL 70 ft<br>W 15 ft | (8.25) | 15.00 |

TABLE B-1 (Continued)

| State | Regulations | | | | | | Total Costs | |
|---|---|---|---|---|---|---|---|---|
| | Accessories | Escorts | Operations | Towing Vehicle | Coach Equipment | Dimensions | Absorbed ($) | Add-On ($) |
| Nebraska | S (3.75)<br>F (1.25) | Rear on Interstate | Mon-Fri: Daylight<br>7 Holidays<br>Speed limit: 35 min. | 1-1/2 Ton capacity (1.25)<br>120 in. WB | 2 Axles<br>Brakes on 2 axles 30.00<br>3 Axles if load > 60 ft 120.00 | LL 65 ft<br>CL 85 ft<br>W 14 ft<br>H 13 ft 6 in. | (6.25) | 30.00-150 |
| Nevada | S (3.75)<br>F (1.25)<br>L 15.00 | NR | Mon-Fri: Daylight<br>8 Holidays<br>Speed limit: 55 | 3/4 Ton capacity<br>1-1/2 Ton if coach > 18,000 lb (1.25)<br>Cabtop light | Adequate brakes | CL 85 ft<br>W 14 ft | (5.00-6.25) | 15 |
| New Hampshire | S (3.75)<br>F (1.25) | Front on 2-lane<br>Rear on 4-lane or div. | Mon-Fri: Daylight<br>10 Holidays<br>Speed limit: As posted | 2 Ton capacity (3.25) | Adequate brakes | W 14 ft | (8.25) | -0- |
| New Jersey | S (3.75)<br>F (1.25) | NR | Mon-Fri: Daylight<br>7 Holidays<br>Speed limit: As posted | 1-1/2 Ton capacity (1.25) | Adequate brakes | W 12 ft | (6.25) | -0- |
| New Mexico | S (3.75)<br>F (1.25) | Front if comb. > 90 ft<br>Front if coach > 70 ft<br>Front if lane width < 10 ft | Mon-Fri: Daylight<br>6 1-1/2 Day holidays<br>Speed limit: As posted | 1-1/2 Ton capacity (1.25)<br>99 in. WB<br>15 ft Max. length if coach > 65 ft | NR | LL 80 ft<br>CL 95 ft<br>W 14 ft<br>H 13 ft 6 in. | (6.25) | -0- |
| New York | S (3.75)<br>F (1.25)<br>L 15.00 | Front on 2-lane | Mon-Fri: Daylight<br>6 3-Day holidays<br>Speed limit: As posted | 3/4 Ton capacity | NR | W 14 ft<br>H 13 ft 6 in. | (5.00) | 15 |

TABLE B-1 (Continued)

| State | Regulations: Accessories | Regulations: Escorts | Regulations: Operations | Regulations: Towing Vehicle | Regulations: Coach Equipment | Regulations: Dimensions | Total Costs: Absorbed (\$) | Total Costs: Add-On (\$) |
|---|---|---|---|---|---|---|---|---|
| North Carolina | S (3.75)<br>F (1.25) | Front on 2-lane | Mon-Fri: Daylight<br>8 Holidays<br>Speed limit: 45 on 4 lane | 1-1/2 Ton capacity (1.25)<br>If $>$ 68 ft coach: Spc. Pwr. 25.00 | Adequate brakes | CL 80 ft<br>W 12 ft<br>H 13 ft 6 in. | (6.25) | 0-25.00 |
| North Dakota | S (3.75)<br>F (1.25) | Front if coach $>$ 70 ft | Mon-Fri: Daylight<br>6 1-1/2 Day holidays<br>Speed limit: 50 | 2 Ton capacity (3.25) | NR | W 14 ft<br>H 13 ft 6 in. | (8.25) | -0- |
| Ohio | S (3.75)<br>F (1.25) | Rear on 4-lane or div.<br>Front if comb. $>$ 80 ft<br>Front on routes designated on state map | Mon-Fri: Daylight<br>R.H. curfew in cities<br>6 1-1/2 Day holidays<br>Travel only on routes $\geq$ 24 ft<br>Speed limit: 40 or posted min. | 2 Ton capacity (3.25)<br>4,600 Curb wt.<br>120 in. WB | 2 Axles, brakes on 1<br>3 Axles, brakes on 2 if load $>$ 65 ft<br>150.00 | LL 70 ft<br>CL 85 ft<br>W 14 ft<br>H 13 ft 6 in. | (8.25) | 0-150.00 |
| Oklahoma | S (3.75)<br>F (1.25) | Front on 2-lane | Mon-Sat Noon: Daylight<br>R.H. curfew in cities<br>7 1-1/2 Day holidays<br>Speed limit: 50<br>Limited turnpike travel | 2 Ton capacity (3.25)<br>118 in. WB<br>14 ft Min. length | 2 Axles<br>Brakes on all axles<br>30.00<br>3 Axles if coach $>$ 65 ft<br>150.00 | W 14 ft | (8.25) | 30.00-180.00 |
| Oregon | S (3.75)<br>F (1.25)<br>L 15.00 | Front on 2-lane | Mon-Fri: Daylight<br>R.H. curfew in cities<br>6 Holidays<br>Speed limit: 60<br>Routing per state map | 1-1/2 Ton capacity (1.25)<br>7,000 Curb wt.<br>120 in. WB | 2 Axles<br>Brakes on 2 axles<br>30.00<br>3 Axles if load $>$ 60 ft<br>120.00 | CL 85 ft<br>W 14 ft | (6.25) | 45.00-165.00 |
| Pennsylvania | S (3.75)<br>F (1.25) | NR | Mon-Fri: Daylight<br>R.H. curfew in cities<br>6 3-Day holidays<br>Speed limit: 45<br>Travel only on $\geq$ 22 ft routes | 1-1/2 Ton capacity (1.25) | Brakes on all axles<br>30.00 | CL 85 ft<br>W 12 ft | (6.25) | 30.00 |

TABLE B-1 (Continued)

| | Regulations | | | | | | Total Costs | |
|---|---|---|---|---|---|---|---|---|
| State | Accessories | Escorts | Operations | Towing Vehicle | Coach Equipment | Dimensions | Absorbed ($) | Add-On ($) |
| Rhode Island | S (3.75)<br>F (1.25) | Front if comb. > 80 ft | Mon-Fri: Daylight<br>R.H. curfew in cities<br>10 Holidays<br>Speed limit: As posted | If > 67 ft coach: Spc. Pwr. 25.00 | NR | CL 79 ft<br>W 14 ft<br>H 13 ft 6 in. | (5.00) | 0-25.00 |
| South Carolina | S (3.75)<br>F (1.25)<br>L 15.00 | NR | Mon-Fri: Daylight<br>9 Holidays<br>Speed limit: 45 | 1-1/2 Ton capacity (1.25)<br>If coach > 68 ft:<br>Spc. Pwr. 25.00 | NR | LL 70 ft<br>CL 80 ft<br>W 12 ft | (6.25) | 15.00-40.00 |
| South Dakota | S (3.75)<br>F (1.25) | NR | Mon-Sat Noon: Daylight<br>9 Holidays<br>Speed limit: 40 in 60 zone | 1-1/2 Ton capacity (1.25) | Brakes on 2 axles 30.00 | W 14 ft | (6.25) | 30.00 |
| Tennessee | S (3.75)<br>F (1.25) | Rear if comb. > 75 ft<br>Front on routes designated on state map | Mon-Fri: Daylight<br>9 Holidays<br>Speed limit: As posted | NR | NR | CL 85 ft<br>W 12 ft<br>H 13 ft 10 in. | (5.00) | -0- |
| Texas | NR | Front and rear if coach > 1/2 roadway | Daily: Daylight<br>Speed limit: 45 | 3/4 Ton capacity | NR | NR | -0- | -0- |
| Utah | S (3.75)<br>F (1.25)<br>L 15.00 | Rear if comb. > 90 ft | Mon-Fri: Daylight<br>9-3:30 in cities<br>7 1-1/2 Day holidays<br>Speed limit: As posted | 1-1/2 Ton capacity (1.25) | NR | CL 85 ft<br>W 14 ft | (6.25) | 15.00 |

TABLE B-1 (Concluded)

| State | Regulations: Accessories | Escorts | Operations | Towing Vehicle | Coach Equipment | Dimensions | Total Costs: Absorbed ($) | Add-On ($) |
|---|---|---|---|---|---|---|---|---|
| Vermont | S (3.75)<br>F (1.25) | Front on 2-lane<br>Rear on 4-lane or div. | Mon-Fri: Daylight<br>8 Holidays<br>Speed limit: 35, 50 on Interstate | 2 Ton capacity (3.25)<br>Cabtop light | NR | W 14 ft | (8.25) | -0- |
| Virginia | S (3.75)<br>F (1.25) | Front and rear on 2-lane | Mon-Fri Noon: Daylight (Sat til noon)<br>7 1-1/2 Day holidays<br>Speed limit: 45 on 4 lane | 1-1/2 Ton capacity (1.25)<br>10 ft min. length<br>If > 68 ft coach: Spc. Pwr. 25.00 | NR | LL 70 ft<br>CL 80 ft<br>W 12 ft | (6.25) | 0-25.00 |
| Washington | S (3.75)<br>F (1.25)<br>L 15.00 | Front and rear on 2-lane | Mon-Fri 2 p.m.: Daylight<br>R.H. curfew in cities<br>6 1-1/2 Day holidays<br>Speed limit: 40 in 60 zone<br>Routing per state map | 8,000 Curb wt. (1.25)<br>35,000 G.C.W.<br>120 in. WB | Brakes on 2 axles 30.00<br>3 Axles if load > 60 ft 120.00 | CL 85 ft<br>W 14 ft | (6.25) | 45.00-165.00 |
| West Virginia | S (3.75)<br>F (1.25) | Front on 2-lane<br>Rear on 4-lane<br>None on Interstate | Mon-Fri: Daylight<br>8 Holidays<br>Speed limit: 40, 45 on Interstate | 1 Ton capacity<br>120 in. WB<br>Cabtop light<br>If coach > 63 ft: Spc. Pwr. 25.00 | NR | CL 75 ft<br>W 14 ft<br>H 12 ft 6 in. | (5.00) | 0-25.00 |
| Wisconsin | S (3.75)<br>F (1.25) | NR | Mon-Fri: Daylight<br>R.H. curfew in cities<br>6 1-1/2 Day holidays<br>Speed limit: 45 on 4 lane | 1-1/2 Ton (1.25)<br>11,000 G.V.W.<br>Cabtop light | Brakes on 2 axles 30.00<br>3 Axles if coach > 65 ft 120.00 | LL 70 ft<br>CL 85 ft<br>W 16 ft<br>H 14 ft | (6.25) | 30.00-150.00 |
| Wyoming | NR | If comb. > 90 ft: Front and rear on 2-lane<br>Rear only on 4-lane or div. | Daily: Daylight<br>10 Holidays<br>Speed limit: As posted | NR | NR | NR | -0- | -0- |

TABLE B-2

STATE LISTING OF APPLICABLE REGULATIONS FOR 14 WIDES

| State | Regulations | | | | | | Costs | |
|---|---|---|---|---|---|---|---|---|
| | Accessories | Escorts | Operations | Towing Vehicle | Coach Equipment | Dimensions | Absorbed ($) | Add-On ($) |
| Alabama | NR | Front and rear on all moves | Daily: Daylight<br>6 Holidays<br>Speed limit: As posted | NR | NR | CL 85 ft<br>W 14 ft | -0- | -0- |
| Arizona | S (3.75)<br>F (1.25) | Front and rear on all moves | Mon-Fri: Daylight<br>7 Holidays<br>Speed limit: 45 | 2 Ton capacity (3.25)<br>99 in. WB | Adequate brakes<br>Lowboy required 50.00 | LL 65 ft<br>W 14 ft | (8.25) | 50.00 |
| Arkansas | S (3.75)<br>F (1.75) | Front and rear on 2-lane | Mon-Fri: Daylight<br>9 Holidays<br>Speed limit: 35<br>Routing per state map | 1 Ton capacity<br>Cabtop light | 2 Axles<br>Adequate brakes | W 14 ft | (5.00) | -0- |
| Colorado | S (3.75) | Front and rear except on 4-lane or divided | Mon-Thurs: Daylight<br>11 Holidays<br>Speed limit: As posted<br>Routing per state map | 2 Ton capacity (3.25) | Brakes on all axles 30.00 | W 14 ft<br>H 13 ft 6 in. | (7.00) | 30.00 |
| Connecticut | S (3.75)<br>F (1.25) | Front and rear on all moves | Tue-Thur: 9-4 (0-22.50)<br>11 3-Day holidays<br>Speed limit: As posted | 10,000 G.V.W. | Brakes on all axles 30.00 | NR | (5.00-27.50) | 30.00 |
| Delaware | F (1.25) | Rear on 4-lane or div.<br>Front and rear on 2-lane | Mon-Thur: 9-3 (0-30.00)<br>7 Holidays<br>Speed limit: 45 | NR | Brakes on front axle<br>Lowboy required 50.00 | LL 60 ft<br>CL 75 ft<br>W 14 ft<br>H 13 ft 6 in. | (1.25-31.25) | 50.00 |

TABLE B-2 (Continued)

| | Regulations | | | | | | Costs | |
|---|---|---|---|---|---|---|---|---|
| State | Accessories | Escorts | Operations | Towing Vehicle | Coach Equipment | Dimensions | Absorbed ($) | Add-On ($) |
| Idaho | S (3.75)<br>F (1.25)<br>L 15.00 | Front and rear on 2 or 4-lane<br>Rear only on Interstate | Mon-Fri: Daylight<br>6 Holidays<br>Speed limit: 40 in 60 zone | 9,000 Curb wt.<br>19,000 G.V.W. (3.25)<br>100 in. WB | 2 Axles<br>Brakes on all axles 30.00<br>3 Axles if load > 60 ft 150.00 | CL 85 ft<br>W 14 ft 6 in.<br>H 14 ft | (8.25) | 45.00-195. |
| Indiana | S (3.75)<br>F (1.25) | Front and rear on all moves | Mon-Fri: SR-3:30 (0-3.75)<br>6 2 Day holidays<br>Speed limit: 45<br>Travel only on ≥ 24 routes<br>No Interstate travel | 2 Ton capacity (3.25)<br>120 in. WB<br>If coach > 68 ft: Spc. Pwr. 25.00 | 3 Axles 120.00<br>Brakes on all axles 60.00 | CL 80 ft<br>W 14 ft<br>H 13 ft 6 in. | (8.25-12.00) | 180.00-205 |
| Iowa | S (3.75)<br>F (1.25) | Front on all moves | Mon-Fri: Daylight<br>7 3-Day holidays<br>Speed limit: 35 or posted<br>50 Mile maximum trip<br>No Interstate travel | 1-1/2 Ton capacity (1.25)<br>6,000 Curb wt.<br>120 in. WB | NR | LL 68 ft<br>CL 80 ft<br>W 14 ft<br>H 13 ft 10 in. | (6.25) | -0- |
| Kansas | S (3.75)<br>F (1.25) | Front and rear on all moves | Mon-Fri: Daylight<br>R.H. curfew in cities<br>10 Holidays<br>Speed limit: 50 | 2 Ton capacity (3.25)<br>99 in. WB | 3 Axles 120.00 | CL 85 ft<br>W 14 ft | (8.25) | 120. |
| Kentucky | F (1.25)<br>L 15.00 | Front on 4-lane or div.<br>Front and rear on 2-lane | Mon-Fri: 9-3 (0-30.00)<br>6 1-1/2 Day holidays<br>Speed limit: 35, 45 on Interstate<br>Limited travel on 2-lane | 2 Ton capacity (3.25)<br>If coach > 68 ft: Spc. Pwr. 25.00 | Brakes on all axles 30.00 | LL 70 ft<br>CL 80 ft<br>W 14 ft | (4.50-34.50) | 45.00-70. |
| Louisiana | S (3.75)<br>F (1.25) | Front on all moves | Mon-Fri: Daylight<br>13 Holidays<br>Speed limit: 45 | 1-1/2 Ton capacity (1.25) | Brakes on all axles 30.00 | CL 85 ft<br>W 14 ft<br>H 13 ft 6 in. | (6.25) | 30. |

TABLE B-2 (Continued)

| State | Regulations | | | | | | Costs | |
|---|---|---|---|---|---|---|---|---|
| | Accessories | Escorts | Operations | Towing Vehicle | Coach Equipment | Dimensions | Absorbed ($) | Add-On ($) |
| Maine | S (3.75)<br>F (1.25) | Front and rear on all moves | Tue-Thurs: 9-3 (0-30.00)<br>9 Holidays<br>Speed limit: 45 | 2 Ton capacity (3.25) | Adequate brakes | NR | (8.25-38.25) | -0- |
| Maryland | S (3.75) | Front on all moves | Mon-Fri: 9-3:30 (0-26.25)<br>8 Holidays<br>Speed limit: As posted<br>Travel only on 4 lane | NR | Lowboy required 50.00 | W 14 ft<br>H 14 ft | (3.75-30.00) | 50.00 |
| Massachusetts | F (1.25) | Rear on all moves | Tue-Thur: 9-3:30 (0-26.25)<br>12 Holidays<br>Speed limit: As posted | NR | Lowboy required 50.00 | W 14 ft | (1.25-27.50) | 50.00 |
| Michigan | S (3.75)<br>F (1.25)<br>L 15.00 | Front on all moves | Mon-Fri: 9-3 (0-30.00)<br>6 2-1/2 Day holidays<br>Speed limit: 35, 45 on 4 lane<br>No Interstate travel | 1-1/2 Ton capacity (1.25)<br>Cabtop light | NR | LL 70 ft<br>CL 85 ft<br>W 14 ft<br>H 15 ft | (5.00-35.00) | 15.00 |
| Minnesota | S (3.75)<br>F (1.25)<br>L 15.00 | May be required | Mon-Fri: Daylight<br>R.H. curfew in cities<br>6 2-Day holidays<br>Speed limit: As posted<br>Routing per state map | 2 Ton capacity (3.25)<br>100 in. WB | Brakes on 2 axles 30.00<br>3 Axles if load > 65 ft 120.00 | LL 70 ft<br>CL 85 ft<br>W 14 ft 6 in.<br>H 13 ft 6 in. | (8.25) | 45.00-165.00 |
| Montana | S (3.75)<br>F (1.25)<br>L 15.00 | Front on all moves except Interstate | Mon-Fri: Daylight<br>6 Holidays<br>Speed limit: 50 | 2 Ton capacity (3.25)<br>If coach > 68 ft: Spc. Pwr. 25.00 | NR | CL 80 ft<br>W 15 ft | (8.25) | 15.00-40.00 |

TABLE B-2 (Continued)

| State | Regulations | | | | | | Costs | |
|---|---|---|---|---|---|---|---|---|
| | Accessories | Escorts | Operations | Towing Vehicle | Coach Equipment | Dimensions | Absorbed ($) | Add-On ($) |
| Nebraska | S (3.75)<br>F (1.25)<br>L 15.00 | Front on all moves | Mon-Fri: Daylight<br>7 Holidays<br>Speed limit: As posted<br>No Interstate travel | 1-1/2 Ton capacity (1.25)<br>120 in. WB | Brakes on 2 axles<br>3 Axles if load > 60 ft<br>120.00 | LL 65 ft<br>CL 85 ft<br>W 14 ft<br>H 13 ft 6 in. | (6.25) | 45.00-165.00 |
| Nevada | S (3.75)<br>F (1.25)<br>L 15.00 | Front and rear on all moves | Mon-Fri: Daylight<br>8 Holidays<br>Speed limit: 55 | 2 Ton capacity (3.25)<br>Cabtop light | NR | CL 85 ft<br>W 14 ft | (8.25) | 15.00 |
| New Hampshire | S (3.75)<br>F (1.25) | Front and rear on all moves | Tue-Thur: 9-3:30<br>(0-26.25)<br>10 Holidays<br>Speed limits: 45, 50 on Interstate | 2 Ton capacity (3.25) | Adequate brakes | W 14 ft | (8.25-34.50) | -0- |
| New Mexico | S (3.75)<br>F (1.25) | Front and rear on all moves | Mon-Fri: Daylight<br>6 1-1/2 Day holidays<br>Speed limit: As posted | 1-1/2 Ton capacity (1.25)<br>99 in. WB<br>15 ft Max. length if coach > 65 ft<br>Cabtop light | NR | LL 80 ft<br>CL 95 ft<br>W 14 ft<br>H 13 ft 6 in. | (6.25) | -0- |
| New York | S (3.75)<br>F (1.25)<br>L 15.00 | Front on 2-lane<br>Rear on 4-lane or div. | Mon-Fri: Daylight<br>6 3-Day holidays<br>Speed limit: 55 | 3/4 Ton capacity | NR | W 14 ft<br>H 13 ft 6 in. | (5.00) | 15.00 |
| North Dakota | S (3.75)<br>F (1.25) | Front if coach > 70 ft | Mon-Fri: Daylight<br>6 1-1/2 Day holidays<br>Speed limit: 50 | 2 Ton capacity (3.25) | NR | W 14 ft<br>H 13 ft 6 in. | (8.25) | -0- |

TABLE B-2 (Continued)

| State | Regulations: Accessories | Escorts | Operations | Towing Vehicle | Coach Equipment | Dimensions | Costs: Absorbed ($) | Add-On ($) |
|---|---|---|---|---|---|---|---|---|
| Ohio | S (3.75)<br>F (1.25)<br>L 15.00 | Rear on all moves | Mon-Fri: 9-3 (0-30.00)<br>6 1-1/2 Day holidays<br>Speed limit: 35<br>Travel only on ≥ 24 ft routes<br>No turnpike travel | 2 Ton capacity (3.25)<br>4,600 Curb wt.<br>120 in. W.B.<br>Cabtop light | 4 Axles 240.00<br>Adequate brakes | LL 70 ft<br>CL 85 ft<br>W 14 ft<br>H 13 ft 6 in. | (8.25-38.25) | 255.00 |
| Oklahoma | S (3.75)<br>F (1.25) | Front and rear on 2-lane<br>Rear on 4-lane or div. | Mon-Fri: 9-SS (0-7.50)<br>R.H. curfew in cities<br>Sat. til noon<br>7 1-1/2 Day holidays<br>No turnpike travel<br>Speed limit: 50 or as posted | 2 Ton capacity (3.25)<br>118 in. WB<br>14 ft Min. length | 2 Axles<br>Brakes on all axles 30.00<br>3 Axles if load > 65 ft 150.00 | W 14 ft | (8.25-15.75) | 30.00-180.00 |
| Oregon | S (3.75)<br>F (1.25)<br>L 15.00 | Front and rear on 2-lane<br>Rear on 4-lane or div. | Mon-Fri: Daylight<br>R.H. curfew in cities<br>6 Holidays<br>Speed limit: 60<br>Routing per state map | 9,000 Curb wt.<br>35,000 G.C.W. (3.25)<br>120 in. WB | 3 Axles 120.00<br>Brakes on ≥ 2 axles 30.00 | CL 85 ft<br>W 14 ft | (8.25) | 165.00 |
| Rhode Island | S (3.75) | Front on all moves | Mon-Fri: Daylight<br>R.H. curfew in cities<br>10 Holidays<br>Speed limit: As posted | If coach > 67 ft: Spc. Pwr. 25.00 | NR | CL 79 ft<br>W 14 ft<br>H 13 ft 6 in. | (3.75) | 0-25.00 |
| South Dakota | S (3.75)<br>F (1.25) | Front if lane width <12 ft | Mon-Sat noon: Daylight<br>Sat. til noon<br>9 Holidays<br>Speed limit: 40 in 60 zone | 2 Ton capacity (3.25)<br>Cabtop light | NR | W 14 ft | (8.25) | -0- |
| Texas | NR | NR | Mon-Fri: Daylight<br>R.H. curfew in cities<br>No Interstate travel<br>Speed limit: 45 or as posted | 3/4 Ton capacity | NR | NR | -0- | -0- |

TABLE B-2 (Concluded)

| State | Regulations: Accessories | Escorts | Operations | Towing Vehicle | Coach Equipment | Dimensions | Costs: Absorbed ($) | Add-On ($) |
|---|---|---|---|---|---|---|---|---|
| Utah | S (3.75)<br>F (1.25)<br>L 15.00 | Front on 2-lane<br>Rear on 4-lane or div. | Mon-Fri: Daylight<br>R.H. curfew in cities<br>7 1-1/2 Day holidays<br>Speed limit: 60 | 1-1/2 Ton capacity (1.25)<br>9,000 Curb wt.<br>19,000 G.V.W.<br>100 in. WB<br>2-1/2 Ton capacity for modulars (4.00) | 2 Axles<br>Brakes on ≥ 2 axles 30.00 | CL B5 ft<br>W 14 ft | (6.25-10.25) | 45.00-165.00 |
| Vermont | S (3.75)<br>F (1.25) | Front on 2-lane<br>Rear on 4-lane or div.<br>Police escort | Tue-Thur: 9-3:30 (0-26.25)<br>8 Holidays<br>Speed limit: 35 | 2 Ton capacity (3.25)<br>Cabtop light | NR | W 14 ft | (8.25-34.50) | -0- |
| Washington | S (3.75)<br>F (1.25)<br>L 15.00 | Front and rear on 2-lane<br>Rear on 4-lane or div. | Mon-Fri 2 p.m.: Daylight<br>R.H. curfew in cities<br>6 1-1/2 Day holidays<br>Speed limit: 40 in 60 zone<br>Routing per atate map | 9,000 Curb wt.<br>35,000 G.C.W. (3.25)<br>120 in. WB | 3 Axles 120.00<br>Brakea on ≥ 2 axlea 30.00 | CL 85 ft<br>W 14 ft | (8.25) | 165.00 |
| Weat Virginia | S (3.75)<br>F (1.25) | Front and rear on all moves | Mon-Fri: Daylight<br>B Holidaya<br>Speed limit: 40, 50 on Interstate<br>Travel only on ≥ 24 ft routea | 2 Ton capacity (3.25)<br>120 in. WB<br>Cabtop light<br>If coach > 63 ft: Spc. Pwr. 25.00 | 3 Axlea 120.00<br>Adequate brakea | CL 75 ft<br>W 14 ft<br>H 12 ft 6 in. | (8.25) | 120.00-145.00 |
| Wisconsin | S (3.75)<br>F (1.25)<br>L 15.00 | Front when designated on state map | Mon-Fri: Daylight<br>R.H. curfew in citiea<br>6 1-1/2 Day holidays<br>Speed limit: 35 on 2 lane | 1-1/2 Ton capacity (1.25)<br>11,000 G.V.W.<br>Cabtop light | 3 Axles 120.00<br>Brakes on all axles 60.00 | LL 70 ft<br>CL B5 ft<br>W 16 ft<br>H 14 ft | (6.25) | 195.00 |
| Wyoming | NR | Front and rear on 2-lane<br>Rear on 4-lane or div.<br>None on Interstate | Mon-Sun: Daylight<br>10 Holidays<br>Speed limit: As posted 45 if escorted | NR | NR | NR | -0- | -0- |

APPENDIX C

REGULATION VARIATIONS BETWEEN STATES AND ATTENDANT COSTS, AS OF 1 JULY 1973

Appendix C indicates differences in regulations between two adjacent states and costs which are associated with complying with differing regulations. The table herein sets forth combinations of states which share a common border which can be legally crossed by 12- and 14-wide mobile and modular homes.

The combinations are listed alphabetically in couplets. The rows of each couplet reflect the two directions of travel possible between the states.

As in Appendix B, related regulations have been grouped in categories to facilitate presentation. The categories in Appendix C are similar to those presented in Appendix B except that dimension and equipment categories are combined in Appendix C.

The entires (other than "NC"--no change) in each table occur only when a <u>difference</u> in established regulations has been determined. If a specific regulation exists which is compatible in two adjacent states, "NC" is present. If, in crossing a border no regulation gives way to a specific regulation, or if a specific regulation is superseded by a more stringent one, an appropriate entry is made. Notations in the categories of accessories and escorts indicate simply that some change is necessary. The criteria used to determine the necessity for changes based on the regulations follow:

- * Signs: wording, color, location
- * Flags: location, increased number
- * Lights: special light rig required, compatibility
- * Escorts: additional escort requirements, special type escort

In the remaining three categories, regulations of both states are presented in the tables in the same order as the states in the row are listed. The entries can best be understood if thought of in the following terms: from State A entering State B, no regulation or a lesser regulation is superseded by a more stringent regulation.

Costs are either absorbed by the carrier or added onto the total costs paid by the shipper. Additionally, some costs are conditional while others are independent. Coding of costs for identification is the same as in Appendix B.

As in Appendix B, the distance-related costs of escorts, flagmen, or lowboy trailer use are not indicated since they vary with specific trip circumstances. Charges associated with these costs are additional to line-haul mileage charges. For example, in going from Alabama to Georgia a \$1.50 absorbed cost is incurred, attributable to the time required in <u>arranging for</u> or locating an escort vehicle. Escort <u>mileage</u> costs are additional and not included in these tables.

Cost totals are recorded in the two right-hand columns. Absorbed and add-on costs are separated to preserve recognition of both types. Where costs are conditional, a range presents the possible low and high cost total for the row.

Nonstandard abbreviations are the same as those employed in Appendix B.

TABLE C-1

REGULATION VARIATIONS BETWEEN STATES AND ATTENDANT COSTS FOR 12 WIDES

| Border Combination | Regulations | | | | | Costs | |
|---|---|---|---|---|---|---|---|
| From - To | Accessories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Absorbed ($) | Add-On ($) |
| Alabama - Florida | S (3.75) | NC | 7 Day ops - 5<br>6 Holidays - 7 | NC | NR - 70 ft Coach L<br>NR - 13 ft 6 in. Height | (3.75) | -0- |
| Florida - Alabama | NC | NC | NC | NC | NC | -0- | -0- |
| Alabama - Georgia | S (3.75)<br>F (1.25) | Add escort if comb. > 75 ft (1.50) | 7 Day ops - 6<br>6 Holidays - 7 | NC | 85 ft Comb. L - 83 ft<br>NR - 13 ft 6 in. Height | (5.00-6.50) | -0- |
| Georgia - Alabama | NC | NC | NC | NC | NC | -0- | -0- |
| Alabama - Mississippi | F (1.25) | NC | 7 Day ops - 5-1/2<br>Holiday only - 3 days | NC | 85 ft Comb. L - 80 ft<br>Spc. Pwr. 25.00 | (1.25) | 0-25.00 |
| Mississippi - Alabama | NC | NC | NC | NC | NC | -0- | -0- |

TABLE C-1 (Continued)

| Border Combination From - To | Regulations: Accessories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Costs: Absorbed ($) | Add-On ($) |
|---|---|---|---|---|---|---|---|
| Alabama - Tennessee | S (3.75)<br>F (1.25) | Add escort if comb. > 75 ft or on designated routes (1.50) | 6 Holidays - 9 | NC | NR - 13 ft 10 in. Height | (5.00-6.50) | -0- |
| Tennessee - Alabama | NC | NC | NC | NC | NC | -0- | -0- |
| Arizona - California | NC | NC | 7 Holidays - 12 | NC | NR - Brakes on 2 axles 30.00<br>NR - 3 Axles if load > 60 ft 120.00 | -0- | 30.00-150.00 |
| California - Arizona | NC | Add escort except Interstate (1.50) | NC | 1-1/2 Ton capacity - 2 tons on Interstate (2.00)<br>NR - 99 in. Min. WB | NR - 65 ft Coach L | (0-3.50) | -0- |
| Arizona - Colorado | NC | NC | 7 Holidays - 11 | NC | NR - 13 ft 6 in. Height<br>Min. - Brakes on all axles 30.00 | -0- | 30.00 |
| Colorado - Arizona | F (1.25) | Add escort except Interstate (1.50) | 5-1/2 Day ops - 5 | Min. capacity - 2 tons on Interstate (3.25)<br>NR - 99 in. Min. WB | NR - 65 ft Coach L | (3.25-6.00) | -0- |

TABLE C-1 (Continued)

| Border Combination | Regulations | | | | | Costs | |
|---|---|---|---|---|---|---|---|
| From - To | Acces-sories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Absorbed ($) | Add-On ($) |
| Arizona - Nevada | S (3.75)<br>F (1.25)<br>L 15.00 | NC | 7 Holidays - 8 | NR - Cabtop light | NR - 85 ft Comb. L | (5.00) | 15.00 |
| Nevada - Arizona | S (3.75)<br>F (1.25) | Add escort except Interstate (1.50) | NC | Min. capacity - 2 tons on Interstate (3.25)<br>NR - 99 in. Min. WB | NR - 65 ft Coach L | (5.00-9.75) | -0- |
| Arizona - New Mexico | F (1.25) | NC | NC | NC | NR - 13 ft 6 in. Height | (1.25) | -0- |
| New Mexico - Arizona | NC | Add escort except Interstate (1.50) | 6 Holidays - 7 | 1-1/2 Ton capacity - 2 tons on Interstate (2.00) | 80 ft Coach L - 65 ft | (0-3.50) | -0- |
| Arizona - Utah | L 15.00 | NC | Holiday only - 1-1/2 days<br>NR - R.H. curfew in cities | NC | NR - 85 ft Comb. L | -0- | 15.00 |
| Utah - Arizona | NC | Add escort except Interstate (1.50) | NC | 1-1/2 Ton capacity - 2 tons on Interstate (2.00)<br>NR - 99 in. Min. WB | NR - 65 ft Coach L | (0-3.50) | -0- |

TABLE C-1 (Continued)

| Border Combination From - To | Regulations: Accessories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Costs: Absorbed ($) | Add-On ($) |
|---|---|---|---|---|---|---|---|
| Arkansas - Louisiana | F (1.25) | NC | 9 Holidays - 13 | Min. capacity - 1-1/2 tons (1.25) | NR - 13 ft 6 in. height<br>NR - 85 ft Comb. L<br>Min. - Brakes on 2 axles 30.00 | (2.50) | 30.00 |
| Louisiana - Arkansas | F (1.25) | Add escort on 2-lane if comb. > 75 ft (1.50) | 6 Day ops - 5 | NC | NC | (1.25-2.75) | -0- |
| Arkansas - Mississippi | F (1.25) | NC | NC | NC | NR - 80 ft Comb. L | (1.25) | -0- |
| Mississippi - Arkansas | S (3.75)<br>F (1.25) | Add escort on 2-lane if comb. > 75 ft (1.50) | 5-1/2 Day ops - 5<br>6 Holidays - 9 | NC | NC | (5.00-6.50) | -0- |
| Arkansas - Missouri | S (3.75)<br>F (1.25) | Add escort except Interstate if comb. ≤ 75 ft (1.50) | Holiday only - 1-1/2 days | Min. capacity - 1-1/2 tons (1.25) | NR - 14 ft Height<br>NR - 70 ft Coach L<br>NR - 85 ft Comb. L | (6.25-7.75) | -0- |
| Missouri - Arkansas | F (1.25) | NC | NC | NC | NC | (1.25) | -0- |

TABLE C-1 (Continued)

| Border Combination | Regulations | | | | | Costs | |
|---|---|---|---|---|---|---|---|
| From - To | Accessories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Absorbed ($) | Add-On ($) |
| Arkansas - Oklahoma | S (3.75)<br>F (1.25) | Add escort on 2-lane if comb. ≤ 75 ft (1.50) | Holiday only - 1-1/2 days<br>NR - R.H. curfew in cities | Min. capacity - 2 tons (3.25)<br>NR - 118 in. min. WB | Min. - 3 axles if load > 65 ft 120.00 | (8.25-9.75) | 0-120.00 |
| Oklahoma - Arkansas | S (3.75)<br>F (1.25) | NC | 5-1/2 Day ops - 5<br>7 Holidays - 9 | NC | NC | (5.00) | -0- |
| Arkansas - Tennessee | S (3.75)<br>F (1.25) | Add escort on 4-lane and Interstate if comb. > 75 ft (1.50) | NC | NC | NR - 13 ft 10 in. Height<br>NR - 85 ft comb. L | (5.00-6.50) | -0- |
| Tennessee - Arkansas | S (3.75)<br>F (1.25) | NC | NC | NC | NC | (5.00) | -0- |
| Arkansas - Texas | NC | NC | NR - R.H. curfew in cities | NC | NC | -0- | -0- |
| Texas - Arkansas | S (3.75)<br>F (1.25) | Add escort on 2-lane if comb. > 75 ft (1.50) | 5 Day ops - 7<br>0 Holidays - 9 | NC | NC | (5.00-6.50) | -0- |

TABLE C-1 (Continued)

| Border Combination From - To | Regulations: Accessories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Costs: Absorbed ($) | Add-On ($) |
|---|---|---|---|---|---|---|---|
| California - Nevada | S (3.75)<br>F (1.25)<br>L 15.00 | NC | NC | NR - Cabtop light | NC | (5.00) | 15.00 |
| Nevada - California | S (3.75)<br>F (1.25) | NC | 8 Holidays - 12 | Min. capacity - 1-1/2 tons (1.25) | NR - 13 ft 6 in. Height<br>NR - 70 ft Coach L<br>NR - 3 Axles if coach > 60 ft 120.00<br>Min. - Brakes on 2 axles 30.00 | (6.25) | 30.00-150.00 |
| California - Oregon | S (3.75)<br>L 15.00 | Add escort 2-lane (1.50) | NR - R.H. curfew in cities | 1-1/2 Ton capacity - 2 tons (2.00) | NC | (5.75-7.25) | 15.00 |
| Oregon - California | S (3.75) | NC | 5-1/2 Day ops - 5<br>8 Holidays - 12 | NC | NR - 13 ft 6 in. Height<br>NR - 70 ft Coach L | (3.75) | -0- |
| Colorado - Kansas | S (3.75)<br>F (1.25) | Add escort 2-lane (1.50) | NC | Min. capacity - 2 tons (3.25) | NR - 85 ft Comb. L<br>NR - 3 axles if coach > 60 ft 120.00 | (8.25-9.75) | 0-120.00 |
| Kansas - Colorado | S (3.75) | NC | 10 Holidays - 11 | NC | NR - 13 ft 6 in. Height<br>NR - Brakes on all axles 30.00 30.00 | (3.75) | 30.00-60.00 |

TABLE C-1 (Continued)

| Border Combination From - To | Regulations: Accessories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Costs: Absorbed ($) | Add-On ($) |
|---|---|---|---|---|---|---|---|
| Colorado - Nebraska | S (3.75)<br>F (1.25) | Add escort on Interstate (1.50) | 5-1/2 Day ops - 5 | Min. capacity - 1-1/2 tons (1.25)<br>NR - 120 in. min. WB | NR - 65 ft Coach L<br>NR - 85 ft Comb. L<br>NR - 3 axles if coach > 60 ft 120.00 | (6.25-7.75) | 0-120.00 |
| Nebraska - Colorado | S (3.75) | NC | 7 Holidays - 11 | NC | Brakes on 2 axles - brakes on all axles 30.00 | (3.75) | 0-30.00 |
| Colorado - New Mexico | F (1.25) | Add escort if comb. > 90 ft or coach > 70 ft (1.50) | 5-1/2 Day ops - 5<br>Holiday only - 1-1/2 days | Min. capacity - 1-1/2 tons (1.25) | NR - 80 ft Coach L<br>NR - 95 ft Comb. L | (2.50-4.00)) | -0- |
| New Mexico - Colorado | NC | NC | 6 Holidays - 11 | NC | NR - Brakes on all axles 30.00 | -0- | 30.00 |
| Colorado - Oklahoma | S (3.75)<br>F (1.25) | Add escort 2-lane (1.50) | Holiday only - 1-1/2 days<br>NR - R.H. curfew in cities | Min. capacity - 2 tons (3.25)<br>NR - 118 in. min. WB | NR - 3 axles if coach > 65 ft 120.00 | (8.25-9.75) | 0-120.00 |
| Oklahoma - Colorado | S (3.75) | NC | 7 Holidays - 11 | NC | NR - 13 ft 6 in. Height | (3.75) | -0- |

TABLE C-1 (Continued)

| Border Combination From - To | Regulations | | | | | Costs | |
|---|---|---|---|---|---|---|---|
| | Acces-sories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Absorbed ($) | Add-On ($) |
| Colorado - Utah | F (1.25)<br>L 15.00 | NC | 5-1/2 Day ops - 5<br>NR - R.H. curfew in cities<br>Holiday only - 1-1/2 days | Min. capacity - 1-1/2 tons (1.25) | NR - 85 ft Comb. L | (2.50) | 15.00 |
| Utah - Colorado | S (3.75) | NC | 7 Holidays - 11 | NC | NR - 13 ft 6 in. Height<br>NR - Brakes on all axles<br>30.00 | (3.75) | 30.00 |
| Colorado | F (1.25) | Add escort if comb. > 90 ft (1.50) | NC | NC | NC | (1.25-2.75) | -0- |
| Wyoming - Colorado | S (3.75) | NC | 7 Day ops - 5<br>10 Holidays - 11 | NC | NR - 13 ft 6 in. Height<br>NR - Brakes on all axles<br>30.00 | (3.75) | 30.00 |
| Connecticut - Massachusetts | F (1.25) | NC | 11 Holidays - 12 | NC | NC | (1.25) | -0- |
| Massachusetts - Connecticut | S (3.75)<br>F (1.25) | Add escort if comb. ≤ 70 ft (1.50) | 5-1/2 Day ops - 5 | NC | NR - 13 ft 6 in. Height<br>NR - 60 ft Coach L<br>NR - 75 ft Comb. L<br>NR - Brakes on all axles<br>30.00 | (5.00-6.50) | 30.00 |

TABLE C-1 (Continued)

| Border Combination From - To | Regulations: Accessories | Regulations: Escorts | Regulations: Operations | Regulations: Towing Vehicle | Regulations: Dimensions and Equipment | Costs: Absorbed ($) | Costs: Add-On ($) |
|---|---|---|---|---|---|---|---|
| Connecticut - New York | S (3.75)<br>F (1.25)<br>L 15.00 | NC | NC | NC | NC | (5.00) | 15.00 |
| New York - Connecticut | S (3.75)<br>F (1.25) | Add escort 4-lane and Interstate (1.50) | 6 Holidays - 11 | NC | NR - 60 ft Coach L<br>NR - 75 ft Comb. L<br>NR - Brakes on all axles 30.00 | (5.00-6.50) | 30.00 |
| Connecticut - Rhode Island | S (3.75) | NC | NR - R.H. curfew in cities | NC | NC | (3.75) | -0- |
| Rhode Island - Connecticut | S (3.75)<br>F (1.25) | Add escort if comb. ≤ 80 ft (1.50) | 6 Holidays - 11<br>Holiday only - 3 days | NC | NR - 60 ft Coach L<br>79 ft Comb. L - 75 ft<br>NR - Brakes on all axles 30.00 | (5.00-6.50) | 30.00 |
| Delaware - Maryland | S (3.75) | Add escort if comb. ≤ 75 ft (1.50) | 7 Holidays - 8 | NC | NR - 14 ft Height | (3.75-5.25) | -0- |
| Maryland - Delaware | F (1.25) | NC | 5-1/2 Day ops - 5<br>SR-SS - Midday on certain routes | NC | NR - Brakes on front axle | (1.25) | -0- |

TABLE C-1 (Continued)

| Border Combination From - To | Regulations: Accessories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Costs: Absorbed ($) | Add-On ($) |
|---|---|---|---|---|---|---|---|
| Delaware - New Jersey | S (3.75) | NC | NC | NR - 1-1/2 ton capacity (1.25) | NC | (5.00) | -0- |
| New Jersey - Delaware | F (1.25) | Add escort of comb. > 75 ft (1.50) | SR-SS - Midday on certain routes | NC | NR - Brakes on front axle | (1.25-2.75) | -0- |
| Delaware - Pennsylvania | S (3.75)<br>F (1.25) | NC | NR - R.H. curfew in cities<br>Holiday only - 3 days | NR - 1/1/2 ton capacity (1.25) | NR - 85 ft Comb. L<br>Min. - Brakes on all axles 30.00 | (6.25) | 30.00 |
| Pennsylvania - Delaware | F (1.25) | Add escort if comb. > 75 ft (1.50) | 6 Holidays - 7 | NC | NC | (1.25-2.75) | -0- |
| Florida - Georgia | S (3.75)<br>F (1.25) | Add escort if comb. > 75 ft (1.50) | NC | NC | 85 ft Comb. L - 83 ft | (5.00-6.50) | -0- |
| Georgia - Florida | S (3.75) | NC | 6 Day ops - 5 | NC | NR - 70 ft Coach L | (3.75) | -0- |

TABLE C-1 (Continued)

| Border Combination From - To | Regulations: Accessories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Costs: Absorbed ($) | Add-On ($) |
|---|---|---|---|---|---|---|---|
| Georgia - North Carolina | S (3.75)<br>F (1.25) | Add escort on 2-lane if comb. ≤ 75 ft (1.50) | 6 Day ops - 5<br>7 Holidays - 8 | NR - 1-1/2 Ton capacity (1.25) | 83 ft Comb. L - 80 ft<br>Spc. Pwr. 25.00 | (6.25-7.75) | 0-25.00 |
| North Carolina - Georgia | S (3.75) | Add escort if comb. > 75 ft and entering from other than 2-lane (1.50) | NC | NC | NC | (3.75-5.25) | -0- |
| Georgia - South Carolina | NC | NC | 6 Day ops - 5<br>7 Holidays - 9 | NR - 1-1/2 Ton capacity (1.25) | NR - 70 ft Coach L<br>83 ft Comb. L - 80 ft<br>Spc. Pwr. 25.00 | (1.25) | 0-25.00 |
| South Carolina - Georgia | NC | Add escort if comb. > 75 ft (1.50) | NC | NC | NR - 13 ft 6 in. Height | (0-1.50) | -0- |
| Georgia - Tennessee | F (1.25) | NC | 6 Day ops - 5<br>7 Holidays - 9 | NC | NC | (1.25) | -0- |
| Tennessee-Georgia | NC | NC | NC | NC | 13 ft 10 in. Height - 13 ft 6 in.<br>85 ft Comb. L - 83 ft | -0- | -0- |

TABLE C-1 (Continued)

| Border Combination From - To | Regulations: Acces-sories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Costs: Absorbed ($) | Add-On ($) |
|---|---|---|---|---|---|---|---|
| Idaho - Montana | S (3.75) | Add escort on Interstate (1.50) | NC | 1-1/2 Ton capacity - 2 tons (2.00) | NR - 70 ft Coach L | (5.75-7.25) | -0- |
| Montana-Idaho | S (3.75)<br>F (1.25)<br>L 15.00 | NC | NC | NC | NR - 14 ft Height<br>NR - 85 ft Comb. L | (5.00) | 15.00 |
| Idaho - Nevada | S (3.75)<br>L 15.00 | NC | 6 Holidays - 8 | NC | NC | (3.75) | 15.00 |
| Nevada - Idaho | S (3.75)<br>F (1.25)<br>L 15.00 | Add escort except Interstate (1.50) | NC | Min. capacity - 1-1/2 tons (1.25) | NR - 14 ft Height | (6.25-7.75) | 15.00 |
| Idaho - Oregon | S (3.75)<br>F (1.25) | NC | NC | NC | NR - 3 Axles if load > 60 ft 120.00<br>Min. - Brakes on 2 axles 30.00 | (5.00) | 30.00-150.00 |
| Oregon - Idaho | S (3.75)<br>F (1.25) | Add escort on 4-lane (1.50) | 5-1/2 Day ops in winter - 5 | NC | NR - 14 ft Height | (5.00-6.50) | -0- |

TABLE C-1 (Continued)

| Border Combination From - To | Regulations | | | | | Costs | |
|---|---|---|---|---|---|---|---|
| | Accessories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Absorbed ($) | Add-On ($) |
| Idaho - Utah | F (1.25)<br>L 15.00 | NC | 6 Holidays - 7<br>Holiday only - 1-1/2 days | NC | NC | (1.25) | 15.00 |
| Utah - Idaho | F (1.25)<br>L 15.00 | Add escort except Interstate (1.50) | NC | NC | NR - 14 ft Height | (1.25-2.75) | 15.00 |
| Idaho - Washington | S (3.75)<br>F (1.25)<br>L 15.00 | Add escort on 2-lane (1.50) | Daily ops - 4-3/4<br>Holiday only - 1-1/2 days | NR - 120 in. Min. WB | NR - 3 Axles if coach > 60 ft 120.00<br>Min - Brakes on 2 axles 30.00 | (5.00-6.50) | 45.00-165.00 |
| Washington - Idaho | S (3.75)<br>F (1.25)<br>L 15.00 | Add escort on 4-lane (1.50) | NC | NC | NR - 14 ft Height | (5.00-6.50) | 15.00 |
| Idaho - Wyoming | F (1.25) | NC | 6 Holidays - 10 | NC | NC | (1.25) | -0- |
| Wyoming - Idaho | S (3.75)<br>F (1.25)<br>L 15.00 | Add escort except Interstate (1.50) | 7 Day ops - 5 | NR - 1-1/2 Ton capacity (1.25) | NR - 14 ft Height<br>NR - 85 ft Comb. L | (6.25-7.75) | 15.00 |

TABLE C-1 (Continued)

| Border Combination From - To | Regulations | | | | | Costs | |
|---|---|---|---|---|---|---|---|
| | Accessories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Absorbed ($) | Add-On ($) |
| Illinois - Indiana | S (3.75)<br>F (1.25) | NC | 1-1/2 Day Holiday - 2 days | NR - 120 in. Min. WB Spc. Pwr. 25.00 | NR - 13 ft 6 in. Height | (5.00) | 0-25.00 |
| Indiana - Illinois | S (3.75)<br>F (1.25) | Add flagman (1.50) | NR - R.H. curfew in cities | NC | 80 ft Comb. L - 70 ft Spc. Pwr. 25.00<br>NR - Brakes on all axles 30.00 | (6.50) | 30.00-55.00 |
| Illinois - Iowa | F (1.25) | NC | 5-1/2 Day ops - 5<br>6 Holidays - 7<br>1-1/2 Day holiday - 3 days | Min. capacity - 1-1/2 tons (1.25)<br>NR - 120 in. Min. WB Spc. Pwr. 25.00 | NC | (2.50) | 0-25.00 |
| Iowa - Illinois | F (1.25) | Add flagman (1.50) | NR - R.H. curfew in cities | NC | 80 ft Comb. L - 70 ft Spc. Pwr. 25.00<br>NR - Brakes on all axles 30.00<br>13 ft 10 in. Height - 13 ft 6 in. | (2.75) | 30.00-55.00 |
| Illinois - Kentucky | F (1.25) | Add escort on 2-lane (1.50) | NC | Min. capacity - 1-1/2 tons (1.25)<br>NR - 99 in. Min. WB | NC | (2.50-4.00) | -0- |
| Kentucky - Illinois | S (3.75)<br>F (1.25) | Add flagman (1.50) | NR - R.H. curfew in cities | NC | 80 ft Comb. L - 70 ft Spc. Pwr. 25.00<br>NR - Brakes on all axles 30.00 | (6.50) | 30.00-55.00 |

TABLE C-1 (Continued)

| Border Combination From - To | Regulations | | | | | Costs | |
|---|---|---|---|---|---|---|---|
| | Accessories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Absorbed ($) | Add-On ($) |
| Illinois - Missouri | NC | Add escort except Interstate (1.50) | 5-1/2 Day ops - 5<br>6 Holidays - 9 | Min. capacity - 1-1/2 tons (1.25) | NR - 14 ft Height | (1.25-2.75) | -0- |
| Missouri - Illinois | F (1.25) | Add flagman (1.50) | NC | NC | 85 ft Comb. L - 70 ft<br>Spc. Pwr. 25.00<br>Min. - Brakes on all axles 30.00 | (2.75) | 30.00-55.00 |
| Illinois - Wisconsin | NC | NC | 5-1/2 Day ops - 5 | Min. capacity - 1-1/2 tons (1.25)<br>NR - Cabtop light | NR - 14 ft Height<br>NR - 3 axles if coach > 65 ft 120.00 | (1.25) | 0-120.00 |
| Wisconsin - Illinois | S (3.75)<br>F (1.25) | Add flagman (1.50) | NC | NC | 85 ft Comb. L - 70 ft<br>Spc. Pwr. 25.00<br>Brakes on 2 axles - all axles 30.00 | (6.50) | 0-55.00 |
| Indiana - Kentucky | F (1.25) | Add escort on 2-lane (1.50) | NC | NR - 1-1/2 Ton capacity (1.25) | NR - 70 ft Coach L | (2.50-4.00) | -0- |
| Kentucky - Indiana | S (3.75) | NC | 5-1/2 Day ops - 5<br>1-1/2 Day holiday - 2 days | 99 in. Min. WB - 120 in. | NR - 13 ft 6 in. Height | (3.75) | -0- |

TABLE C-1 (Continued)

| Border Combination From - To | Regulations | | | | | Costs | |
|---|---|---|---|---|---|---|---|
| | Accessories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Absorbed ($) | Add-On ($) |
| Indiana - Michigan | S (3.75)<br>F (1.25)<br>L 15.00 | NC | NC | NR - 1-1/2 Ton capacity (1.25)<br>NR - Cabtop light | NR - 70 ft Coach L | (6.25) | 15.00 |
| Michigan - Indiana | S (3.75)<br>F (1.25) | NC | NC | NR - 120 in. Min. WB | 15 ft Height - 13 ft 6 in.<br>85 ft Comb. L - 80 ft<br>Spc. Pwr. 25.00 | (5.00) | 0-25.00 |
| Indiana - Ohio | S (3.75)<br>F (1.25) | Add escort except on 2-lane (1.50) | NC | NR - 2 Ton capacity (3.25) | NR - 70 ft Coach L<br>NR - 3 Axles if load > 65 ft 120.00 | (8.25-9.75) | 0-120.00 |
| Ohio - Indiana | S (3.75)<br>F (1.25) | NC | 1-1/2 Day holiday - 2 days | NC | NR - 80 ft Comb. L<br>Spc. Pwr. 25.00 | (5.00) | 0-25.00 |
| Iowa - Minnesota | S (3.75)<br>F (1.25) | NC | NR - R.H. curfew in cities | 1-1/2 Ton capacity - 2 tons (2.00) | 13 ft 10 in. Height - 13 ft 6 in. | (7.00) | -0- |
| Minnesota - Iowa | S (3.75)<br>F (1.25) | Add escort if comb. > 70 ft (1.50) | 6 Holidays - 7<br>2 Day holiday - 3 days | 100 in. Min. WB - 120 in. | 70 ft Coach L - 68 ft<br>85 ft Comb. L - 80 ft | (5.00-6.50) | |

TABLE C-1 (Continued)

| Border Combination From - To | Regulations: Accessories | Regulations: Escorts | Regulations: Operations | Regulations: Towing Vehicle | Regulations: Dimensions and Equipment | Costs: Absorbed ($) | Costs: Add-On ($) |
|---|---|---|---|---|---|---|---|
| Iowa - Missouri | NC | Add escort except Interstate if comb. ≤ 70 ft (1.50) | 6 Holidays - 9 | NC | NC | (0-1.50) | -0- |
| Missouri - Iowa | F (1.25) | Add escort on Interstate if comb. > 70 ft (1.50) | 1-1/2 Day holiday - 3 days | NR - 120 in. min. WB | 14 ft Height - 13 ft 10 in.<br>70 ft Coach L - 68 ft<br>85 ft Comb. L - 80 ft | (1.25-2.75) | -0- |
| Iowa - Nebraska | S (3.75)<br>F (1.25) | Add escort on Interstate if comb. ≤ 70 ft (1.50) | NC | NC | 13 ft 10 in. Height - 13 ft 6 in.<br>68 ft Coach L - 65 ft<br>NR - 3 Axles if coach > 60 ft 120.00<br>NR - Brakes on 2 axles 30.00 | (5.00-6.50) | 30.00-150.00 |
| Nebraska - Iowa | S (3.75)<br>F (1.25) | Add escort except Interstate if comb. > 70 ft (1.50) | Holiday only - 3 days | NC | 85 ft Comb. L - 80 ft | (5.00-6.50) | -0- |
| Iowa - South Dakota | S (3.75)<br>F (1.25) | NC | 7 Holidays - 9 | NC | NR - Brakes on 2 axles 30.00 | (5.00) | 30.00 |
| South Dakota - Iowa | S (3.75)<br>F (1.25) | Add escort if comb. > 70 ft (1.50) | 5-1/2 Day ops - 5<br>Holiday only - 3 days | NR - 120 in. Min. WB | NR - 13 ft 10 in. Height<br>NR - 68 ft Coach L<br>NR - 80 ft Comb. L | (5.00-6.50) | -0- |

TABLE C-1 (Continued)

| Border Combination From - To | Regulations: Accessories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Costs: Absorbed ($) | Add-On ($) |
|---|---|---|---|---|---|---|---|
| Iowa - Wisconsin | F (1.25) | NC | NR - R.H. curfew in cities | NR - Cabtop light | NR - 3 Axles if load > 65 ft 120.00<br>NR - Brakes on 2 axles 30.00 | (1.25) | 30.00-150.00 |
| Wisconsin - Iowa | S (3.75)<br>F (1.25) | Add escort if comb. > 70 ft (1.50) | 6 Holidays - 7<br>1-1/2 Day holiday - 3 days | NR - 120 in. Min. WB | 14 ft Height - 13 ft 10 in.<br>70 ft Coach L - 68 ft<br>85 ft Comb. L - 80 ft | (5.00-6.50) | -0- |
| Kansas - Missouri | S (3.75) | Add escort on 4 lane (1.50) | 5-1/2 Day ops - 5<br>Holiday only - 1-1/2 days | NC | NR - 14 ft Height<br>NR - 70 ft Coach L | (3.75-5.25) | -0- |
| Missouri - Kansas | S (3.75)<br>F (1.25) | NC | 9 Holidays - 10 | 1-1/2 Ton capacity - 2 tona (2.00) | 2 Axle - 3 Axles if load > 60 ft 120.00 | (7.00) | 0-120.00 |
| Kansas - Nebraska | S (3.75) | Add escort on Interatate (1.50) | 5-1/2 Day ops - 5 | NR - 120 in. Min. WB | NR - 13 ft 6 in. Height<br>NR - 65 ft Coach L<br>NR - Brakes on 2 axles 30.00 | (3.75-5.25) | 30.00 |
| Nebraska - Kansas | S (3.75)<br>F (1.25) | Add escort on 2-lane (1.50) | 7 Holidays - 10 | 1-1/2 Ton capacity - 2 tons (2.00) | NC | (7.00-8.50) | -0- |

TABLE C-1 (Continued)

| Border Combination From - To | Regulations | | | | | Costs | |
|---|---|---|---|---|---|---|---|
| | Accessories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Absorbed ($) | Add-On ($) |
| Kansas - Oklahoma | S (3.75) | NC | Holiday only - 1-1/2 days | NR - 118 in. Min. WB | NC | (3.75) | -0- |
| Oklahoma - Kansas | S (3.75)<br>F (1.25) | NC | 7 Holidays - 10 | NC | NR - 85 ft Comb. L<br>3 Axle if coach > 65 ft<br>- 3 Axles if coach > 60 ft 120.00 | (5.00) | 0-120.00 |
| Kentucky - Missouri | S (3.75)<br>F (1.25) | Add escort on 4-lane (1.50) | 5-1/2 Day ops - 5<br>6 Holidays - 9 | NC | NR - 14 ft Height | (5.00-6.50) | -0- |
| Missouri - Kentucky | F (1.25) | NC | NC | NR - 99 in. Min. WB | NR - 80 ft Comb. L<br>Spc. Pwr. 25.00 | (1.25) | 0-25.00 |
| Kentucky - Ohio | S (3.75)<br>F (1.25) | Add escort except on 2-lane (1.50) | 5-1/2 Day ops - 5 | 1-1/2 Ton capacity - 2 Tons (2.00)<br>99 in. Min. WB - 120 in. | NR - 13 ft 6 in. Height<br>NR - 3 Axle if coach > 60 ft 120.00 | (7.00-8.50) | 0-120.00 |
| Ohio - Kentucky | F (1.25) | Add escort on 2-lane (1.50) | NC | NC | 85 ft Comb. L - 80 ft<br>Spc. Pwr. 25.00 | (1.25-2.75) | 0-25.00 |

TABLE C-1 (Continued)

| Border Combination From - To | Regulations: Accessories | Regulations: Escorts | Regulations: Operations | Regulations: Towing Vehicle | Regulations: Dimensions and Equipment | Costs: Absorbed ($) | Costs: Add-On ($) |
|---|---|---|---|---|---|---|---|
| Kentucky - Tennessee | S (3.75) | Add escort except on 2-lane if comb. > 75 ft (1.50) | 5-1/2 Day ops - 5<br>6 Holidays - 9 | NC | NR - 13 ft 10 in. Height | (3.75-5.25) | -0- |
| Tennessee - Kentucky | F (1.25) | Add escort on 2-lane if comb. ≤ 75 ft (1.50) | Holiday only - 1-1/2 days | NR - 1-1/2 Ton capacity (1.25)<br>NR - 99 in. Min. WB | NR - 70 ft Coach L<br>85 ft Comb. L - 80 ft<br>Spc. Pwr. 25.00 | (1.25-2.75) | 0-25.00 |
| Kentucky - Virginia | S (3.75)<br>F (1.25) | Add escort on 2-lane (1.50) | 5 Day ops - 4-1/2<br>6 Holidays - 7 | NC | NC | (5.00-6.50) | -0- |
| Virginia - Kentucky | F (1.25) | NC | NC | NR - 99 in. Min. WB | NC | (1.25) | -0- |
| Kentucky - West Virginia | S (3.75)<br>F (1.25) | Add escort on 4-lane (1.50) | 5-1/2 Day ops - 5<br>6 Holidays - 8 | NR - Cabtop light | NR - 12 ft 6 in. Height<br>80 ft Comb. L - 75 ft<br>Spc. Pwr. 25.00 | (5.00-6.50) | 0-25.00 |
| West Virginia - Kentucky | F (1.25) | NC | Holiday only - 1-1/2 days | Min. capacity - 1-1/2 tons (1.25)<br>90 in. Min. WB - 99 in. | NC | (2.50) | -0- |

TABLE C-1 (Continued)

| Border Combination From - To | Regulations: Acces-sories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Costs: Absorbed ($) | Add-On ($) |
|---|---|---|---|---|---|---|---|
| Louisiana - Mississippi | F (1.25) | NC | 6 Day ops - 5-1/2<br>Holiday only - 3 days | NC | 85 ft Comb. L - 80 ft<br>Spc. Pwr. 25.00 | (1.25) | 0-25.00 |
| Mississippi - Louisiana | S (3.75)<br>F (1.25) | NC | 6 Holidays - 13 | Min. capacity - 1-1/2 tons (1.25) | NR - 13 ft 6 in. Height<br>NR - Brakes on 2 axles 30.00 | (6.25) | 30.00 |
| Louisiana - Texas | NC | NC | NC | NC | NC | -0- | -0- |
| Texas - Louisiana | S (3.75)<br>F (1.25) | NC | 7 Day ops - 6<br>0 Holidays - 13 | Min. capacity - 1-1/2 tons (1.25) | NR - 13 ft 6 in. Height<br>NR - 85 ft Comb. L<br>Min. - Brakes on 2 axles 30.00 | (6.25) | 30.00 |
| Maine - New Hampshire | S (3.75) | NC | 9 Holidays - 10 | NC | NC | (3.75) | -0- |
| New Hampshire - Maine | S (3.75) | NC | NC | NC | NC | (3.75) | -0- |

TABLE C-1 (Continued)

| Border Combination From - To | Regulations: Acces-sories | Regulations: Escorts | Regulations: Operations | Regulations: Towing Vehicle | Regulations: Dimensions and Equipment | Costs: Absorbed ($) | Costs: Add-On ($) |
|---|---|---|---|---|---|---|---|
| Maryland - Pennsylvania | S (3.75)<br>F (1.25) | NC | 5-1/2 Day ops - 5<br>Holiday only - 3 days | NR - 1-1/2 ton capacity (1.25) | NR - 85 ft Comb. L<br>NR - Brakes on all axles 30.00 | (6.25) | 30.00 |
| Pennsylvania-- Maryland | S (3.75) | Add escort (1.50) | 6 Holidays - 8 | NC | NR - 14 ft Height | (5.25) | -0- |
| Maryland - Virginia | F (1.25) | Add escort on 2-lane (1.50) | 5 Day ops - 4-1/2<br>Holiday only - 1-1/2 days | NR - 1-1/2 Ton capacity (1.25) | NR - 70 ft Coach L<br>NR - 80 ft Comb. L<br>Spc. Pwr. 25.00 | (2.50-4.00) | 0-25.00 |
| Virginia - Maryland | S (3.75) | Add escort except on 2-lane (1.50) | 7 Holidays - 8 | NC | NR - 14 ft Height | (3.75-5.25) | -0- |
| Maryland - West Virginia | S (3.75)<br>F (1.25) | NC | 5-1/2 Day ops - 5 | NR - Cabtop light | 14 ft Height - 12 ft 6 in.<br>NR - 75 ft Comb. L<br>Spc. Pwr. 25.00 | (5.00) | 0.25.00 |
| West Virginia - Maryland | S (3.75) | Add escort on Inter-state (1.50) | NC | NC | NC | (3.75-5.25) | -0- |

TABLE C-1 (Continued)

| Border Combination From - To | Regulations: Accessories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Costs: Absorbed ($) | Add-On ($) |
|---|---|---|---|---|---|---|---|
| Massachusetts - New Hampshire | S (3.75)<br>F (1.25) | Add escort if comb. ≤ 70 ft (1.50) | 5-1/2 Day ops - 5 | NR - 2 Ton capacity (3.25) | NC | (8.25-9.75) | -0- |
| New Hampshire - Massachusetts | F (1.25) | NC | 10 Holidays - 12 | NC | NC | (1.25) | -0- |
| Massachusetts - New York | S (3.75)<br>L 15.00 | Add escort on 2-lane if comb. ≤ 70 ft (1.50) | 5-1/2 Day ops - 5<br>Holiday only - 3 days | NC | NR - 13 ft 6 in. Height | (3.75-5.25) | 15.00 |
| New York - Massachusetts | F (1.25) | Add escort except on 2-lane if comb. > 70 ft (1.50) | 6 Holidays - 12 | NC | NC | (1.25-2.75) | -0- |
| Massachusetts - Rhode Island | S (3.75) | NC | 5-1/2 Day ops - 5<br>NR - R.H. curfew in cities | NC | NR - 13 ft 6 in. Height<br>NR - 79 ft Comb. L<br>Spc. Pwr. 25.00 | (3.75) | 0-25.00 |
| Rhode Island - Massachusetts | F (1.25) | Add escort on 2-lane if comb. > 70 and ≤ 80 ft (1.50) | 10 Holidays - 12 | NC | NC | (1.25-2.75) | -0- |

TABLE C-1 (Continued)

| Border Combination From - To | Regulations: Acces-sories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Costs: Absorbed ($) | Add-On ($) |
|---|---|---|---|---|---|---|---|
| Massachusetts - Vermont | S (3.75)<br>F (1.25) | Add escort (1.50) | 5-1/2 Day ops - 5 and 4-1/2 day in summer | NR - 2 Ton capacity (3.25)<br>NR - Cabtop light | NC | (9.75) | -0- |
| Vermont - Massachusetts | F (1.25) | NC | 8 Holidays - 12 | NC | NC | (1.25) | -0- |
| Michigan - Ohio | NC | Add escort except on 2-lane (1.50) | NC | 1-1/2 Ton capacity - 2 tons (2.00)<br>NR - 120 in. Min. WB | 15 ft Height - 13 ft 6 in.<br>NR - 3 Axles if coach > 60 ft 120.00 | (1.50) | 0-120.00 |
| Ohio - Michigan | L 15.00 | NC | 1-1/2 Day holiday - 2 days | NR - Cabtop light | NC | -0- | 15.00 |
| Michigan - Wisconsin | NC | NC | NR - R.H. curfew in cities | NC | 15 ft Height - 14 ft<br>NR - 3 Axles if load > 65 ft 120.00<br>Min. - Brakes on 2 axles 30.00 | -0- | 30.00-150.00 |
| Wisconsin - Michigan | S (3.75)<br>F (1.25) | Add escort if comb. > 30 ft (1.50) | 1-1/2 Day Holiday - 2 days | NC | NC | (5.00-6.50) | -0- |

TABLE C-1 (Continued)

| Border Combination From - To | Regulations: Accessories | Regulations: Escorts | Regulations: Operations | Regulations: Towing Vehicle | Regulations: Dimensions and Equipment | Costs: Absorbed ($) | Costs: Add-On ($) |
|---|---|---|---|---|---|---|---|
| Minnesota - North Dakota | S (3.75)<br>F (1.25) | NC | NC | NC | NC | (5.00) | -0- |
| North Dakota - Minnesota | S (3.75)<br>F (1.25) | NC | Holiday only - 1-1/2 days<br>NR - R.H. curfew in cities | NR - 100 in. Min WB | NR - 70 ft Coach L<br>NR - 85 ft Comb. L<br>NR - 3 axles if Coach L > 65 ft 120.00 | (5.00) | 0-120.00 |
| Minnesota - South Dakota | F (1.25) | NC | 6 Holidays - 9 | NC | Min. - Brakes on 2 axles 30.00 | (1.25) | 30.00 |
| South Dakota - Minnesota | NC | NC | 5-1/2 Day ops - 5<br>Holiday only - 2 days | 1-1/2 Ton capacity - 2 tons (2.00)<br>NR - 100 in. Min. WB | NR - 13 ft 6 in. Height<br>NR - 70 ft Coach L<br>NR - 85 ft Comb. L<br>NR - 3 axles if Coach L > 65 ft 120.00 | (2.00) | 0-120.00 |
| Minnesota - Wisconsin | F (1.25) | NC | NR - R.H. curfew in cities | NR - Cabtop light | Min. - Brakes on 2 axles 30.00 | (1.25) | 30.00 |
| Wisconsin - Minnesota | S (3.75)<br>F (1.25) | NC | Holiday only - 1-1/2 days | 1-1/2 Ton capacity - 2 tons (2.00)<br>NR - 100 in. Min. WB | NR - 13 ft 6 in. Height | (7.00) | -0- |

TABLE C-1 (Continued)

| Border Combination From - To | Regulations: Accessories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Costs: Absorbed ($) | Add-On ($) |
|---|---|---|---|---|---|---|---|
| Mississippi - Tennessee | S (3.75)<br>F (1.25) | Add escort if comb. > 75 ft (1.50) | 5-1/2 Day ops - 5<br>6 Holidays - 9 | NC | NR - 13 ft 6 in. Height | (5.00-6.50) | -0- |
| Tennessee - Mississippi | NC | NC | Holiday only - 3 days | NC | 85 ft Comb. L - 80 ft<br>Spc. Pwr. 25.00 | -0- | 0-25.00 |
| Missouri - Nebraska | S (3.75)<br>F (1.25) | Add escort on Interstate (1.50) | NC | NR - 120 in. Min. WB | 14 ft Height - 13 ft 6 in<br>70 ft Coach L - 65 ft<br>2 Axles - 3 if coach > 60 ft<br>120.00 | (5.00-6.50) | 0-120.00 |
| Nebraska - Missouri | S (3.75)<br>F (1.25) | Add escort except Interstate (1.50) | 7 Holidays - 9<br>Holiday only - 1-1/2 days | NC | NC | (5.00-6.50) | -0- |
| Missouri - Oklahoma | S (3.75)<br>F (1.25) | NC | NC | 1-1/2 Ton capacity - 2 tons (2.00)<br>NR - 118 in. Min. WB | 2 Axles - 3 if load > 65 ft<br>120.00 | (7.00) | 0-120.00 |
| Oklahoma - Missouri | S (3.75)<br>F (1.25) | Add escort on 4-lane (1.50) | 5-1/2 Day ops - 5<br>7 Holidays - 9 | NC | NR - 14 ft Height<br>NR - 70 ft Coach L<br>NR - 85 ft Comb. L | (5.00-6.50) | -0- |

TABLE C-1 (Continued)

| Border Combination From - To | Regulations | | | | | Costs | |
|---|---|---|---|---|---|---|---|
| | Accessories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Absorbed ($) | Add-On ($) |
| Missouri - Tennessee | S (3.75)<br>F (1.25) | Add escort on Interstate if comb. > 75 ft (1.50) | NC | NC | 14 ft Height - 13 ft 10 in. | (5.00-6.50) | -0- |
| Tennessee - Missouri | S (3.75)<br>F (1.25) | Add escort except Interstate if comb. ≤ 75 ft (1.50) | Holiday only - 1-1/2 days | NR - 1-1/2 Ton capacity (1.25) | NR - 70 ft Coach L | (6.25-7.75) | -0- |
| Montana - North Dakota | S (3.75)<br>F (1.25) | NC | Holiday only - 1-1/2 days | NC | NR - 13 ft 6 in. Height | (5.00) | -0- |
| North Dakota - Montana | S (3.75)<br>F (1.25)<br>L 15.00 | Add escort if comb. ≤ 75 ft (1.50) | NC | NC | NR - 70 ft Coach L | (5.00-6.50) | 15.00 |
| Montana - South Dakota | F (1.25) | NC | 6 Holidays - 9 | NC | Min. - Brakes on 2 axles 30.00 | (1.25) | 30.00 |
| South Dakota - Montana | L 15.00 | Add escort (1.50) | 5-1/2 Day ops - 5 | 1-1/2 Ton capacity - 2 tons (2.00) | NR - 70 ft Coach L | (3.50) | 15.00 |

TABLE C-1 (Continued)

| Border Combination From - To | Regulations | | | | | Costs | |
|---|---|---|---|---|---|---|---|
| | Accessories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Absorbed ($) | Add-On ($) |
| Montana - Wyoming | F (1.25) | NC | 6 Holidays - 10 | NC | NC | (1.25) | -0- |
| Wyoming - Montana | S (3.75)<br>F (1.25)<br>L 15.00 | Add escort (1.50) | 7 Day ops - 5 | NR - 2 Ton capacity (3.25) | NR - 70 ft Coach L | (9.75) | 15.00 |
| Nebraska - South Dakota | S (3.75)<br>F (1.25) | NC | 7 Holidays - 9 | NC | NC | (5.00) | -0- |
| South Dakota - Nebraska | S (3.75) | Add escort on Interstate (1.50) | 5-1/2 Day ops -5 | NR - 120 in. Min. WB | NR - 13 ft 6 in. Height<br>NR - 65 ft Coach L<br>NR - 85 ft Comb. L<br>NR - 3 Axles if coach > 60 ft 120.00 | (3.75-5.25) | 0-120.00 |
| Nebraska - Wyoming | F (1.25) | NC | 7 Holidays - 10 | NC | NC | (1.25) | -0- |
| Wyoming - Nebraska | S (3.75)<br>F (1.25) | Add escort on Interstate (1.50) | 7 Day ops - 5 | NR - 1-1/2 Ton capacity (1.25)<br>NR - 120 in. Min. WB (1.25) | NR - 13 ft 6 in. Height<br>NR - 65 ft Coach L<br>NR - 85 ft Comb. L<br>NR - 3 Axles if coach > 60 ft 120.00<br>NR - Brakes on 2 axles 30.00 | (6.25-7.75) | 30.00-150.00 |

TABLE C-1 (Continued)

| Border Combination From - To | Regulations | | | | | Costs | |
|---|---|---|---|---|---|---|---|
| | Accessories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Absorbed ($) | Add-On ($) |
| Nevada - Oregon | S (3.75)<br>F (1.25)<br>L 15.00 | Add escort on 2-lane (1.50) | NC | Min. - 2 Ton capacity (3.25) | NR - 3 Axle of coach > 60 ft 120.00<br>Min. - Brakes on 2 axles 30.00 | (8.25-9.75) | 45.00-165.00 |
| Oregon - Nevada | S (3.75)<br>F (1.25)<br>L 15.00 | NC | 5-1/2 Day ops - 5<br>6 Holidays - 8 | NR - Cabtop light | NC | (5.00) | 15.00 |
| Nevada - Utah | S (3.75)<br>F (1.25) | NC | Holiday only - 1-1/2 days | Min. - 1-1/2 Ton capacity (1.25) | NC | (6.25) | -0- |
| Utah - Nevada | S (3.75)<br>F (1.25) | NC | 7 Holidays - 8 | NR - Cabtop light | NC | (5.00) | -0- |
| New Hampshire - Vermont | S (3.75) | NC | 5 Day ops - 4-1/2 days in summer | NR - Cabtop light | NC | (3.75) | -0- |
| Vermont - New Hampshire | S (3.75) | NC | 8 Holidays - 10 | NC | NC | (3.75) | -0- |

TABLE C-1 (Continued)

| Border Combination From - To | Regulations | | | | | Costs | |
|---|---|---|---|---|---|---|---|
| | Accessories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Absorbed ($) | Add-On ($) |
| New Jersey - New York | L 15.00 | Add escort on 2-lane (1.50) | Holiday only - 3 days | NC | NR - 13 ft 6 in. Height | (0-1.50) | 15.00 |
| New York - New Jersey | S (3.75)<br>F (1.25) | NC | 6 Holidays - 7 | Min. - 1-1/2 Ton capacity (1.25) | NC | (6.25) | -0- |
| New Jersey - Pennsylvania | S (3.75)<br>F (1.25) | NC | Holiday only - 3 days<br>NR - R.H. curfew in cities | NC | NR - 85 ft Comb. L | (5.00) | -0- |
| Pennsylvania - New Jersey | S (3.75)<br>F (1.25) | NC | 6 Holidays - 7 | NC | NC | (5.00) | -0- |
| New Mexico - Oklahoma | S (3.75) | Add escort on 2-lane if coach ≤ 70 ft (1.50) | 6 Holidays - 7<br>NR - R.H. curfew in cities | 1-1/2 Ton capacity - 2 tons (2.00)<br>99 in. Min. WB - 118 in. | NR - 3 Axles if coach > 65 ft 120.00 | (5.75-7.25) | 0-120.00 |
| Oklahoma - New Mexico | S (3.75)<br>F (1.25) | Add escort except on 2-lane if coach > 70 ft (1.50) | 5-1/2 Day ops - 5 | NC | NR - 13 ft 6 in. Height<br>NR - 80 ft Coach L<br>NR - 95 ft Comb. L | (5.00-6.50) | -0- |

TABLE C-1 (Continued)

| Border Combination From - To | Regulations: Accessories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Costs: Absorbed ($) | Add-On ($) |
|---|---|---|---|---|---|---|---|
| New Mexico - Texas | NC | NC | NR - R.H. curfew in cities | NC | NC | -0- | -0- |
| Texas - New Mexico | S (3.75)<br>F (1.25) | Add escort if coach > 70 ft (1.50) | 7 Day ops - 5<br>0 Holidays - 6<br>NR - 1-1/2 day Holiday | Min. - 1-1/2 Ton capacity (1.25)<br>NR - 99 in. Min. WB | NR - 13 ft 6 in. Height<br>NR - 80 ft Coach L<br>NR - 95 ft Comb. L | (6.25-7.75) | -0- |
| New York - Pennsylvania | F (1.25) | NC | NR - R.H. curfew in cities | Min. - 1-1/2 Ton capacity (1.25) | NR - 85 ft Comb. L<br>NR - Brakes on all axles 30.00 | (2.50) | 30.00 |
| Pennsylvania - New York | F (1.25)<br>L 15.00 | Add escort on 2-lane (1.50) | NC | NC | NR - 13 ft 6 in. Height | (1.25-2.75) | 15.00 |
| New York - Vermont | S (3.75)<br>F (1.25) | Add escort except on 2-lane (1.50) | 5 Day ops - 4-1/2 day in summer<br>6 Holidays - 8 | Min. - 2 Ton capacity (3.25)<br>NR - Cabtop light | NC | (8.25-9.75) | -0- |
| Vermont - New York | S (3.75)<br>F (1.25)<br>L 15.00 | NC | Holiday only - 3 days | NC | NR - 13 ft 6 in. Height | (5.00) | 15.00 |

TABLE C-1 (Continued)

| Border Combination From - To | Regulations: Accessories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Costs: Absorbed ($) | Add-On ($) |
|---|---|---|---|---|---|---|---|
| N. Carolina - S. Carolina | NC | NC | 8 Holidays - 9 | NC | NR - 70 ft Coach L | -0- | -0- |
| S. Carolina - N. Carolina | F (1.25) | Add escort on 2-lane (1.50) | NC | NC | NR - 13 ft 6 in. Height | (1.25-2.75) | -0- |
| N. Carolina - Tennessee | S (3.75)<br>F (1.25) | Add escort except on 2-lane if comb. > 75 ft (1.50) | 8 Holidays - 9 | NC | NC | (5.00-6.50) | -0- |
| Tennessee - N. Carolina | S (3.75)<br>F (1.25) | Add escort on 2-lane if comb. ≤ 75 ft (1.50) | NC | NR - 1-1/2 Ton capacity (1.25) | 85 ft Comb. L - 80 ft<br>Spc. Pwr. 25.00 | (6.25-7.75) | 0-25.00 |
| N. Carolina - Virginia | NC | Add escort on 2-lane (1.50) | 5 Day ops - 4-1/2 days<br>Holiday only - 1-1/2 days | NC | NR - 70 ft Coach L | (0-1.50) | -0- |
| Virginia - N. Carolina | S (3.75)<br>F (1.25) | NC | 5-1/2 Day ops - 5<br>7 Holidays - 8 | NC | NR - 13 ft 6 in. Height | (5.00) | -0- |

TABLE C-1 (Continued)

| Border Combination From - To | Regulations: Accessories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Costs: Absorbed ($) | Add-On ($) |
|---|---|---|---|---|---|---|---|
| North Dakota - South Dakota | S (3.75)<br>F (1.25) | NC | 6 Holidays - 9 | NC | NR - Brakes on 2 axles 30.00 | (5.00) | 30.00 |
| South Dakota - North Dakota | S (3.75)<br>F (1.25) | Add escort if comb. > 75 ft (1.50) | 5-1/2 Day ops - 5<br>Holiday only - 1-1/2 days | 1-1/2 Ton capacity - 2 tons (2.00) | NR - 13 ft 6 in. Height | (7.00-8.50) | -0- |
| Ohio - Pennsylvania | NC | NC | NR - R.H. curfew in cities<br>1-1/2 Day holiday - 3 days | NC | Min. - Brakes on all axles 30.00 30.00 | -0- | 30.00-60.00 |
| Pennsylvania - Ohio | S (3.75)<br>F (1.25) | Add escort except on 2-lane or always if comb. > 80 ft (1.50) | NR - Midday ops on Interstate | 1-1/2 Ton capacity - 2 tons (2.00)<br>NR - 120 in. Min. WB | NR - 13 ft 6 in. Height<br>NR - 70 ft Coach L<br>NR - 3 Axles if coach > 60 ft 120.00 | (7.00-8.50) | 0-120.00 |
| Ohio - West Virginia | S (3.75)<br>F (1.25) | Add escort on 2-lane (1.50) | 6 Holidays - 8 | NR - Cabtop light | 13 ft 6 in. Height - 12 ft 6 in.<br>85 ft Comb. L - 75 ft Spc. Pwr. 25.00 | (5.00-6.50) | 0-25.00 |
| West Virginia - Ohio | S (3.75)<br>F (1.25) | Add escort except on 2-lane (1.50) | NR - Midday ops on Interstate<br>Holiday only - 1-1/2 days | 1-1/2 Ton capacity - 2 tons (2.00)<br>NR - 120 in. Min. WB | NR - 3 Axles if coach > 60 ft 120.00 | (7.00-8.50) | 0-120.00 |

TABLE C-1 (Continued)

| Border Combination From - To | Regulations: Accessories | Regulations: Escorts | Regulations: Operations | Regulations: Towing Vehicle | Regulations: Dimensions and Equipment | Costs: Absorbed ($) | Costs: Add-On ($) |
|---|---|---|---|---|---|---|---|
| Oklahoma - Texas | NC | NC | NC | NC | NC | -0- | -0- |
| Texas - Oklahoma | S (3.75)<br>F (1.25) | Add escort on 2-lane (1.50) | 7 Day ops - 5-1/2<br>10 Holidays - 7<br>NR - 1-1/2 Day holiday | Min. capacity - 2 tons (3.25)<br>NR - 118 in. Min. WB | NR - 3 Axles if coach > 65 ft 120.00 | (8.25-9.75) | 0-120.00 |
| Oregon - Washington | S (3.75) | Add escort on 2-lane (1.50) | 5-1/2 Day ops - 4-3/4<br>Holiday only - 1-1/2 days | NR - 120 in. Min. WB | NC | (3.75-5.25) | -0- |
| Washington - Oregon | S (3.75) | NC | NC | NC | NC | (3.75) | -0- |
| Pennsylvania - West Virginia | F (1.25) | Add escort except on Interstate (1.50) | 6 Holidays - 8 | NR - 90 in. Min. WB<br>NR - Cab top light | NR - 12 ft 6 in. Height<br>85 ft Comb. L - 75 ft Spc. Pwr. 25.00 | (1.25-2.75) | 0-25.00 |
| West Virginia - Pennsylvania | F (1.25) | NC | NR - R.H. curfew in cities<br>Holiday only - 3 days | Min. capacity - 1-1/2 tons (1.25) | NR - Brakes on all axles 30.00 | (2.50) | 30.00 |

TABLE C-1 (Continued)

| Border Combination From - To | Regulations | | | | | Costs | |
|---|---|---|---|---|---|---|---|
| | Accessories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Absorbed ($) | Add-On ($) |
| South Dakota - Wyoming | F (1.25) | Add escort if comb. > 90 ft (1.50) | 9 Holidays - 10 | NC | NC | (1.25-2.75) | -0- |
| Wyoming - South Dakota | S (3.75)<br>F (1.25) | NC | 7 Day ops - 5-1/2 | NR - 1-1/2 Ton capacity (1.25) | NR - Brakes on 2 axles 30.00 | (6.25) | 30.00 |
| Tennessee - Virginia | F (1.25) | Add escort on 2-lane (1.50) | 5 Day ops - 4-1/2 days<br>Holiday only - 1-1/2 days | NR - 1-1/2 Ton capacity (1.25) | NR - 70 ft Coach L<br>85 ft Comb. L - 80 ft<br>Spc. Pwr. 25.00 | (2.50-4.00) | 0-25.00 |
| Virginia - Tennessee | S (3.75)<br>F (1.25) | Add escort except on 2-lane if comb. > 75 ft (1.50) | 5-1/2 Day ops - 5<br>7 Holidays - 9 | NC | NR - 13 ft 10 in. Height | (5.00-6.50) | -0- |
| Utah - Wyoming | F (1.25) | NC | 10 Holidays - 7 | NC | NC | (1.25) | -0- |
| Wyoming - Utah | S (3.75)<br>F (1.25)<br>L 15.00 | NC | 7 Day ops - 5<br>NR - R.H. curfew in cities<br>Holiday only - 1-1/2 days | NR - 1-1/2 Ton capacity (1.25) | NR - 85 ft Comb. L | (6.25) | 15.00 |

LE C-1 (Concluded)

| Border Combination From - To | Regulations | | | | | Costs | |
|---|---|---|---|---|---|---|---|
| | Accessories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Absorbed ($) | Add-On ($) |
| Virginia - West Virginia | S (3.75)<br>F (1.25) | Add escort on 4 lane (1.50) | 5-1/2 Day ops - 5<br>7 Holidays - 8 | NR - 90 in. Min. WB<br>NR - Cabtop light | NR - 12 ft 6 in. Height<br>80 ft Comb. L - 75 ft<br>Spc. Pwr. 25.00 | (5.00-6.50) | 0-25.00 |
| West Virginia - Virginia | F (1.25) | Add escort on 2-lane (1.50) | 5 Day ops - 4-1/2<br>Holiday only - 1-1/2 days | Min. Capacity - 1-1/2 Ton (1.25) | NR - 70 ft Coach L | (2.50-4.00) | -0- |

TABLE C-2

REGULATION VARIATIONS BETWEEN STATES AND ATTENDANT COSTS FOR 14 WIDES

| Border Combination From - To | Regulations | | | | | Costs | |
|---|---|---|---|---|---|---|---|
| | Acces-sories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Absorbed ($) | Add-On ($) |
| Arizona - Colorado | NC | NC | 5 Day ops - 4<br>7 Holidays - 11 | NC | NR - 13 ft 6 in. Height<br>NR - Brakes on all axles<br>30.00 | -0- | 30.00 |
| Colorado - Arizona | F (1.25) | Add escort except on 2-lane (1.50) | NR - Lowboy trl.<br>50.00 | NR - 99 in. Min. WB | NR - 65 ft Coach L | (1.25-2.75) | 50.00 |
| Arizona - Nevada | S (3.75)<br>F (1.25)<br>L 15.00 | NC | 7 Holidays - 8 | NR - Cabtop light | NR - 85 ft Comb. L<br>NR - 3 Axles min.<br>120.00 | (5.00) | 135.00 |
| Nevada - Arizona | S (3.75)<br>F (1.25) | NC | NR - Lowboy trl.<br>50.00 | NR - 99 in. Min. WB | NR - 65 ft Coach L | (5.00) | 50.00 |
| Arizona - New Mexico | F (1.25) | NC | Holiday only - 1-1/2 days | NR - Cabtop light | NR - 13 ft 6 in. Height | (1.25) | -0- |
| New Mexico - Arizona | NC | NC | 6 Holidays - 7<br>NR - Lowboy trl.<br>50.00 | 1-1/2 Ton capacity - 2 tons on Interstate (2.00) | 80 ft Coach L - 65 ft | (0-2.00) | 50.00 |

TABLE C-2 (Continued)

| Border Combination From - To | Regulations | | | | | Costs | |
|---|---|---|---|---|---|---|---|
| | Accessories | Escort | Operations | Towing Vehicle | Dimensions and Equipment | Absorbed ($) | Add-On ($) |
| Arkansas - Texas | NC | NC | NR - R.H. curfew in cities<br>NR - No Interstate travel | NC | NC | -0- | -0- |
| Texas - Arkansas | F (1.25) | Add escort on 2-lane (1.50) | 0 Holidays - 9 | NC | NC | (1.25-2.75) | -0- |
| Colorado - Kansas | S (3.75)<br>F (1.25)<br>L 15.00 | Add escort except on 2-lane (1.50) | NR - R.H. curfew in cities | NR - 99 in. Min. WB | NR - 85 ft Comb. L<br>NR - 3 Axles min.<br>120.00 | (5.00-6.50) | 135.00 |
| Kansas - Colorado | S (3.75) | NC | 5 Day ops - 4<br>10 Holidays - 11 | NC | NR - 13 ft 6 in. Height<br>Min - Brakes on all axles<br>60.00 | (3.75) | 60.00 |
| Colorado - Nebraska | S (3.75)<br>F (1.25)<br>L 15.00 | Add escort on 4-lane (1.50) | NR - No Interstate travel | NR - 120 in. Min. WB | NR - 65 ft Coach L<br>NR - 85 ft Comb. L<br>NR - 3 Axles if coach > 60 ft 120.00 | (5.00-6.50) | 0-120.00 |
| Nebraska - Colorado | S (3.75) | Add escort on 2-lane (1.50) | 5 Day ops - 4<br>7 Holidays - 11 | 1-1/2 Ton capacity - 2 tons (2.00) | Brakes on 2 axles - all axles 30.00 | (5.75-7.25) | 0-30.00 |

Table C-2 (Continued)

| Border Combination From - To | Regulations: Accessories | Regulations: Escorts | Regulations: Operations | Regulations: Towing Vehicle | Regulations: Dimensions and Equipment | Costs: Absorbed ($) | Costs: Add On ($) |
|---|---|---|---|---|---|---|---|
| Colorado - New Mexico | F (1.25) | Add escort except on 2-lane (1.50) | Holiday only - 1-1/2 days | NR - 99 in. Min. WB<br>NR - Cabtop light | NR - 80 ft Coach L<br>NR - 95 ft Comb. L | (1.25-2.75) | -0- |
| New Mexico - Colorado | NC | NC | 5 Day ops - 4<br>6 Holidays - 11 | 1-1/2 Ton capacity - 2 tons (2.00) | NR - Brakes on all axles 30.00 | (2.00) | 30.00 |
| Colorado - Oklahoma | S (3.75)<br>F (1.25) | Add escort except on 2-lane (1.50) | SR-SS - 9 a.m.-SS (0-7.50)<br>NR - R.H. curfew in cities<br>Holiday only - 1-1/2 days | NR - 118 in. Min. WB | NR - 3 Axles if coach > 65 ft 120.00 | (5.00-14.00) | 0-120.00 |
| Oklahoma - Colorado | S (3.75) | NC | 5-1/2 day ops - 4<br>7 Holidays - 11 | NC | NR - 13 ft 6 in. Height<br>NR - Brakes on all axles<br>30.00 30.00 | (3.75) | 30.00-60.00 |
| Colorado - Utah | F (1.25)<br>L 15.00 | Add escort except on 2-lane (1.50) | NR - R.H. curfew in cities<br>Holiday only - 1-1/2 days | NR - 100 in. Min. WB | NR - 85 ft Comb. L<br>NR - 3 Axles if coach > 60 ft 120.00 | (1.25-2.75) | 15.00-135.00 |
| Utah - Colorado | S (3.75) | Add escort on 2-lane (1.50) | 5 Day ops - 4<br>7 Holidays - 11 | 1-1/2 Ton capacity - 2 tons (2.00) | NR - 13 ft 6 in. Height<br>Brakes on 2 axles - All axles 30.00 | (5.75-7.25) | 0-30.00 |

TABLE C-2 (Continued)

| Border Combination From - To | Regulations: Accessories | Escort | Operations | Towing Vehicle | Dimensions and Equipment | Costs: Absorbed ($) | Add-On ($) |
|---|---|---|---|---|---|---|---|
| Arizona - Utah | L 15.00 | Add escort (1.50) | NR - R.H. curfew in cities<br>Holiday only - 1-1/2 days | 99 in. Min WB - 100 in.<br>NR - Cabtop light | NR - 85 ft Comb. L<br>NR - 3 Axles if coach > 60 ft 120.00<br>NR - Brakes on 2 axles 30.00 | (1.50) | 45.00-165.00 |
| Utah - Arizona | NC | NC | NR - Lowboy trl. 50.00 | 1-1/2 Ton capacity - 2 tons (2.00) | NR - 65 ft Coach L | (2.00) | 50.00 |
| Arkansas - Louisiana | F (1.25)<br>L or escort 15.00 | NC | 9 Holidays - 13 | Min. capacity - 1-1/2 tons (1.25) | NR - 13 ft 6 in. Height<br>NR - 85 ft Comb. L<br>Min - Brakes on 2 axles 30.00 | (2.50) | 45.00 |
| Louisiana - Arkansas | F (1.25) | Add escort on 2-lane (1.50) | NC | NC | NC | (2.75) | -0- |
| Arkansas - Oklahoma | S (3.75)<br>F (1.25) | Add escort except on 2-lane (1.50) | SR-SS - 9 a.m.-SS (0-7.50)<br>NR - R.H. curfew in cities<br>NR - No turnpike travel | Min. capacity - 2 tons (3.25)<br>NR - 118 in Min. WB | Min - 3 Axles if coach > 65 ft 120.00 | (8.25-17.25) | 0-120.00 |
| Oklahoma - Arkansas | S (3.75)<br>F (1.25) | NC | 5-1/2 Day ops - 5 | NC | NC | (5.00) | -0- |

TABLE C-2 (Continued)

| Border Combination From - To | Regulations: Accessories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Absorbed ($) | Add-On ($) |
|---|---|---|---|---|---|---|---|
| Colorado - Wyoming | F (1.25) | Add escort on 4-lane (1.50) | NC | NC | NC | (1.25-2.75) | -0- |
| Wyoming - Colorado | S (3.75) | NC | 7 Day ops - 4<br>10 Holidays - 11 | NR - 2 Ton capacity (3.25) | NR - 13 ft 6 in. Height<br>NR - Brakes on all axles 30.00 | (7.00) | 30.00 |
| Connecticut - New York | S (3.75)<br>F (1.25)<br>L 15.00 | NC | NC | NC | NC | (5.00) | 15.00 |
| New York - Connecticut | S (3.75)<br>F (1.25)<br>L 15.00 | Add escort (1.50) | 5 Day ops - 3<br>SR-SS - 9 a.m. to 4 p.m. (0-22.50)<br>6 Holidays - 11 | NC | NR - 60 ft Coach L<br>NR - 75 ft Comb. L<br>NR - Brakes on all axles 30.00 | (6.50-29.00) | 45.00 |
| Connecticut - Rhode Island | S (3.75) | NC | NC | NC | NC | (3.75) | -0- |
| Rhode Island - Connecticut | S (3.75)<br>F (1.25)<br>L 15.00 | Add escort (1.50) | 5 Day ops - 3 | NC | NR - 60 ft Coach L<br>79 ft Comb. L - 75 ft<br>NR - Brakes on all axles 30.00 | (6.50) | 45.00 |

TABLE C-2 (Continued)

| Border Combination From - To | Regulations: Accessories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Costs: Absorbed ($) | Add-On ($) |
|---|---|---|---|---|---|---|---|
| Delaware - Maryland | S (3.75) | Police escort (1.50) | 7 Holidays - 8 | NC | NR - 14 ft Height | (5.25) | -0- |
| Maryland - Delaware | F (1.25) | Change escort except on Interstate (1.50) | 5 Day ops - 4<br>9 a.m. to 3:30 p.m. - 9 a.m. to 3 p.m. (0-3.75) | NC | NR - Brakes on front axle | (1.25-6.50) | -0- |
| Idaho - Montana | S (3.75)<br>L 15.00 | NC | NC | NC | NR - 70 ft Coach L | (3.75) | 15.00 |
| Montana - Idaho | S (3.75)<br>F (1.25)<br>L 15.00 | Add escort (1.50) | NC | NR - 100 in. Min. WB | NR - 14 ft Height<br>NR - 85 ft Comb. L<br>NR - 3 Axles if coach > 60 ft 150.00<br>NR - Brakes on all axles 30.00 | (6.50) | 45.00-195.00 |
| Idaho - Nevada | S (3.75)<br>L 15.00 | Add escort on Interstate (1.50) | 6 Holidays - 8 | NR - 2 Ton capcity (3.25)<br>NR - Cabtop light | 2-3 Axles - 3 Axles 120.00 | (7.00-8.50) | 15.00-135.00 |
| Nevada - Idaho | S (3.75)<br>F (1.25)<br>L 15.00 | NC | NC | NR - 100 in. Min. WB | NR - 14 ft Height<br>NR - Brakes on all axles<br>30.00 30.00 | (5.00) | 45.00-75.00 |

TABLE C-2 (Continued)

| Border Combination From - To | Regulations: Accessories | Regulations: Escorts | Regulations: Operations | Regulations: Towing Vehicle | Regulations: Dimensions and Equipment | Costs: Absorbed ($) | Costs: Add-On ($) |
|---|---|---|---|---|---|---|---|
| Idaho - Oregon | S (3.75)<br>F (1.25) | NC | NR - R.H. curfew in cities | 100 in. WB - 120 in. | 2-3 Axles - 3 Axles 120.00 | (5.00) | 0-120.00 |
| Oregon - Idaho | S (3.75)<br>F (1.25)<br>L 15.00 | Add escort on 4-lane (1.50) | NC | NC | NR - 14 ft Height<br>Brakes on 2 axles - All axles 30.00 | (5.00-6.50) | 15.00-45.00 |
| Idaho - Utah | F (1.25)<br>L 15.00 | NC | NR - R.H. curfew in cities<br>6 Holidays - 7<br>Holiday only - 1-1/2 days | NC | NC | (1.25) | 15.00 |
| Utah - Idaho | F (1.25)<br>L 15.00 | Add escort except Interstate (1.50) | NC | 1-1/2 Ton capacity - 2 Tons (2.00) | NR - 14 ft Height<br>Brakes on 2 axles - All axles 30.00 | (3.25-4.75) | 15.00-45.00 |
| Idaho - Washington | S (3.75)<br>F (1.25)<br>L 15.00 | NC | 5 Day ops - 4-3/4<br>Holiday only - 1-1/2 days | 100 in. WB - 120 in. | NC | (5.00) | 15.00 |
| Washington - Idaho | S (3.75)<br>F (1.25)<br>L 15.00 | Add escort on 4-lane (1.50) | NC | NC | NR - 14 ft Height<br>Brakes on 2 axles - All axles 30.00 | (5.00-6.50) | 15.00-45.00 |

TABLE C-2 (Continued)

| Border Combination From - To | Regulations: Accessories | Regulations: Escorts | Regulations: Operations | Regulations: Towing Vehicle | Regulations: Dimensions and Equipment | Costs: Absorbed ($) | Costs: Add-On ($) |
|---|---|---|---|---|---|---|---|
| Idaho - Wyoming | F (1.25) | NC | 6 Holidays - 10 | NC | NC | (1.25) | -0- |
| Wyoming - Idaho | S (3.75)<br>F (1.25)<br>L 15.00 | Add escort except on 2-lane (1.50) | 7 Day ops - 5 | NR - 2 Ton capacity (3.25) | NR - 14 ft Height<br>NR - 85 ft Comb. L<br>NR - 3 Axles if coach > 60 ft 150.00<br>NR - Brakes on all axles 30.00 | (8.25-9.75) | 45.00-195.00 |
| Indiana - Kentucky | F (1.25)<br>L 15.00 | NC | 8:30 a.m. to 3:30 p.m. - 9 a.m. to 3 p.m. (0-3.75) | NC | NR - 70 ft Coach L | (1.25-5.00) | 15.00 |
| Kentucky - Indiana | S (3.75)<br>F (1.25) | Add escort except on 2-lane (1.50) | 1-1/2 Day holiday - 2 days<br>NR - No Interstate travel | NR - 120 in. Min. WB | NR - 13 ft 6 in. Height<br>NR - 3 Axles min. 120.00 | (5.00-6.50) | 120.00 |
| Indiana - Michigan | S (3.75)<br>F (1.25)<br>L 15.00 | NC | 8:30 a.m. to 3:30 p.m. - 9 a.m. to 3 p.m. (0-3.75)<br>2 Day holiday - 2-1/2 Days | NR - Cabtop light | NR - 70 ft Coach L | (5.00-8.75) | 15.00 |
| Michigan - Indiana | S (3.75)<br>F (1.25) | Add escort (1.50) | NR - No Interstate travel | 1-1/2 Ton capacity - 2 Tons (2.00)<br>NR - 120 in. Min. WB | 15 ft Height - 13 ft 6 in.<br>85 ft Comb. L - 80 ft Spc. Pwr. 25.00<br>NR - 3 Axles min. 150.00<br>Min. - Brakes on all axles 30.00 | (8.50) | 180.00-205.00 |

TABLE C-2 (Continued)

| Border Combination From - To | Regulations | | | | | Costs | |
|---|---|---|---|---|---|---|---|
| | Accessories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Absorbed ($) | Add-On ($) |
| Indiana - Ohio | S (3.75)<br>F (1.25)<br>L 15.00 | NC | 8:30 a.m. to 3:30 p.m. - 9 a.m. to 3 p.m.<br>(0-3.75) | NR - Cabtop light | NR - 70 ft Coach L<br>3 Axles - 4 Axles min.<br>120.00 | (5.00-8.25) | 135.00 |
| Ohio - Indiana | S (3.75)<br>F (1.25) | Add escort (1.50) | 1-1/2 Day holiday - 2 days<br>NR - No Interstate travel | NC | NR - 80 ft Comb. L<br>Spc. Pwr. 25.00<br>Min. - Brakes on all axles<br>90.00 | (6.50) | 90.00-115.00 |
| Iowa - Minnesota | S (3.75)<br>F (1.25)<br>L 15.00 | NC | NR - R.H. curfew in cities | 1-1/2 Ton capacity - 2 tons<br>(2.00) | 13 ft 10 in. Height - 13 ft 6 in. | (7.00) | 15.00 |
| Minnesota - Iowa | S (3.75)<br>F (1.25) | Add escort (1.50) | 6 Holidays - 7<br>2 Day holiday - 3 Days<br>NR - No Interstate travel | 100 in. WB - 120 in. | 70 ft Coach L - 68 ft<br>85 ft Comb. L - 80 ft | (6.50) | -0- |
| Iowa - Nebraska | S (3.75)<br>F (1.25)<br>L 15.00 | NC | NC | NC | 13 ft 10 in. Height - 13 ft 6 in.<br>68 ft Coach L - 65 ft<br>NR - 3 Axles if coach > 60 ft<br>120.00<br>NR - Brakes on 2 axles<br>30.00 | (5.00) | 45.00-165.00 |
| Nebraska - Iowa | S (3.75)<br>F (1.25) | NC | Holiday only - 3 Days | NC | 85 ft Comb. L - 80 ft | (5.00) | -0- |

TABLE C-2 (Continued)

| Border Combination From - To | Regulations: Accessories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Costs: Absorbed ($) | Add-On ($) |
|---|---|---|---|---|---|---|---|
| Iowa - South Dakota | S (3.75)<br>F (1.25) | NC | 7 Holidays - 9<br>Holiday only - 3 Days | 1-1/2 Ton capacity - 2 Tons (2.00)<br>NR - Cabtop light | NR - Brakes on 2 axles 30.00 | (7.00) | 30.00 |
| South Dakota - Iowa | S (3.75)<br>F (1.25) | Add escort (1.50) | 5-1/2 Day ops - 5<br>NR - No Interstate use | NR - 120 in. Min. WB | NR - 13 ft 10 in. Height<br>NR - 68 ft Coach L<br>NR - 80 ft Comb. L | (6.50) | -0- |
| Iowa - Wisconsin | F (1.25)<br>L 15.00 | NC | NR - R.H. curfew in cities | NR - Cabtop light | NR - 3 Axles min. 150.00<br>Min. - Brakes on all axles 30.00 | (1.25) | 195.00 |
| Wisconsin - Iowa | S (3.75)<br>F (1.25) | Add escort (1.50) | 6 Holidays - 7<br>1-1/2 Day holiday - 3 Days<br>NR - No Interstate use | NR - 120 in. Min. WB | 14 ft Height - 13 ft 10 in.<br>70 ft Coach L - 68 ft<br>85 ft Comb. L - 80 ft | (6.50) | -0- |
| Kansas - Nebraska | S (3.75)<br>L 15.00 | NC | NR - R.H. curfew in cities<br>7 Holidays - 10<br>NR - No Interstate use | 99 in. WB - 120 in. | NR - 13 ft 6 in. Height<br>NR - 65 ft Coach L<br>2-3 Axles - 3 Axles 120.00<br>Min. - Brakes on 2 axles 30.00 | (3.75) | 45.00-165.00 |
| Nebraska - Kansas | S (3.75)<br>F (1.25)<br>L 15.00 | Add escort (1.50) | NC | 1-1/2 Ton capacity - 2 Tons (2.00) | NC | (8.50) | 15.00 |

TABLE C-2 (Continued)

| Border Combination From - To | Regulations: Acces-sories | Regulations: Escorts | Regulations: Operations | Regulations: Towing Vehicle | Regulations: Dimensions and Equipment | Costs: Absorbed ($) | Costs: Add-On ($) |
|---|---|---|---|---|---|---|---|
| Kansas - Oklahoma | S (3.75) | NC | SR-SS - 9 a.m. - SS (0-7.50)<br>Holiday only - 1-1/2 days | 99 in. WB - 118 in. | 2-3 Axles - 3 Axles 120.00 | (3.75-11.25) | 0-120.00 |
| Oklahoma - Kansas | S (3.75)<br>F (1.25)<br>L 15.00 | Add escort on 2-lane (1.50) | 5-1/2 Day ops - 5<br>7 Holidays - 10 | NC | NR - 85 ft Comb. L | (5.00) | 15.00 |
| Kentucky - Ohio | S (3.75)<br>F (1.25) | NC | NC | NR - 120 in. Min. WB<br>NR - Cabtop light | NR - 13 ft 6 in. Height<br>NR - 4 Axles min.<br>240.00 | (5.00) | 240.00 |
| Ohio - Kentucky | F (1.25) | Add escort on 2-lane (1.50) | NC | NC | 85 ft Comb. L - 80 ft<br>Spc. Pwr. 25.00<br>Min. - Brakes on all axles<br>90.00 | (1.25-2.75) | 90.00-115.00 |
| Kentucky - West Virginia | S (3.75)<br>F (1.25) | Add escort except on 2-lane (1.50) | 6 Holidays - 8 | NR - 120 in. Min. WB<br>NR - Cabtop light | NR - 12 ft 6 in. Height<br>80 ft Comb. L - 75 ft<br>Spc. Pwr. 25.00<br>NR - 3 Axles min.<br>120.00 | (5.00-6.50) | 120.00-145.00 |
| West Virginia - Kentucky | F (1.25)<br>L 15.00 | NC | Holiday only - 1-1/2 Days | NC | Min. - Brakes on all axles<br>60.00 | (1.25) | 75.00 |

TABLE C-2 (Continued)

| Border Combination From - To | Regulations: Accessories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Costs: Absorbed ($) | Add-On ($) |
|---|---|---|---|---|---|---|---|
| Louisiana - Texas | NC | NC | NR - R.H. curfew in cities<br>NR - No Interstate use | NC | NC | -0- | -0- |
| Texas - Louisiana | S (3.75)<br>F (1.25)<br>L or<br>Escort<br>15.00 | NC | 0 Holidays - 13 | Min. capacity - 1-1/2 Tons (1.25) | NR - 13 ft 6 in. Height<br>NR - 85 ft Comb. L<br>Min. - Brakes on 2 axles<br>30.00 | (6.25) | 30.00 |
| Maine - New Hampshire | S (3.75) | NC | 9 Holidays - 10 | NC | NC | (3.75) | -0- |
| New Hampshire - Maine | S (3.75)<br>L 15.00 | NC | 9 a.m. to 3:30 p.m. -<br>9 a.m. to 3 p.m.<br>(0-3.75) | NC | NC | (3.75-7.50) | 15.00 |
| Maryland - West Virginia | S (3.75)<br>F (1.25)<br>L 15.00 | Add escort (1.50) | 9 a.m. to 3:30 p.m. -<br>9 a.m. to 3 p.m.<br>(0-3.75) | NR - 2 Ton capacity (3.25)<br>NR - 120 in. Min. WB | 14 ft Height - 12 ft 6 in.<br>NR - 75 ft Comb. L<br>Spc. Pwr. 25.00<br>NR - 3 Axles min.<br>120.00 | (9.75-13.50) | 120.00-145.00 |
| West Virginia - Maryland | S (3.75) | Police escort (1.50) | NR - Lowboy trl. 50.00 | NC | NC | (5.25) | 50.00 |

TABLE C-2 (Continued)

| Border Combination From - To | Regulations: Accessories | Regulations: Escorts | Regulations: Operations | Regulations: Towing Vehicle | Regulations: Dimensions and Equipment | Costs: Absorbed ($) | Costs: Add-On ($) |
|---|---|---|---|---|---|---|---|
| Massachusetts - New Hampshire | S (3.75)<br>F (1.25) | Add escort (1.50) | NC | NR - 2 Ton capacity (3.25) | NC | (9.75) | -0- |
| New Hampshire - Massachusetts | F (1.25) | NC | 10 Holidays - 12 | NC | NC | (1.25) | -0- |
| Massachusetts - New York | S (3.75) | NC | NC | NC | NR - 13 ft 6 in Height | (3.75) | -0- |
| New York - Massachusetts | F (1.25) | NC | 5 Day ops - 3<br>SR-SS - 9 a.m. to 3:30 p.m. (0-22.50)<br>6 Holidays - 12<br>Holiday only - 3 Days | NC | NC | (1.25-23.75) | -0- |
| Massachusetts - Rhode Island | S (3.75) | NC | NC | NC | NR - 13 ft 6 in. Height<br>NR - 79 ft Comb. L<br>Spc. Pwr. 25.00 | (3.75) | 0-25.00 |
| Rhode Island - Massachusetts | F (1.25) | NC | 5 Day ops - 3<br>SR-SS - 9 a.m. to 3:30 p.m. (0-26.25)<br>10 Holidays - 12 | NC | NC | (1.25-27.50) | -0- |

TABLE C-2 (Continued)

| Border Combination From - To | Regulations: Accessories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Costs: Absorbed ($) | Add-On ($) |
|---|---|---|---|---|---|---|---|
| Massachusetts - Vermont | S (3.75)<br>F (1.25) | Police escort (1.50) | NC | NR - 2 Ton capacity (3.25)<br>NR - Cabtop light | NC | (9.75) | -0- |
| Vermont - Massachusetts | F (1.25) | Change escort (1.50) | 8 Holidays - 12 | NC | NC | (2.75) | -0- |
| Michigan - Ohio | NC | NC | NC | 1-1/2 Ton capacity - 2 Tons (2.00)<br>NR - 120 in. WB | 15 ft Height - 13 ft 6 in.<br>NR - 4 Axles min. 240.00 | (2.00) | 240.00 |
| Ohio - Michigan | NC | NC | 1-1/2 Day holiday - 2-1/2 Days | NC | NC | -0- | -0- |
| Michigan - Wisconsin | NC | NC | NC | NC | 15 ft Height - 14 ft<br>NR - 3 Axles min. 150.00<br>Min. - Brakes on all axles 30.00 | -0- | 180.00 |
| Wisconsin - Michigan | S (3.75)<br>F (1.25) | Add escort (1.50) | SR-SS - 9 a.m. to 3 p.m. (0-30.00)<br>1-1/2 Day holiday - 2-1/2 Days | NC | NC | (6.50-36.50) | -0- |

TABLE C-2 (Continued)

| Border Combination From - To | Regulations: Accessories | Regulations: Escorts | Regulations: Operations | Regulations: Towing Vehicle | Regulations: Dimensions and Equipment | Costs: Absorbed ($) | Costs: Add-On ($) |
|---|---|---|---|---|---|---|---|
| Minnesota - North Dakota | S (3.75)<br>F (1.25) | NC | NC | NC | NC | (5.00) | -0- |
| North Dakota - Minnesota | S (3.75)<br>F (1.25)<br>L 15.00 | NC | NR - R.H. curfew in cities<br>1-1/2 Day holiday - 2 Days | NR - 100 in. Min. WB | NR - 70 ft Coach L<br>NR - 85 ft Comb. L | (5.00) | 15.00 |
| Minnesota - South Dakota | F (1.25) | NC | 6 Holidays - 9<br>Holiday only - 2 Days | NR - Cabtop light | Min. - Brakes on 2 axles 30.00 | (1.25) | 30.00 |
| South Dakota - Minnesota | NC | NC | 5-1/2 Day ops - 5<br>NR - R.H. curfew in cities | NR - 100 in. Min. WB | NR - 13 ft 6 in. Height<br>NR - 70 ft Coach L<br>NR - 85 ft Comb. L | -0- | -0- |
| Minnesota - Wisconsin | F (1.25)<br>L 15.00 | NC | NC | NR - Cabtop light | NR - 3 Axles min. 150.00<br>Min. - Brakes on all axles 30.00 | (1.25) | 195.00 |
| Wisconsin - Minnesota | S (3.75)<br>F (1.25)<br>L 15.00 | NC | 1-1/2 Day holiday - 2 Days | 1-1/2 Ton capacity - 2 Tons (2.00)<br>NR - 100 in. Min. WB | NR - 13 ft 6 in. Height | (7.00) | 15.[illegible] |

TABLE C-2 (Continued)

| Border Combination From - To | Regulations: Acces-sories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Costs: Absorbed ($) | Add-On ($) |
|---|---|---|---|---|---|---|---|
| Montana - North Dakota | S (3.75)<br>F (1.25) | NC | Holiday only - 1-1/2 Days | NC | NR - 13 ft 6 in. Height | (5.00) | -0- |
| North Dakota - Montana | S (3.75)<br>F (1.25)<br>L 15.00 | Add escort except Interstate (1.50) | NC | NC | NR - 70 ft Coach L | (5.00-6.50) | 15.00 |
| Montana - South Dakota | F (1.25) | NC | 6 Holidays - 9 | NR - Cabtop light | NR - Brakes on 2 axles 30.00 | (1.25) | 30.00 |
| South Dakota - Montana | L 15.00 | Add escort except Interstate (1.50) | 5-1/2 Day ops - 5 | NC | NR - 70 ft Coach L | (0-1.50) | 15.00 |
| Montana - Wyoming | F (1.25) | Add escort on 2-lane (1.50) | 6 Holidays - 10 | NC | NC | (1.25-2.75) | -0- |
| Wyoming - Montana | S (3.75)<br>F (1.25)<br>L 15.00 | NC | 7 Day ops - 5 | NR - 2 Ton capacity (3.25) | NR - 70 ft Coach L | (8.25) | 15.00 |

TABLE C-2 (Continued)

| Border Combination From - To | Regulations: Accessories | Regulations: Escorts | Regulations: Operations | Regulations: Towing Vehicle | Regulations: Dimensions and Equipment | Costs: Absorbed ($) | Costs: Add-On ($) |
|---|---|---|---|---|---|---|---|
| Nebraska - South Dakota | S (3.75)<br>F (1.25) | NC | NC | 1-1/2 Ton capacity - 2 Tons (2.00)<br>NR - Cabtop light | NC | (7.00) | -0- |
| South Dakota - Nebraska | S (3.75)<br>L 15.00 | Add escort except Interstate (1.50) | 5-1/2 Day ops - 5<br>7 Holidays - 9<br>NR - No Interstate travel | NR - 120 in. Min. WB | NR - 13 ft 6 in. Height<br>NR - 65 ft Coach L<br>NR - 85 ft Comb. L<br>NR - 3 Axles if coach > 60 ft 120.00 | (3.75-5.25) | 15.00-135.00 |
| Nebraska - Wyoming | F (1.25) | Add escort on 2-lane (1.50) | NC | NC | NC | (1.25-2.75) | -0- |
| Wyoming - Nebraska | S (3.75)<br>F (1.25)<br>L 15.00 | NC | 7 Day ops - 5<br>7 Holidays - 10<br>NR - No Interstate travel | NR - 1-1/2 Ton capacity (1.25)<br>NR - 120 in. Min. WB | NR - 13 ft 6 in. Height<br>NR - 65 ft Coach L<br>NR - 85 ft Comb. L<br>NR - 3 Axles if coach > 60 ft 120.00<br>NR - Brakes on 2 axles 30.00 | (6.25) | 45.00-165.00 |
| Nevada - Oregon | S (3.75)<br>F (1.25)<br>L 15.00 | NC | NR - R.H. curfew in cities | NR - 120 in. Min. WB | NR - Brakes on 2 axles 30.00 | (5.00) | 45.00 |
| Oregon - Nevada | S (3.75)<br>F (1.25)<br>L 15.00 | Add escort except on 2-lane (1.50) | 6 Holidays - 8 | NR - Cabtop light | NC | (5.00-6.50) | 15.00 |

TABLE C-2 (Continued)

| Border Combination From - To | Regulations: Acces-sories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Costs: Abaorbed ($) | Add-On ($) |
|---|---|---|---|---|---|---|---|
| Nevada - Utah | S (3.75)<br>F (1.25) | NC | NR - R.H. curfew in cities<br>Holiday only - 1-1/2 Days | NR - 100 in. Min. WB | NR - Brakes on 2 axles<br>30.00 | (5.00) | 30.00 |
| Utah - Nevada | S (3.75)<br>F (1.25) | Add escort (1.50) | 7 Holidays - 8 | 1-1/2 Ton capacity - 2 Tons<br>(2.00)<br>NR - Cabtop light | 2-3 Axle - 3 Axles min.<br>120.00 | (8.50) | 0-120.00 |
| New Hampshire - Vermont | S (3.75) | Police escort<br>(1.50) | NC | NR - Cabtop light | NC | (5.25) | -0- |
| Vermont - New Hampshire | S (3.75) | Add escort (1.50) | 8 Holidays - 10 | NC | NC | (5.25) | -0- |
| New Mexico - Oklahoma | S (3.75) | NC | NR - R.H. curfew in cities<br>SR-SS - 9 a.m.- SS<br>(0-7.50)<br>7 Holidays - 6 | 1-1/2 Ton capacity - 2 Tons<br>(2.00)<br>99 in. WB - 118 in. | NR - 3 Axles if coach<br>> 65 ft 120.00 | (5.75-13.25) | 0-120.00 |
| Oklahoma - New Mexico | S (3.75)<br>F (1.25)<br>L 15.00 | Add escort except<br>on 2-lane (1.50) | 5-1/2 Day ops - 5 | NR - Cabtop light | NR - 13 ft 6 in. Height<br>NR - 80 ft Coach L<br>NR - 95 ft Comb. L | (5.00-6.50) | 15.00 |

TABLE C-2 (Continued)

| Border Combination From - To | Regulations | | | | | Costs | |
|---|---|---|---|---|---|---|---|
| | Accessories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Absorbed ($) | Add-On ($) |
| New Mexico - Texas | F (1.25) | NC | NR - R.H. curfew in cities<br>NR - No Interstate travel | NC | NC | (1.25) | -0- |
| Texas - New Mexico | S (3.75)<br>F (1.25)<br>L 15.00 | Add escort (1.50) | 0 Holidays - 6<br>NR - 1-1/2 Day holiday | Min. capacity - 1-1/2 Tons (1.25)<br>NR - 99 in. Min. WB<br>NR - Cabtop light | NR - 13 ft 6 in. Height<br>NR - 80 ft Coach L<br>NR - 95 ft Comb. L | (7.75) | 15.00 |
| New York - Vermont | S (3.75)<br>F (1.25) | Police escort (1.50) | 5 Day ops - 3<br>SR-SS - 9 a.m. to 3:30 p.m. (0-26.25)<br>6 Holidays - 8 | Min. capacity - 2 Tons (3.25)<br>NR - Cabtop light | NC | (9.75-36.00) | -0- |
| Vermont - New York | S (3.75)<br>F (1.25)<br>L 15.00 | Change escort (1.50) | Holiday only - 3 Days | NC | NR - 13 ft 6 in. Height | (6.50) | 15.00 |
| North Dakota - South Dakota | S (3.75)<br>F (1.25) | NC | 6 Holidays - 9 | NR - Cabtop light | NR - Brakes on 2 axles 30.00 | (5.00) | 30.00 |
| South Dakota - North Dakota | S (3.75)<br>F (1.25) | NC | 5-1/2 Day ops - 5 Days<br>Holiday only - 1-1/2 Days | NC | NR - 13 ft 6 in. Height | (5.00) | -0 |

TABLE C-2 (Continued)

| Border Combination From - To | Regulations: Accessories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Costs: Absorbed ($) | Add-On ($) |
|---|---|---|---|---|---|---|---|
| Ohio - West Virginia | S (3.75)<br>F (1.25) | Add escort (1.50) | 6 Holidays - 8 | NC | 13 ft 6 in. Height - 12 ft 6 in.<br>83 ft Comb. L - 75 ft | (6.50) | -0- |
| West Virginia - Ohio | S (3.75)<br>F (1.25)<br>L 15.00 | NC | Holiday only - 1-1/2 Days | NC | 3 Axles - 4 Axles min.<br>120.00 | (5.00) | 135.00 |
| Oklahoma - Texas | NC | NC | 5-1/2 Day ops - 5<br>NR - No Interstate travel | NC | NC | -0- | -0- |
| Texas - Oklahoma | S (3.75)<br>F (1.25) | Add escort (1.50) | SR-SS - 9 a.m.-SS<br>(0-7.50)<br>0 Holidays - 7<br>NR - 1-1/2 Day holiday<br>NR - No turnpike travel | Min. capacity - 2 Tons(3.25)<br>NR - 120 in. Min. WB | NR - 3 Axles if load<br>> 65 ft 120.00 | (9.75-17.25) | 0-120.00 |
| Oregon - Washington | S (3.75)<br>L 15.00 | NC | 5 Day ops - 4-3/4<br>Holiday only - 1-1/2 Days | NC | NC | (3.75) | 15.00 |
| Washington - Oregon | S (3.75)<br>L 15.00 | NC | NR - R.H. curfew in cities | NC | 2-3 Axles - 3 Axles min.<br>120.00 | (3.75) | 15.00-135.00 |

TABLE C-2 (Concluded)

| Border Combination From - To | Regulations | | | | | Costs | |
|---|---|---|---|---|---|---|---|
| | Accessories | Escorts | Operations | Towing Vehicle | Dimensions and Equipment | Absorbed ($) | Add-On ($) |
| South Dakota - Wyoming | F (1.25) | Add escort except on Interstate (1.50) | 9 Holidays - 10 | NC | NC | (1.25-2.75) | -0- |
| Wyoming - South Dakota | S (3.75)<br>F (1.25) | NC | 7 Day ops - 5-1/2 | NR - 2 Ton capacity (3.25)<br>NR - Cabtop light | NR - Brakes on 2 axles 30.00 | (8.25) | 30.00 |
| Utah - Wyoming | F (1.25) | Add escort on 2-lane (1.50) | NC | NC | NC | (1.25-2.75) | -0- |
| Wyoming - Utah | S (3.75)<br>F (1.25)<br>L 15.00 | Add escort on Interstate (1.50) | 7 Day ops - 5<br>NR - R.H. curfew in cities<br>Holiday only - 1-1/2 Days | NR - 1-1/2 Ton capacity (1.25)<br>NR - 100 in. Min. WB | NR - 85 ft Comb. L<br>NR - 3 Axles if coach > 60 ft 120.00<br>NR - Brakes on 2 axles 30.00 | (6.25-7.75) | 45.00-165.00 |

APPENDIX D

# TRAFFIC DATA COLLECTION AND REDUCTION

Data were obtained to identify and measure the effect on other traffic of the highway shipment of 12- and 14-wide mobile homes and modular houses. Two kinds of data were gathered. In a major effort, time-lapse photographs were obtained of traffic in the vicinity of the wide loads. The photographing was alternately conducted from inside the load, from the cab of the towing tractor and from escort vehicles. The second kind of data collected was counts of traffic events over timed intervals. The data collection and reduction activities are described in this appendix.

A. Data Collection

1. Equipment: The photographs were obtained using 16 mm Bolex Model H-16 cameras (MRI equipment). The cameras as manufactured are spring motor driven with filming rate adjustable down to eight frames/sec. New motorized drives were designed, fabricated and installed on the cameras to provide accurately timed frame rates down to one frame/sec. The drive mechanism consisted of a 1,800 rpm, 1/375 hp synchronous motor, interchangeable gear heads for frame rate adjustment and a crank-connecting-rod attachment between the gear box shaft and a sliding lever shutter release on the camera. The motor was driven by a 12-V DC automotive battery through a Tripp-Lite Model PV250FC, frequency controlled power inverter.

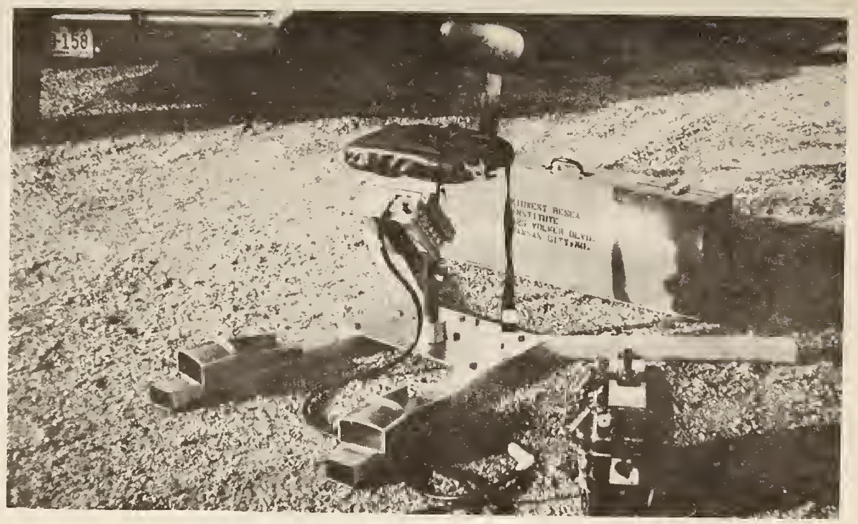
The cameras as supplied were equipped with rotating disk shutters with an exposure time of approximately 1/25 sec. Since this was too slow for our application, new shutter disks were made to obtain exposure times of approximately 1/400 sec.

A safety chair was designed for the photographer when inside the wide load (Figure D-1). It consisted of a seat and back with an adjustable height support post, equipped with a seat belt and wide-span aluminum support feet for stability. The unit was designed for rapid assembly and compact packaging when not in use. It provided stability from tilting and, with foot pads, prevented sliding.

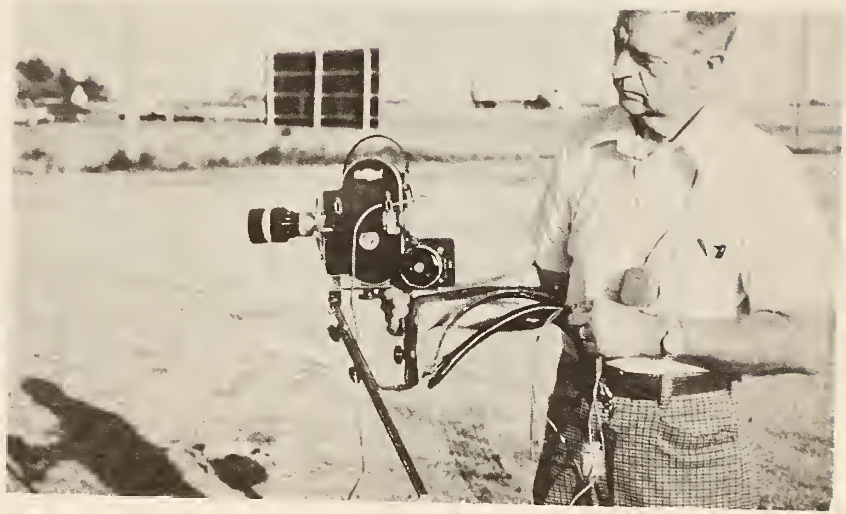
Commercially available shoulder pods were used for camera mounting.* Crash helmets were provided for additional safety when photographing from inside the wide load.

* Both shoulder pods and tripod mounts were tested. Camera vibration due to road surface irregularities and extraneous disturbances was found to be much smaller when using the shoulder pods.

Photographer in Safety Seat



Safety Seat and Electronic Equipment



Camera with Shutter Drive

Figure D-1 - Experimental Equipment

Eastman Kodak Ektachrome color film Type EF 7241 was used for all of the photographing. Several other films were tested, notably other color films and black and white films with high resolution capability. The Type EF 7241 film was selected because it demonstrates good resolution capability, is reasonably high speed, and has the advantage of color discrimination over the black and white films.

Lenses of 100 mm focal length were used in the data collection. The lens choice was based principally on the need to obtain a relatively large image of vehicles at ranges up to at least 500 ft to facilitate determination of speed prior to any effect by the wide load. Also, we wanted to track vehicles up to within about 50 ft of the camera. Other factors taken into account in the lens selection were film type and shutter speed.

A complete set of field equipment consisted of:

Camera with lens and shutter drive,
Shoulder pod,
Photographer seat,
Battery and case,
Power inverter,
Exposure meter,
Intercom set,*
Battery charger, and
Tool kit.

Two sets of equipment were required because two field teams operated simultaneously. A third camera and power inverter were obtained for emergency stand-by.

2. Methods for photographic data collection: Photographing was conducted from inside the wide load, from the tractor cab and from various escort vehicles. Photographing from inside the wide load required the most preparation. In this instance a two-man crew was employed with one man riding in the tractor cab recording wide load speed while the other photographed overtaking traffic.** Set-up activities included:

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* An intercom set was supplied so the photographer in the wide load and the observer in the tractor cab could coordinate their activities.

** Periods of counting passers and oncomers, recording the size of the trailing queue, etc., were alternated with the photographic data collection. This activity, which required increased participation by the observer in the cab is described in a later section.

Installation of intercom (requiring a 100-ft cable to be strung from the inside rear of the wide load to the tractor cab and suitably anchored).

Erection of photographer seat.

Assembly of camera and shoulder pod.

Electrical hook-up between battery and inverter.

It was essential that the intercom installation be completed before the trip started. The other activities could be completed enroute if necessary, although with some inconvenience. Fortunately, it was usually possible to obtain entry to the wide load early enough to complete all set-up prior to departure. The cooperating manufacturers and carriers were very helpful in this regard. A "Trip Data" form (Figure D-2) was filled out for each trip describing the load and route traveled. This was normally accomplished prior to departure also.

Once underway the photographing activity was fairly straightforward. The photographer watched for freely traveling vehicles in the overtaking traffic. When a candidate appeared and reached the range of interest (600-700 ft) the photographer notified the team member in the cab and then filmed the subject vehicle until it either passed the wide load, arrived in queue or exited the highway. During the filming the observer in the cab recorded speedometer readings at 15 sec intervals on the form shown in Figure D-3. The photographer recorded each photographic sequence on the "Photography Log" shown in Figure D-4. The entries on these two forms were designed to facilitate data reduction by correlating the wide load speed with the photographic sequence and by assisting in the identification of vehicles. (The photographers were encouraged to record vehicle make and model whenever possible.)

On trips where photographing of oncoming vehicles was done from the tractor cab, only one man was needed and it was not necessary to set up the intercom system or the safety seat. Use of the tractor battery as a power source was considered but not pursued. We used our own separate battery to ensure a uniform power supply voltage and to avoid extra imposition on the cooperating carrier. Photographic data were collected exclusively on these trips, i.e., there was no alternation with manually recorded observations as in the case of photographing from inside the wide load. In entering sequences on the Photography Log, the photographer recorded the speedometer reading at the beginning and end of the sequence. This furnished a good description of the wide load speed because the duration of these sequences seldom exceeded 8-10 sec. Freely traveling vehicles were awaited and filmed, similar to the method used for overtaking traffic.

# TRIP DATA

Trip. No. ________ Date ________ Observer ____________

Mobile-Single ___ Mobile-Doublewide ___ Modular ________

Manufacturer and Model ______________________________

Gross wt (include trailer if modular) __________ No. of axles ____

Width ________ Length ________ Height __________

Attachment: Tongue & Ball ____ Pintle ____ Fifth Wheel ______

Tractor Make & Model ______________________________

Horsepower (Indicate Net or Max) ________ Wheelbase __________

No. of Speeds forward __________ Tractor Weight ________

Driver approx. age _____ Years commercial driver ______

Years in home transporting ________ Licenses ___________

Safety features (Signs, flags, escorts, flashing lights, etc.)

Route (Origin, Destination, Highways)

Figure D-2 - Trip Data Form

OBSERVATIONS FROM CAB WHEN MAN IN HOUSE IS PHOTOGRAPHING

Trip No. ____ Date ________ Observer ______________ Page ___ of ____

| SEQ. No. | TIME | SPEED mph | SEQ. No. | TIME | SPEED mph | SEQ. No. | TIME | SPEED mph |
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Figure D-3 - Form for Recording Speed During Filming

## PHOTOGRAPHY LOG

Trip No. ____ Date _____ Observer __________ Film No. ____ Page __ of ___

Camera in: House __ Cab __ Front Escort __ Rear Escort __ Other ______

Frames per Second: One ____ Five _____

| Seq. No. | At End of Sequence Time | Speed* | Identification (car color, etc) | Comments** |
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*Does not apply when camera is in house.

When camera is in cab record speedometer at beginning and end of sequence

** 1. Severe braking
2. Off on shoulder
3. Aborted pass or lane change
4. Congestion caused by slow traffic
5. Fishtailing or rear end wobble
6. Wind effects

Figure D-4 - Log Sheet for Recording Filmed Sequences

When filming was done from escort vehicles both team members made the trip. The photographer concentrated on filming and the second man filled out the Photography Log and noted extraneous incidents of interest. Most of the time only photographic data were collected. On two trips made in a rear escort vehicle the photographing was alternated with passing and queuing observations, just as in the case of photographing from inside the wide load.*

Filming of oncoming traffic was done at 300 frames/min. Overtaking traffic was filmed at 50 frames/min. (We had intended to film at 60 frames/min. However, a supplier sent 50 rpm gear boxes by mistake and we kept them because of unfavorable delivery schedules.)

3. Organization of field activities: The photographic data collection was made possible through the cooperation of manufacturers and contract carriers. Data were collected over as wide a range of geographical locations as possible within the constraints of industry availability, carrier cooperation, business volume, legality of riding inside the wide load, and local regulations pertaining to highway and escort usage. Our data collection trips covered all major regions of the country except the southwest. Texas and California prohibit riding inside a trailer. We considered making some trips out of the Phoenix area near the end of the data collection activity. We did not, however, because the highway types and escort requirements were not compatible with our data collection needs.

A data collection area was established by choosing a desirable geographical region, verifying the legality of riding with the wide loads and soliciting cooperation from local manufacturers and carriers. If adequate agreements to cooperate were obtained a data collection team was dispatched to the area to set up headquarters near the center of wide load activity. In all but a few isolated cases the team had to schedule their trips on the spot by maintaining contact with the available cooperators. Local scheduling was necessary because wide load shipments are generally made with short advance notice (less than 24 hr). The field team kept advised of data priorities by telephone and the overall process worked out satisfactorily.

* The impracticality of making passing/queuing observations on all trips is clarified later when these observations are discussed.

4. Collection of data on passing and queuing: A second category of data was collected to determine the frequency of occurrence of selected maneuvers under varied conditions of load size, speed, highway type, etc. These data on event frequencies were used, together with information obtained from the photographic data, to calculate the cost to the motoring public of highway shipment of the wide loads.

The data were gathered in a straightforward manner by counting and recording the specific information described below. These data were collected alternately with the photographic data when the photographer was riding inside the wide load.* Typically, the two types of data collection were alternated at 15-min intervals.

The count of events was recorded on the data forms illustrated in Figures D-5 to D-7. The observer in the wide load used the data form in Figure D-5; the observer in the tractor cab used the form in Figure D-6 for two-lane highways and the form in Figure D-7 for multilane highways. The observations made from inside the load and from the cab were synchronized by frequent time checks via the intercom system. The information collected is described below, beginning with the data form in Figure D-5.

Each trip was identified by a trip number of the form 1-7 or 2-3. The first digit identified the camera used so that in analyzing the photographic data the unique calibration constants for that camera could be identified. The second digit was a trip sequence number. The two sample numbers cited above, for example, refer to the seventh trip with camera 1 and the third trip with camera 2.**

Observations were made for 1-min intervals. The clock time at the beginning of an interval was recorded in the column headed "Time." The vehicles in queue at the beginning of the time interval were entered in the next two columns using the vehicle codes listed at the bottom of the data form. Thus, √√TP indicates a queue of two passenger vehicles, a truck and a pickup. The spatial order in queue was not reproduced on the data form, only the number of vehicles of each class. Columns to the right of the heavy vertical line contain counts of events which occurred during the minute interval, entered by vehicle code. The first four columns refer to the wide load.

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* On two trips the data were collected when both observers were riding in a rear escort.

** Only cameras 1 and 2 are represented. No trips were made with the emergency stand-by camera (camera 3).

OBSERVATIONS FROM HOUSE ALTERNATED WITH PHOTOGRAPHING

Trip No. _____ Date _____ Observer ____________________ Page __ of.

| Time | Vehs. in Queue | | HOUSE | | | | ESCORT | | | Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| | House | Escort | Passes from Queue | Moved up in Queue | Lane Changes Behind 1→2 | 2→1 | Flying Passes | Passes from Queue | LC Behind 1→2 | |
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Vehicle Codes:
V - Passenger
T - Truck (Semis & anything commercial)
P - Pickup, camper
L - Travel Trailer

Comments:
1. Severe braking
2. Off on shoulder
3. Aborted pass or lane change
4. Congestion caused by slow traffic
5. Fishtailing or rear end wobble
6. WIND effects
Describe other

Figure D-5 - Traffic Event Data Form Used by Observer in Wide Load

TWO-WAY HIGHWAYS- OBSERVATIONS FROM CAB

Trip No. ______ Date ______ Observer ______________ Page ___ of ___

| Time | Speed | Odom. | Speed Limit | Queue behind escort | Oncomers | Passed House | Passed Escort Queue | Passed Escort Flying | Passed by house | Int & Cause 1/ | Imp & Cause 2/ | Comments 3/ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

Vehicle Codes:
V-Passenger
T-Truck (Semis & anything commercial)
P-Pickup, camper
L-Travel Trailer

1/ S-Sign
B-Bridge or railing
VS-Veh. on shoulder
O-Other

2/ V-By other Vehicle
T-By traffic control

3/ Change of route or type of roadway
Noticeable wind effects
Note on normal placement of house relative to lane line
Running on shoulder

Figure D-6 - Traffic Event Data Form Used by Observer in Tractor Cab--Two-Lane Highway

MULTILANE HIGHWAYS - OBSERVATIONS FROM CAB

Trip No. ______ Date ________ Observer ________________ Page __ of __

| Time | Speed | Odom | Lane Occep. | Speed Limit | Passes in lane on left | Other passes on left | Passes on right | Veh. Pass'd by house | Int 1/ cause | Imp 2/ cause | Comments 3/ |
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Vehicle codes:
L- Passenger
F- Truck (Semi & anything commercial)
P- Pickup, camper
L- Travel Trailer

1/ S- Sign
B- Bridge or railing
VS- Veh on shoulder
O- Other

2/ V- By other vehicle
T- By traffic control

3/ Change of route or type of roadway
Noticeable wind effects
Note on normal placement of house relative to lane line
Running on shoulder

Figure D-7 - Traffic Event Data Form Used by Observer in Tractor Cab--Multilane Highway

A passenger vehicle passing the wide load from out of queue, for example, was recorded by a checkmark in the column labeled "Passes from Queue." "Leapfrogging" in queue was noted in the next column. Lane changing (next two columns) was observed in a length of approximately 500 ft behind the wide load.* The three columns under "Escort" apply when a rear escort is present. The first column contains a count of "flying" passes, i.e., overtaking and passing with no discernible speed changes. The second column contains a count of vehicles which pass the rear escort from a queue and the next column contains a count of lane changes from lane 1 to 2 within approximately 500 ft behind the rear escort. The final column is reserved for specific incidents such as those enumerated at the bottom of the data form. The observers were encouraged to note as well any "out-of-the-ordinary" occurrences.

Turning next to the form used by the observer in the cab on two-lane highways (Figure D-6) similarities can be seen with the form just discussed. The first column contains clock time as before, the second contains the speedometer reading at the beginning of the interval, the next the odometer reading,** then the posted speed limit and a description of the queue behind the front escort (if there was an escort). Columns to the right of the heavy vertical line again contain counts of events which occurred during the interval. They include oncomers (approaching and passing from the front), vehicles passing the wide load from behind, passes of the front escort and vehicles passed by the wide load. The next column labeled "Int. and Cause" refers to wide load intrusions into the oncomer lane, an intrusion meaning that some part of the load crossed the highway centerline and temporarily blocked part of the other lane. The listed causes are self-explanatory. The column labeled "Imp. and Cause" refers to impedances to the wide load by other vehicles or by traffic control devices. The comments column serves more or less the same purpose as that in Figure D-5 with additional recommended comments on observations listed as footnote 3.

The form for multilane highways in Figure D-7 is similar to the two other forms and most of the column labels are self-explanatory. On multilane highways, the lane occupied by the wide load at the beginning of 1-min intervals is recorded, passers are subdivided into those in the lane immediately on the left, all others on the left and those on the right.

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* On multilane highways, lane one refers to the right-hand lane and lane two to the next lane over. On two-lane highways, lane one again refers to the right hand lane and lane two to the lane for opposing traffic.

** The odometer was recorded frequently but not necessarily every minute.

B. Data Reduction

1. Photographic data: The reduction of the photographic data was structured around the fact that the basic information sought from the film was the speed-distance profiles of vehicles approaching and passing the wide load from behind (overtakers) and from the front (oncomers). Distance and speed can be determined from the image size (or change in size from frame to frame) of known vehicle dimensions such as headlight spacing, tread width, etc. Data reduction therefore consisted primarily in the measurement of projected image dimensions and the recording of supplemental identifiers required for the calculation of distance and speed. Measurements were also made which enabled estimation of lane width and lateral placement of oncomers.

a. Data reduction equipment: The photographic data reduction equipment consisted of two major items, namely, a 16 mm film projector and a projection screen with attached measuring instruments.

The slide projector was a Model 16N Mark III "Selecta Frame Stop Motion Projector" marketed by Producers Service Corporation, Glendale, California. The single frame advance capability was, of course, essential for the application.

The film was back projected on a ground glass screen mounted on a framework with attached measurement instrumentation (Figure D-8). This equipment was designed and built especially for this data reduction activity. The measurement assembly consisted of two parallel, moveable arms, each carrying a fine vertical wire, and a metric scale fixed to one of the arms. An image dimension was measured in two steps. The left arm was positioned so that its vertical wire coincided with the left side of the object being measured. This arm (and the scale) was then locked in place using a quick-lock mechanism provided. Next the right arm was positioned so that its vertical wire coincided with the right extremity of the object being measured. The dimension was then read directly by means of a pointer attached to the right arm. The scale was graduated in millimeters and measurements to the nearest millimeter were routinely made.

b. Reduction method: The data reduction was conducted in three steps:

1. A film roll was reviewed to select the vehicle sequences to be measured. (The sequences were identified by first and last frame number provided by a frame counter on the projector).

Figure D-8 - Film Reading Equipment

2. After the review a film measuring team (two persons) obtained the dimensional and other necessary data from each frame of the selected sequences and recorded it on a special data form.

3. In the final step the reduced data were keypunched on cards for computer analysis.

c. Film review: The film review was conducted by persons familiar with the objectives of the study and cognizant of the data needs. When a vehicle was selected for measurement in the film frame numbers were recorded as noted earlier and the make, model and model year identified. This identification, which was necessary in order that true vehicle dimensions could be determined in the subsequent analysis, proved to be difficult and time consuming. To facilitate the process a vehicle "mug" book was obtained containing photographs of foreign and domestic automobiles and some pickup trucks. A compilation of automobile photographs was also obtained from an automotive repair reference manual. Large trucks were more of a problem. There were no available photographic files so MRI personnel visited local truck sales agencies and compiled a fairly comprehensive album. Using this stockpile of information we were able to identify all passenger vehicles of interest and most of the pickup trucks. Some large trucks had to be bypassed, however, because they could not be uniquely identified.

d. Data extraction: After the photographic sequences of interest were identified, dimensional and other data were taken from the film. Some of the data were needed to calculate speed-distance profiles of the photographed vehicles. The rest related to descriptions of the maneuver performed by the vehicle and the general character of the road (lane occupied, shoulder type, lane width, etc.).

The data needed for calculating speed-distance profiles included measurements of the (projected) image size of characteristic features of the vehicle, and an estimate of the angle between the line of sight of the camera and the center line of the vehicle.

Measurements of vehicle features were confined almost entirely to headlight spacing, windshield width (top and bottom) and tread width (center to center of front tires). At least one measurement was made in each frame.* In the first few (usually five) and the last few

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* Occasionally no measurement could be obtained because the vehicle did not appear in the frame. This happened for instance, when the wide load encountered uneven pavement and the camera temporarily went off target.

(usually three) frames in a sequence, two or three features were measured. The purpose was to provide redundant measurements which could be used to minimize the errors in computed speed and distance arising from inherent measurement errors. The angle between the line of sight of the camera and the center line of the vehicle was estimated with the help of photographs made of a conventional passenger sedan at a sequence of angles, each at ranges of 100, 200 and 500 ft.

For lane width estimation the image lane width and tread width were measured in one frame of a sequence. For oncomer lateral placement estimation the distance from the road center line to the left front tire of the oncomer and the tread width were measured in the frame of closest approach.

c. Keypunching of film data: The data taken from the film were keypunched directly from the forms on which they were recorded by the film readers. Intermediate coding of the data was not necessary. The keypunching job was fairly extensive since somewhat more than 25,000 cards were produced.

2. Data on Passing and Queuing: The manually recorded data on passing and queuing were reduced by summarizing on special forms, coding, and keypunching on cards for computer processing. This three step procedure was adopted because the data were not as voluminous as the photographic data and because they were tedious to transcribe since they had been recorded while riding in moving vehicles under sometimes adverse conditions.

The data were grouped into time periods, normally of 15 min extent, but occasionally ranging down to 5 min or up to as much as 30 min. The grouping was done on the basis of continuity of data collection, i.e., contiguous minutes of data collection were combined. The 15 min period predominated because (as noted earlier) the data collection crews normally alternated between photographing and event counting on 15 min intervals.

Summarizing of the data required a moderate amount of time because some interpreting and summing/differencing of the observed events were required. Coding and keypunching were relatively easy because the data were considerably compacted and confined to a total of about 300 cards.

3. Vehicle dimensional data: Calculation of speed-distance profiles for the filmed traffic required knowledge of vehicle dimensional data such as tread width, windshield width, etc. After viewing test films and considering various alternatives we decided to assemble a table of:

Top-of-the-windshield widths.*
Tire tread widths.
Center-to-center spacing of outer headlights.

The most obvious dimension, the overall width of the vehicle, is not suitable because it is not clearly defined on film unless the vehicle is viewed directly head on.

Our desire was to assemble as complete a table as possible for passenger vehicles (foreign and domestic), pickup trucks and truck-tractors for the model years 1962-1973.

The three major domestic automotive manufacturers and the Motor Vehicle Manufacturers Association were contacted and, although we received headlight spacing data for the last three model years from one manufacturer, more generally we learned that they could not provide us with the information requested. The reason was that the manufacturers do not have the data available in an assembled form. (Early in the project we were led to believe such data were available.)

At the suggestion of the Kansas City, Missouri, Police Department we obtained a copy of a vehicle indentification book** containing photographs which were helpful in identifying vehicles in the films and which also contained tire tread widths for most domestic passenger cars for the model years 1962 through 1973 and for 34 foreign car lines for the model years 1967-1973. This information reasonably well satisfied our need for passenger car tread widths.

Windshield and headlight dimensions for passenger cars were obtained by direct measurement. An oversize caliper was constructed (Figure D-9) and MRI personnel assembled a large quantity of dimensional data by measuring vehicles at various local automobile sales agencies.

Dimensional data, including tread width, were also obtained for pickup trucks and truck-tractors by direct measurement. Photographs were taken of the truck-tractors to assist in the identification of these vehicles.

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* This width is not always well-defined since many windshields have rounded corners. However, we retained an interest in this measure because it was quite frequently more visible in the film than other vehicle features, particularly at large distances.

** Published by The Automotive Index, Lancaster, California.


Figure D-9 - Measurement of Vehicle Dimensions

(Pictures of pickup trucks were available in the identification book obtained from The Automotive Index.* Unfortunately, tread widths for pickups were not included as they were for passenger vehicles.)

The complete assemblage of dimensional data was examined for variation between models and body styles to determine how the data could be grouped within a reasonable number of categories.** Since the dimensions involved were of the order of 50 in. (top of windshields) and larger it was decided that it would be acceptable to group measures which varied by less than ± 1 in. A total of 169 vehicle categories were determined to have distinguishable dimensional characteristics.*** Since we were interested in 12 model years and each category included three feature dimensions our vehicle dimension array totaled 169 x 12 x 3 = 6,084 elements. This was still an impressively large number and many of the elements were not determined. Usually, however, the undetermined elements represented relatively obscure vehicles not likely to appear in the films. This was verified by the fact that only a very few passenger vehicle samples available in the films could not be processed for lack of dimensional data. Comparatively more pickup truck and truck-tractor samples had to be omitted but the number of such cases was judged not large enough to warrant the additional time and expense required to more completely fill the dimension table.

In addition to the above we also needed nominal values for the "offset" distance from the headlight plane back to the center of the front wheels and to the top of the windshield.**** A set of 14 categories was selected which included full-size automobiles, compacts, intermediates, etc. Offsets were measured for several vehicles in each category and a tabulation of average values were compiled and made part of the vehicle dimensional data.

4. <u>Calculation of speed-distance profiles</u>: The calculation of speed-distance profiles made use of simple basic relationships. Special computation techniques were devised to optimize the calculations.

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* Published by The Automotive Index, Lancaster, California.

** If the data were simply categorized by make, model and body style, much unnecessary measurement and tabulation would be required and the process would be prohibitively expensive.

*** Typically a category was comprised of a make-model(s) combination.

**** These distances were required so that calculated distances to the photographed vehicles could share a common reference which we chose to be the plane containing the headlights (i.e., the "front" of the vehicle).

a. Basic relationships: The simple optical relationship illustrated in Figure D-10 was employed. For the pictured ideal case of a point lens with no optical distortion we can write

$$\frac{I}{D} = \frac{f}{R} \qquad \text{(D-1)}$$

where: D = true dimension of a vehicle feature (say the tread width)

R = range or distance from camera to vehicle

I = image size of the dimension D

f = lens focal length

Eq. (D-1) contains the camera focal length and the image size on the film. A similar expression can be written for the projected image:

$$\frac{\bar{I}}{D} = \frac{mf}{R} \qquad \text{(D-2)}$$

where: D, f and R are as previously defined

$\bar{I}$ = size of the projected image of D

m = projection magnification

It is useful to rewrite Eq. D-2 in the form:

$$R = (mf)\,\frac{D}{\bar{I}} \qquad \text{(D-3)}$$

If the condition of projection is unchanged, mf is constant and Eq. D-3 states that the distance to the photographed vehicle is equal to a constant multiplying the ratio of the true size of a vehicle feature to its projected size.

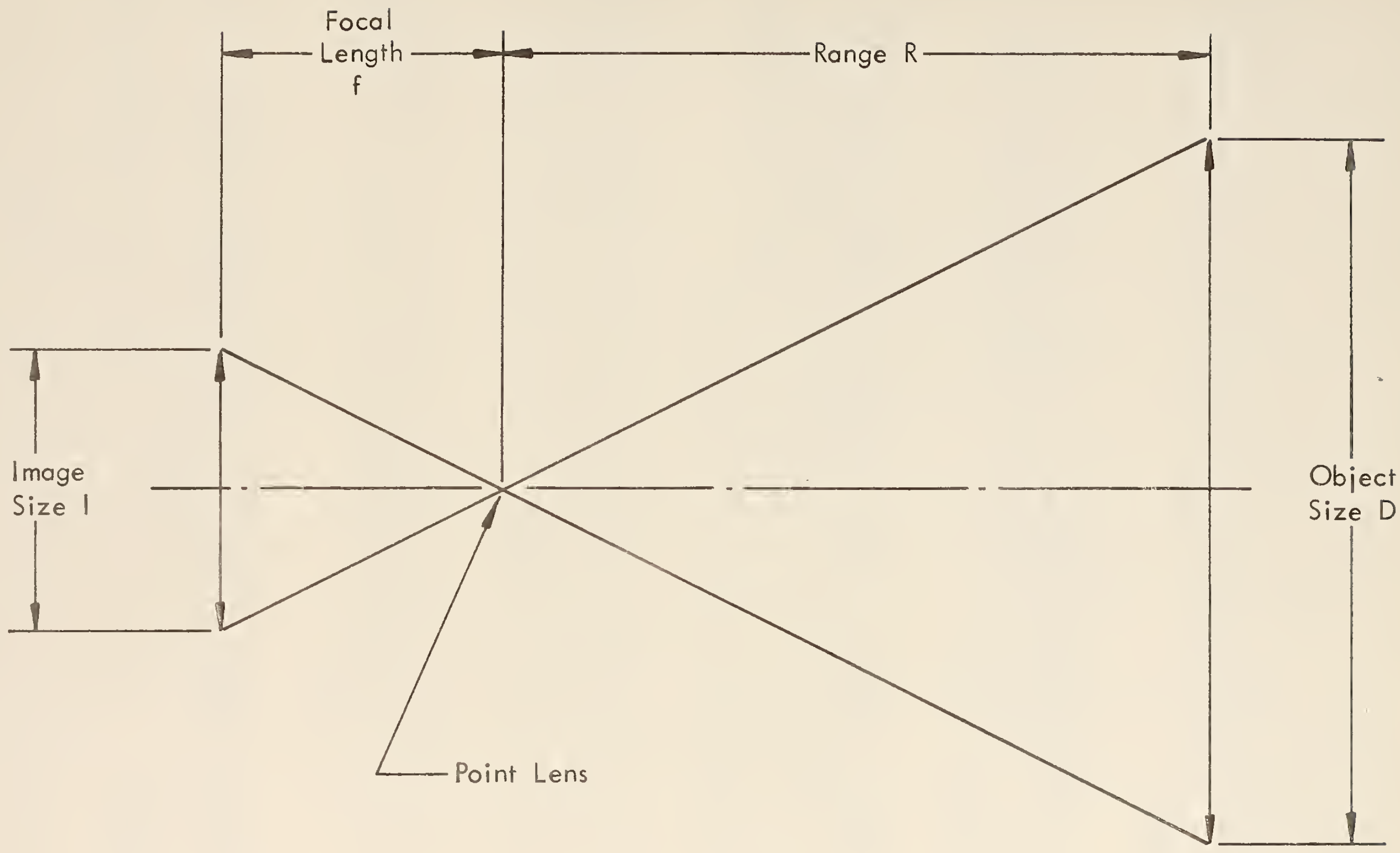


Figure D-10 - Simple Optical Relationships

The constant mf could have been evaluated by measuring the projection magnification m since the nominal focal length of the lens was known. We preferred, however, to obtain the product mf by measuring the projected image size of a 6 ft target photographed at several ranges (100-ft to 700 ft in 100 ft intervals). Account is thereby taken of any consistent deviation from the optical ideal, and variations with range will be revealed if they exist. The results obtained for the two data cameras are shown in Figure D-11. It is seen that $\overline{I}R/D$ is equal in both cases and constant (i.e., independent of range).

b. Computation technique: The speed-distance* profiles were calculated using a technique designed to minimize the effect of film reading inaccuracies. Distance and speed were calculated for each photographic frame, thereby providing a detailed profile defined at closely spaced points in time.

The initial step in the procedure used Eq. D-3 to calculate the distance to the photographed vehicle corresponding to each vehicle measurement in each photographic frame. All distances were referred to the plane containing the headlights. For example, if a distance was calculated by Eq. D-3 based on windshield width it was adjusted by subtracting the distance from the windshield plane to the headlight plane.

Next, a best estimate of distance for each frame was obtained by fitting a least squares linear regression line to the distances initially calculated for the frame and the two frames on each side of it.** To guard against spurious results it was required that there be at least three calculated distances in the sequence of frames.

The estimate was then refined by examining the deviations of the individual calculated distances from the regression line. If the worst point deviated more than a threshold amount*** it was discarded, a new line

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* In the following discussion both speed and distance are relative values, i.e., measured with respect to the vehicle carrying the camera.

** This is in essence a five-frame smoothing procedure for interior frames in the sequence. For the first and last frame three consecutive frames were used and for the next to first and next to last, four frames were used.

*** An absolute threshold was not specified. Rather, an amount was used corresponding approximately to the discrepancy in distance which would result from a film reading error of 2mm. In this way control over the use of bad points was provided which recognized both a realistic level of measurement error and the camouflaging effect of range.

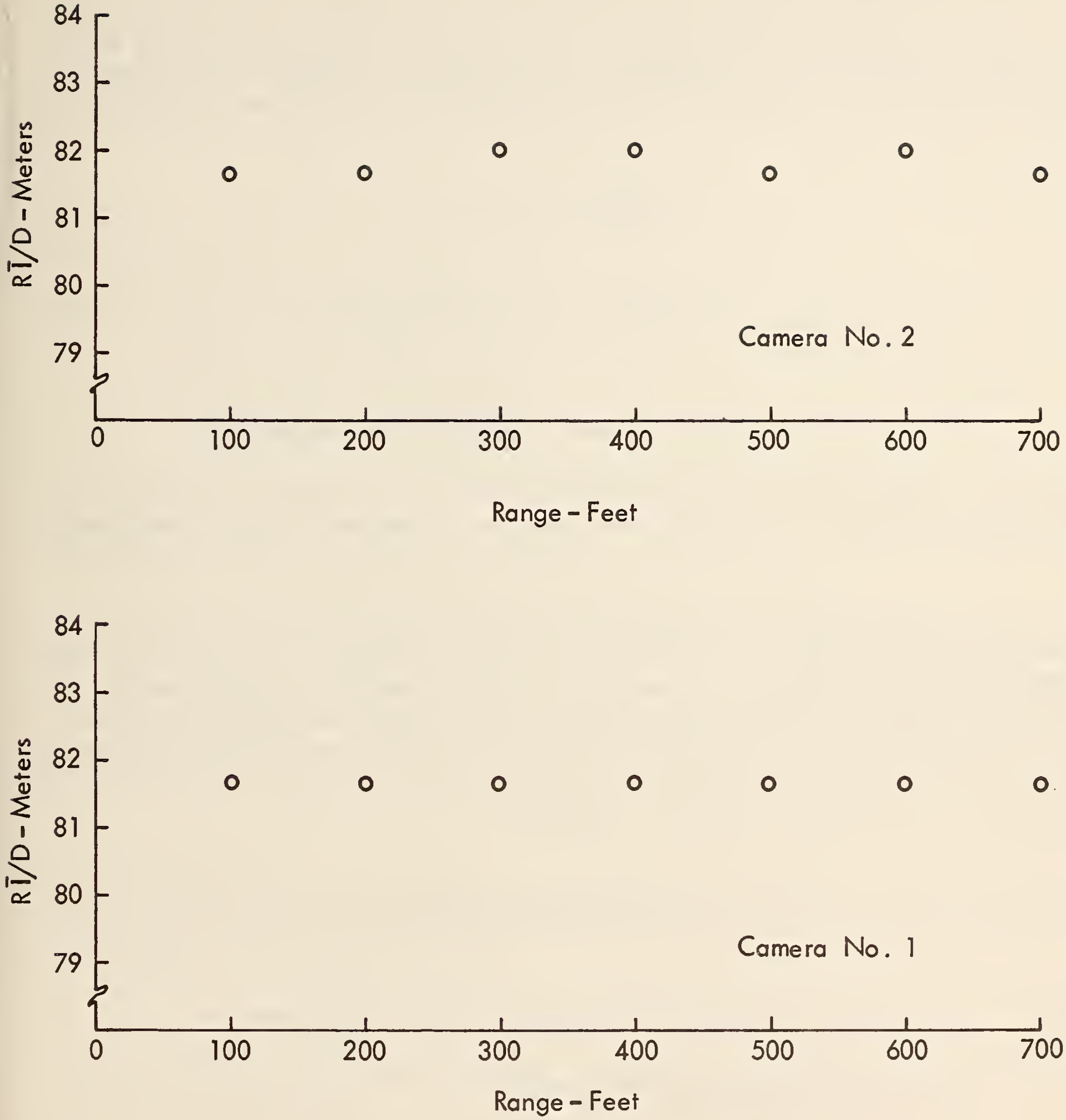


Figure D-11 - Range Calibration of Cameras was calculated and the refinement procedure repeated until the remaining points fell within the threshold of acceptance or the number of points remaining fell below three.

The regression line finally accepted represents the relationship between distance and photographic frame in the vicinity of the frame under investigation. The distance corresponding to the frame was obtained directly from the relationship. Speed was calculated from

$$\text{Speed} = \text{Slope} \times \text{Time constant} \tag{D-4}$$

where: Slope = slope of regression line (ft/frame)

$$\text{Time constant} = \text{filming rate} \left(\frac{\text{frames}}{\text{sec}}\right) \times \frac{15}{22} \quad \left(\frac{\text{mph}}{\text{ft/sec}}\right)$$

The final result was a tabulation of speed vs. distance for the photographed vehicle.

The above calculation technique was used successfully for the overtaking traffic (which was filmed at 50 frames/min). When applied to the oncoming traffic, however, it gave erratic speed results. The oncoming traffic was filmed at 300 frames/min so that the change in relative distance from frame to frame was approximately the same as for the overtaking traffic. However, the time between frames was only 1/5 sec compared to 6/5 sec for the overtakers. If relative speed is viewed as

$$\text{Relative speed} = \frac{\Delta S}{\Delta t} \tag{D-5}$$

where: $\Delta S$ = change in relative distance between frames

$\Delta t$ = time elapsed between frames

it can be seen that if inaccuracies in the determination of $\Delta S$ are the same for overtaking and oncoming traffic, the resultant inaccuracy in estimated relative speed will be larger for the oncomers. Moreover, the true speed of oncomers is further subject to error since it is but a fraction of the relative speed; overtaker true speed is the sum of the relative speed and the (large) wide load speed. This is discussed subsequently.

The calculation procedure was modified for the oncoming traffic. A distance for each frame was obtained using the regression technique described above except that nine frames were used instead of five. The distances, so obtained for each frame, were smoothed by forming running averages of five frames.* Differences of the smoothed distances were taken and also smoothed by forming five-frame running averages. Speed was then calculated from:

$$\text{Speed} = \frac{15}{22}\,\frac{\Delta S}{\Delta t} \tag{D-6}$$

where: $\Delta S$ = smoothed distance difference (ft)

$\Delta t$ = time between frames (sec)

$\frac{15}{22}$ = conversion factor, ft/sec to mph

The successive smoothing procedure was arrived at empirically. It assumes that large speed changes do not occur in the one-second intervals implicit in the five-frame smoothing technique.

We have been discussing relative distance and relative speed; now it is necessary to describe the calculation of absolute speed. Considering first the overtaking traffic it was noted earlier that the speed of the vehicle carrying the camera (the "camera speed") was recorded at 15 sec intervals while filming. These recorded speeds were included as part of the

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* Let $s_1$, $s_2$, $s_3$, $s_4$, and $s_5$ be the distances calculated (by regression) for frames one through five. The smoothed distance for an interior frame, say frame three, is:

$$s_3 \text{ (smoothed)} = \frac{1}{5}(s_1 + s_2 + s_3 + s_4 + s_5)$$

Frames near the ends of the sequence were smoothed using:

$$s_2 = \frac{1}{4}(s_1 + s_2 + s_3 + s_4)$$

$$s_1 = \frac{1}{3}(s_1 + s_2 + s_3)$$

input data, specifying the speed at the initial frame and subsequent frames corresponding to 15 sec intervals. Changes in speed were assumed to occur at a uniform rate so the speed at any frame was easily calculated. Absolute speed was obtained from:

$$\text{Absolute speed} = \text{relative speed} + \text{camera speed} \qquad \text{(D-7)}$$

In the case of oncoming traffic the camera speed was recorded at the beginning and end of a photographic sequence. The sequences were usually less than 4 sec long (20 frames) and the camera speed changes were small. Therefore, we used the average of the initial and final speed and obtained absolute speed from:

$$\text{Absolute speed} = \text{relative speed} - \text{average camera speed} \qquad \text{(D-8)}$$

# APPENDIX E

## FORMULATION OF COSTS TO OTHER TRAFFIC

The formulations used for computing costs to other traffic are presented in this appendix. The cost-incurring traffic situations are considered one at a time. Dollar costs are formulated first, followed by pollutant emission.

Traveling in queue: Vehicles traveling in queue at a speed different from their desired free speed incur costs associated with fuel consumption, tire wear and delay time. These three costs identified, respectively, as $G_Q$, $T_Q$, and $D_Q$ are formulated using Eqs. 3, 10, 14, and 15.*

$$G_Q = \sum_{i=1}^{3} \left(f_v - f_{V_i}\right) \frac{q_i}{60} \frac{vc_i}{M} \tag{E-1}$$

$$T_Q = \sum_{i=1}^{3} \left(W_v - W_{V_i}\right) \frac{q_i}{60} \frac{v}{M} \tag{E-2}$$

$$D_Q = \sum_{i=1}^{3} \left(1 - v/V_i\right) \frac{q_i}{60} \frac{H_i}{M} \tag{E-3}$$

where: $f_v$ and $f_{V_i}$ are given by Eqs. 4, 5, and 6

$W_v$ and $W_{V_i}$ are given by Figures 15, 16, and 17**

$v$ = average speed of wide load

$V_i$ = desired free speed of i'th vehicle class

$q_i$ = minutes of queuing by vehicles in i'th class during this time period

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* All referenced equations in this appendix refer to the cost analyses in Volume I, Section IV-B.

** Quadratic curve fits were computed for the curves in these figures to facilitate programming. Some of the curves were fitted in two pieces, i.e., two curve fits were computed, each covering part of the total range.

$H_i$ = cost of time for i'th vehicle class (Eq. 15)

$c_i$ = fuel cost/gallon = 40¢ for passenger and pickup class vehicles and 34¢ for trucks

M = miles traveled by wide load during this time period

i = vehicle class index

1 = passenger
2 = pickup
3 = truck

It can be seen that gasoline, tire and delay time costs are obtained by summing over the three vehicle classes distinguished in the cost analysis.

Unimpeded overtaking and passing: Vehicles performing unimpeded overtaking and passing may change speed and/or lane and thereby incur associated costs. The fuel consumption cost is formulated using Eqs. 3, 7, 8 and 9:

$$G_{FP} = \sum_{i=1}^{3} \left[ \left( f_{\bar{v}_i} - f_{V_i} \right) N_{FPi} \frac{L_{FPi}}{\bar{v}_i - v} \frac{\bar{v}_i c_i}{M} + g_i \left( V_i, \bar{v}_i \right) N_{FPi} \frac{c_i}{M} \right] \qquad \text{(E-4)}$$

where: $f_{\bar{v}_i}$ and $f_{V_i}$ are given in Eqs. 4, 5 and 6

$N_{FPi}$ = number of unimpeded passes made by i'th class vehicles during this time period

$\bar{v}_i$ = average speed traveled by i'th class vehicles while making unimpeded pass

$L_{FPi}$ = distance traveled relative to wide load at speed $\bar{v}_i$

$g_i$ = fuel consumption resulting from speed change, given by Eqs. 7, 8 and 9.

The other quantities are as previously defined. Notice that $G_{FP}$ is made up of two parts, one due to traveling at a speed different from the desired speed and the other due to the speed change cycle per se.

The tire cost resulting from unimpeded speed changing is formulated using Eq. 10:

$$T_{FP} = \sum_{i=1}^{3} \left[ \left( W_{\bar{v}_i} - W_{V_i} \right) \frac{\bar{v}}{M} N_{FPi} \frac{L_{FPi}}{\bar{v}_i - v} + W_{\Delta i} \left( \left| V_i - \bar{v}_i \right| \right) \frac{N_{FPi}}{M} + 2 \frac{F_{1i}}{M} N_{FPi} C_{LCi} \right] \quad \text{(E-5)}$$

where: $W_{\bar{v}_i}$ and $W_{V_i}$ are given by Figures 15, 16, and 17

$W_{\Delta i}\left(\left|V_i - \bar{v}_i\right|\right)$ = cost of speed change

$F_{1i}$ = fraction of unimpeded i'th vehicle class passes made out of lane 1

$C_{LCi}$ = tire wear costs due to lane changing, from Figures 18 and 19*

The cost $T_{FP}$ is made up of three parts, one due to traveling at a speed different from desired speed, one due to the speed change cycle per se and one due to lane changing.

The delay time cost of unimpeded passing is formulated from Eqs. 14 and 15:

$$D_{FP} = \sum_{i=1}^{3} \left( 1 - \bar{v}_i / V_i \right) \frac{H_i}{M} N_{FPi} \frac{L_{FPi}}{\bar{v}_i - v} \quad \text{(E-6)}$$

where all quantities are previously defined.**

* The curves of Figures 18 and 19 were curve fitted to facilitate programming.

** This time delay (or gain) and corresponding cost is very small per individual maneuver. However, the costs are additive and the maneuver occurs repeatedly during multilane trips so the term was retained in the formulation.

Passing from queue: Vehicles passing from queue incur fuel and tire costs resulting from speed changing and lane changing. The time delay costs are negligible compared to delay costs while in queue and are therefore omitted. The fuel consumption cost is formulated from Eqs. 7, 8 and 9:

$$G_{QP} = \sum_{i=1}^{3} g_i \left( V_i, v_i \right) \frac{c_i}{M} N_{QPi} \tag{E-7}$$

where: $N_{QPi}$ = number of passes made from queue by i'th class vehicles during this time period.

All other quantities are previously defined. Note that $G_{QP}$ consists of just the fuel cost of speed changing.

The time cost of passes made from queue is

$$T_{QP} = \sum_{i=1}^{3} \left[ W_{\Delta i} \left( \left| V_i - v \right| \right) \frac{N_{QPi}}{M} + \frac{2N_{QPi}}{M} C_{LCi} \right] \tag{E-8}$$

where all quantities are previously defined. $T_{QP}$ is made up of two parts, one due to speed changing and one to lane changing.

Meeting from the front (oncomers): Vehicles meeting the wide load from the front may temporarily change speed and thereby incur associated costs. The fuel cost for oncomers is formulated using Eqs. 3, 7, 8 and 9:

$$G_O = \sum_{i=1}^{3} \left[ \left( f_{v_{*i}} - f_{V_i} \right) \frac{v_{*i} c_i}{M} N_{Oi} \frac{L_{Oi}}{v_{*i}+v} + g_i \left( V_i, V_{*i} \right) \frac{c_i}{M} N_{Oi} \right] \tag{E-9}$$

where: $f_{v_{*i}}$ and $f_{V_i}$ are given by Eqs. 4, 5 and 6

$N_{Oi}$ = number of oncomers in i'th vehicle class this time period

$v_{*i}$ = average speed traveled by i'th class vehicles while meeting the wide load

$L_{Oi}$ = distance traveled relative to the wide load at speed $v_{*i}$ .

All other quantities are previously defined. The fuel cost $G_O$ is composed of two parts, one due to traveling at a speed different from desired speed and the other due to the speed changing per se.

Tire costs for oncomers are formulated using Eq. 10:

$$T_O = \sum_{i=1}^{3} \left[ \left( W_{v_{*i}} - W_{V_i} \right) \frac{v_{*i}}{M} N_{Oi} \frac{L_{Oi}}{v_{*i}+v} + W_{\Delta i} \left( \left| V_i - v_{*i} \right| \right) \frac{N_{Oi}}{M} \right] \qquad \text{(E-10)}$$

where all quantities are previously defined. The tire cost $T_O$ is composed of two parts, one due to traveling at a speed different from the desired speed and one due to the speed changing per se.

The time delay cost for oncomers is formulated from Eqs. 14 and 15:

$$D_O = \sum_{i=1}^{3} \left( 1 - v_{*i}/V_i \right) \frac{H_i}{M} N_{Oi} \frac{L_{Oi}}{v+v_{*i}} \qquad \text{(E-11)}$$

where all quantities are previously defined.

Pollutant emission: Only one formulation of pollutant emission is given; it includes the contributions of all four of the traffic situations. It was not necessary to subdivide it further because the effect of each situation can be seen in the one formulation. Use is made of Eqs. 16 and 17 and Figures 20a and 20b. (The curves in Figures 20a and 20b were curve fitted to facilitate programming.)

The carbon monoxide emission attributable to the traffic disturbances induced by the wide load is:

$$E_{co} = \sum_{i=1}^{3} \frac{F_i}{M} \left\{ \left[ e_{co}(v) - e_{co}(V_i) \right] v \frac{q_i}{60} + \left[ e_{co}(\bar{v}_i) - e_{co}(V_i) \right] \bar{v}_i N_{FPi} \frac{L_{FPi}}{\bar{v}_i - v} \right.$$

$$+ \left[ e_{co}(v_{*i}) - e_{co}(V_i) \right] v_{*i} N_{Oi} \frac{L_{Oi}}{v_{*i}+v}$$

$$+ 19.5 \times 10^{-6} \left[ \left( v + V_i \right) \left( \left| V_i - v \right| \right) N_{QPi} + \left( \bar{v}_i + V_i \right) \left( \left| V_i - \bar{v}_i \right| \right) N_{FPi} \right.$$

$$\left. \left. + \left( v_{*i} + V_i \right) \left( \left| V_i - v_{*i} \right| \right) N_{Oi} \right] \right\} \qquad \text{(E-12)}$$

where: $e_{co}$ is obtained from curve fits of Figure 20a

$F_i$ = 2.1 for i=1 and 2 (passenger and pickup)

= 1.63 for i=3 (truck)

and all other quantities are previously defined.

The hydrocarbon emission attributable to the traffic disturbances induced by the wide load is:

$$E_{HC} = \sum_{i=1}^{3} \frac{F_i}{M} \left\{ \left[ e_{HC}(v) - e_{HC}(V_i) \right] v \frac{q_i}{60} + \left[ e_{HC}(\bar{v}_i) - e_{HC}(V_i) \right] \bar{v}_i \; N_{FPi} \; \frac{L_{FPi}}{\bar{v}_i - v} \right.$$

$$+ \left[ e_{HC}(v_{*i}) - e_{HC}(V_i) \right] v_{*i} \; N_{Oi} \; \frac{L_{Oi}}{v_{*i} + v}$$

$$+ \left\{ \left[ -8 + 0.2\left(v + V_i\right) \right] \left( |V_i - v| \right) N_{QPi} + \left[ -8 + 0.2\left(\bar{v}_i + V_i\right) \right] \left( |V_i - \bar{v}_i| \right) N_{FPi} \right.$$

$$\left. \left. + \left[ -8 + 0.2 \left( v_{*i} + V_i \right) \right] \left( |V_i - v_{*i}| \right) N_{Oi} \right\} \times 10^{-6} \right\} \qquad \text{(E-13)}$$

where: $e_{HC}$ is obtained from curve fits of Figure 20b and all other quantities are previously defined.

APPENDIX F

INSTRUCTIONS TO INTERVIEWER

The motorist interview consists of two parts, A and B. Part A is a personal interview at the scene, in which you ask questions and record answers. Part B consists of supplemental questions which the respondent is asked to answer and return by mail.

The personal interview questions should be asked verbatim as worded in the attached sheet. Please memorize these questions and stick to that wording as much as possible. The answers are to be recorded on another sheet which is designed to accommodate the answers to 10 interviews plus allow space to note other kinds of information.

In introducing the interview, it is suggested you use the approximate wording on the attached sheet, "Good Morning! We are conducting a brief traffic survey for the Federal Highway Administration; could you tell me---." While saying this, you should display the "traffic survey" sign which should be taped to the bottom of your clipboard. You should then launch directly into the first question from there.

Normally, the respondent will not question you. However, if he asks for more information about who you are or why we are doing the survey, tell him who you are. Feel free to explain that you work for Midwest Research Institute, Kansas City, Missouri, which is under contract with the Federal Highway Administration to do this survey. If necessary, explain that the survey deals with traffic and traffic safety. <u>Do not, under any circumstances say that the survey has to do with wide loads or mobile homes or anything of this nature</u>. To do so would invalidate the answers to the questions.

The answers to the questions can normally be recorded as check marks on the answer form. The answers from the first respondent should be placed on line 0. (Note that line 0, as well as every other line, is repeated on the form for the second half of the questions.) The numbering starts with 0 for ease of subsequent data analysis and cross referencing.

The first questions should be self-explanatory. The second question may cause difficulties in interpretation, which you must work out as best as possible. If the respondent says "about 1 hr" encode this as 1 to 3 hr. If, as will often happen, the respondent says he has been driving since he left such and such a town, or since he got off work, or whatever, try as best you can to determine about how long ago that was. Do not, however, make a big issue out of it. Do the best you can quickly and move on to the next question.

On Question 3, answers such as "about 10,000 miles" should be encoded in the 10-20,000 mile category. In Question 4, if the respondent is uncertain and says that he drives about equal amounts for business and for nonbusiness, check both answers. Question 5 is the only question in which you tell the respondent what the possible answers are. If he says "all three" or something similar, ask him again which he drives most often. If he still is uncertain, then check all answers which apply. In Question 6, if the answer is no, simply skip directly to Question 7. If the answer is yes, then ask Question 6a and, if appropriate, 6b. Interpret the response as one of the four possible categories, but if it does not fit any of these four, write in, under other, what the response was. Use the remarks section of the recording form if more space is needed.

Questions 7 and 9 should be treated similarly to Question 6. Question 9c, which you will probably ask only occasionally, again will require interpreting the answer as one of four possibilities, if possible.

After asking Question 9, conclude the interview and ask them to complete the Part B form using wording as you feel appropriate. The attached sheet gives a suggestion.

If a motorist declines to take part in the survey after your initial remarks, then ask him once more, using different wording. For example, you might say that his answers are very important to the survey and that we would really appreciate his help. It will only take about 2 min. If he still refuses, then thank him anyway and let him go; do not argue. Throughout all of the interviews be friendly, with a smile, and be open and interested in your subject. Refrain, however, from getting into lengthy discussions, etc. While being friendly, also maintain a business-like attitude, trying to convey the impression that: (a) you would like to detain the motorist as little as possible; and (b) you have work to do.

After the interview has been concluded and the driver pulls away, then complete the section of the answer form pertaining to observations. The sex should be noted as well as the approximate age. The coding on age is by decade, that is, 3 stands for 30's, 4 for 40's, etc. The vehicle type should also be noted. Most automobiles would be checked as car. The code, VW, will include any vehicles which you believe to be underpowered and, perhaps, handicapped at accelerating to pass a wide load at a very high speed. The pick-up category includes campers and the like. Commercial vehicles should be classified as semi's or trucks. Trucks include anything bigger than a pickup or a panel but which is a single unit. Finally, indicate the time using military time at which the interview began. Try to note this to the nearest minute.

And now a word about coding. Each interview will carry a four-part code. This code consists of the month, day and page number which appear at the upper left of the Part A interview recording form, plus the line number on that form. This same four-part code should be written at the top of the Part B form which is handed to the motorist. The code should be written on Part B prior to the interview, not in the presence of the motorist. The purpose of the code is to allow subsequent cross checking of the responses. It is suggested that on each day the page numbers begin with 1 and increase consecutively. It is also suggested that, when there are two interviewers, one interviewer use even page numbers and the other use odd page numbers to prevent duplicate numbering. (In the event that two interviewing teams are in the field on the same day, we will make special arrangements to coordinate page numbering between the two teams.)

In case the motorist asks, all interviews are considered confidential and anonymous. We do not record anybody's name, drivers license or vehicle license number, or other identifying information. If the driver asks about the code number, explain that this is simply a code identifying the date and location of the interview, for our future records.

At the top of the personal interview recording form, certain other information is requested. Most of this should be self-explanatory. The category, approximate location, should be as precise as possible. For example, it might say "E. B. 1 mile E. Twin Falls." The type of roadway should be that which typifies the road that the motorists have most recently been driving upon (normally this will be the same as where you are interviewing but could differ in special circumstances). Likewise, the other information requested regarding description of the highwav should apply to that which the motorist has recently experienced. The vehicle count can be obtained by one of the flagmen. It is not necessary to count for a full hour. For example, a 15-min count could be taken which is then multiplied by four. Likewise, three or four 5-min counts could be taken and multiplied by the appropriate factor. Since traffic volumes vary from hour to hour, a separate count should be taken each hour.

The other key type of information needed during the survey is the passage of mobile and modular homes. It is extremely important that no such vehicle pass by unnoticed. It is suggested that one of the flagmen or the flagmen supervisor be asked to monitor this if possible. Otherwise, the interviewers must coordinate their interviewing so that at no time are both interviewers talking with motorists at the same time (talking with the motorist should normally require one's undivided attention).

When a wide load passes, certain information should be recorded on the wide-load log. First of all, the time to the nearest minute should be noted. (Obviously, all watches need to be synchronized.) It should also be noted whether the direction of passage is the same as that of the motorists being interviewed or in the opposite direction (the one exception is for wide loads traveling in the opposite direction on divided highways, these movements do not need to be noted on the log).

The type of wide load should be noted. Normally, these will be mobile homes. You may see a modular unit which should be recognizable because it will be mounted on a special trailer which will normally have a fifth wheel or pindle hook type hitch rather than a ball and socket hitch. You may also note other types of oversized loads such as farm equipment, etc. If it is a mobile home try to identify it as a half-house or, if a complete unit, by width. You can often determine the width by noting its size relative to the width of the lane which is normally 12 ft. If you are unsure of the width, put a check mark in the column headed by a question mark.

The presence of escorts, if any, should be noted. Also, we are very interested in noting whether any flashing lights are used in the shipment. These could be mounted on either escort vehicle, on the top of the cab of the tractor, or on the back of the house. We are not including steadily burning "running lights" in this category.

The site selection should be done mutually with the highway department involved. Sites should be on roads which carry relatively high volumes of mobile homes. Our preliminary experience indicates that you should not be interviewing traffic which is close to, or leaving a major city. The reason for this is that most of these motorists have just started their trips so have not yet had much opportunity to have passed a wide load. It would be better to get 1 or 2 hr out of town, or to interview traffic entering town. Local situations will dictate whether the mobile home traffic will be heaviest leaving town or entering town, and whether this situation changes during the course of the day. Often times mobile home traffic will be heaviest leaving town in the morning and entering town in the afternoon. This should be pursued with the cognizant state permit authorities.

The techniques of traffic control should be left up to the state highway people. Normally, we will try to have them provide signing, cones, flagmen or whatever else is their normal practice. Likewise, it would be well to determine if the state highway patrol should be alerted and how that should be done.

The interviewing should probably be carried out for 5 or 6 hr during the day. For example, you might wish to work from 9:00 until 4:00 with an hour out for break. Again, talk to the state highway people about this.

It is suggested that the two interviewers alternate cars. You will find that it will take approximately 2 min, on the average, to interview the motorist; then you will need a little additional time to complete writing up your notes and to get yourself organized for the next motorist. Therefore, you should work out some sort of signal arrangement to be used with the flagmen so that they will know when to stop another motorist for interviewing.

Finally, a word about safety. You must, at all times, keep in mind that motorists can do crazy things. The people you are interviewing have probably been driving at 70 mph and may, for example, underestimate stopping distance and the like. Therefore, be on your toes and keep out of the way of traffic.

# APPENDIX G

## MOTORIST OPINION AND ATTITUDE DATA AND ANALYSES

1. Data: The responses from the motorists are tabulated in Tables G-1 and G-2. The first table contains the responses from the 1,097 motorists interviewed on divided highways and the second from the 1,855 two-lane highway drivers.

2. Method of analysis: Chi-square analyses were used to test a large number of relationships for statistical significance. Where necessary, grouping of close levels of responses was performed to assure large enough sample sizes, (e.g., "young" drivers might correspond to the group whose ages were in their teens or in their twenties.)

In the discussions in the rest of this appendix, the nature of the comparisons being made must be clearly understood. One group of drivers is always being compared with another group--comparisons are not between responses of the same group. Thus, a hypothetical statement such as "middle aged drivers were more likely to be driving trucks" must be interpreted as "middle aged drivers were more likely to be driving trucks than were young or elderly drivers," not "middle aged drivers were more likely to be driving trucks than cars, motorcycles, campers, etc."

3. Divided vs two-lane highway drivers: Chi-square tests were performed to determine if the responses of drivers stopped on two-lane highways were different from those of drivers stopped on divided highways. As shown in Table G-3, there were many differences in the drivers and in their opinions.

The two-lane drivers were more likely to be driving for business purposes, to drive more miles per year, and to do more of their driving on two-lane highways, than were divided highway drivers. They were less likely to recollect a delay during their trip than divided highway drivers, a surprising result. It may be, however, that as a group, they are more tolerant of delays than the group of divided highway drivers, so were less likely to have been concerned over any particular situation. Of the two-lane drivers who did recollect a delay, however, it often tended to be caused by a slow vehicle, whereas delay causes mentioned by divided highway drivers had a greater tendency to be accidents or construction.

There were also differences in the drivers' selections of problem vehicle types. Two-lane drivers were more likely to mention mobile homes and farm equipment whereas divided highway drivers tended to mention trucks, cars, and campers more frequently. Two-lane drivers were less likely to have recalled passing a mobile home because, in fact, they were less likely to have passed a mobile home; but of those who gave an affirmative response, the two-lane drivers were more likely to state that it caused problems.

TABLE G-1

RESPONSES BY DIVIDED HIGHWAY DRIVERS

| Category | Number | Percent |
|---|---|---|
| Wide Load Interview | | |
| First Summary | 1097 | |
| State | 1097 | |
| Oregon | 209 | 19.05 |
| Idaho | 210 | 19.14 |
| Nebraska | 0 | 0.00 |
| Indiana | 150 | 13.67 |
| New Hampshire | 180 | 16.41 |
| Florida | 348 | 31.72 |
| Road Type | 1097 | |
| Two Lane | 0 | 0.00 |
| Divided Not Interstate | 80 | 7.29 |
| Interstate | 1017 | 92.71 |
| Lane Width | 1097 | |
| Under 10 ft | 0 | 0.00 |
| 10 ft | 0 | 0.00 |
| 11 ft | 0 | 0.00 |
| 12 ft | 887 | 80.86 |
| Over 12 ft | 210 | 19.14 |
| Shoulders | 1097 | |
| Paved | 1017 | 92.71 |
| Unpaved | 80 | 7.29 |
| None | 0 | 0.00 |
| Speed Limit | 1097 | |
| 70 or Over | 1097 | 100.00 |
| 65 | 0 | 0.00 |
| 60 | 0 | 0.00 |
| 55 | 0 | 0.00 |
| 50 | 0 | 0.00 |
| 45 | 0 | 0.00 |
| 40 or Under | 0 | 0.00 |

TABLE G-1 (Continued)

| Category | Number | Percent |
|---|---|---|
| Vehicles/Hour | 1097 | |
| 2000 and Over | 0 | 0.00 |
| 1500-1999 | 0 | 0.00 |
| 1000-1499 | 0 | 0.00 |
| 800-999 | 0 | 0.00 |
| 600-799 | 120 | 10.94 |
| 400-599 | 220 | 20.05 |
| 200-399 | 717 | 65.36 |
| 100-199 | 40 | 3.65 |
| Under 100 | 0 | 0.00 |
| Trip Purpose | 1094 | |
| Business | 355 | 32.45 |
| Nonbusiness | 716 | 65.45 |
| Both | 23 | 2.10 |
| Miles Per Year | 1086 | |
| Under 1,000 | 12 | 1.10 |
| 1,000 to 3,000 | 34 | 3.13 |
| 3,000 to 10,000 | 209 | 19.24 |
| 10,000 to 20,000 | 403 | 37.11 |
| Over 20,000 | 428 | 39.41 |
| Usual Purpose Driving | 1084 | |
| Business | 454 | 41.88 |
| Nonbusiness | 553 | 51.01 |
| Both | 77 | 7.10 |
| Usual Type Roads | 1080 | |
| Local Streets (A) | 170 | 15.74 |
| 2-Lane Rural Highway(B) | 194 | 17.96 |
| Combination of A-B | 24 | 2.22 |
| High-Speed Freeways (C) | 506 | 46.85 |
| Combination of A-C | 28 | 2.59 |
| Combination of B-C | 107 | 9.91 |
| Combination of A-B-C | 51 | 4.72 |
| Been Delayed Today | 1089 | |
| Yes | 302 | 27.73 |
| No | 786 | 72.18 |

TABLE G-1 (Continued)

| Category | Number | Percent |
|---|---|---|
| What Delayed You | 296 | |
| Accident | 32 | 10.81 |
| Traffic Congestion | 7 | 2.36 |
| Slow-Moving Vehicle | 25 | 8.45 |
| Construction | 199 | 67.23 |
| Other | 32 | 10.81 |
| What Type Slow Vehicle | 27 | |
| Truck | 10 | 37.04 |
| Mobile Home | 9 | 33.33 |
| Bus | 0 | 0.00 |
| Car | 1 | 3.70 |
| Tractor, Farm Equipment | 3 | 11.11 |
| Camper, Trailer | 3 | 11.11 |
| Motorcycle | 0 | 0.00 |
| Other | 1 | 3.70 |
| Seen Safety Hazard Today | 1088 | |
| Yes | 169 | 15.53 |
| No | 919 | 84.47 |
| What Hazard Did You See | 163 | |
| Accident | 4 | 2.45 |
| Traffic Congestion | 6 | 3.68 |
| Slow-Moving Vehicle | 46 | 28.22 |
| Construction | 20 | 12.27 |
| Other (except road) | 28 | 17.18 |
| Factor Related to Road | 59 | 36.20 |
| What Type Slow Vehicle | 44 | |
| Truck | 27 | 61.36 |
| Mobile Home | 1 | 2.27 |
| Bus | 1 | 2.27 |
| Car | 7 | 15.91 |
| Tractor, Farm Equipment | 4 | 9.09 |
| Camper, Trailer | 3 | 6.82 |
| Motorcycle | 0 | 0.00 |
| Other | 1 | 2.27 |

TABLE G-1 (Continued)

| Category | Number | Percent |
|---|---|---|
| What Types are Problems | 592 | |
| Truck | 194 | 32.77 |
| Mobile Home | 58 | 9.80 |
| Bus | 7 | 1.18 |
| Car | 113 | 19.09 |
| Tractor, Farm Equipment | 12 | 2.03 |
| Camper, Trailer | 146 | 24.66 |
| Motorcycle | 7 | 1.18 |
| Other | 55 | 9.29 |
| None | 494 | |
| Notice Any Wide Loads | 1088 | |
| Yes | 622 | 57.17 |
| No | 463 | 42.56 |
| Yes (not mobile home) | 3 | 0.28 |
| Was It Going Your Way | 616 | |
| Yes | 383 | 62.18 |
| No | 232 | 37.66 |
| Did It Cause Problems | 530 | |
| Yes | 46 | 8.68 |
| No | 484 | 91.32 |
| Why Did it Cause Problem | 38 | |
| Hard To See Around | 2 | 5.26 |
| Moving Too Slowly | 14 | 36.84 |
| Could Not Pass | 13 | 34.21 |
| Taking Two Lanes | 6 | 15.79 |
| Other | 3 | 7.89 |
| Sex | 1076 | |
| Male | 903 | 83.92 |
| Female | 172 | 15.99 |
| Age | 1064 | |
| Under 20 | 34 | 3.20 |
| 20-29 | 194 | 18.23 |
| 30-39 | 212 | 19.92 |
| 40-49 | 248 | 23.31 |
| 50-59 | 233 | 21.90 |
| 60 and Over | 143 | 13.44 |

TABLE G-1 (Continued)

| Category | Number | Percent |
|---|---|---|
| Vehicle Type | 1040 | |
| Car | 736 | 70.77 |
| VW | 69 | 6.63 |
| Pick-up | 131 | 12.60 |
| Truck | 38 | 3.65 |
| Semi | 66 | 6.35 |
| Passed Wide Load When | 591 | |
| 30 min | 253 | 42.81 |
| 1 hr | 190 | 32.15 |
| 3 hr | 138 | 23.35 |
| Over 3 hr | 10 | 1.69 |

TABLE G-1 (Continued)

WHICH ARE HAZARDOUS VEH.
ON INTERSTATE

| CHOICE | PASSENGER CARS | SPORTS CARS | CAMPERS | SINGLE-UNIT TRUCKS | MOBILE HOMES | SEMIS | BUSES | TRAILERS | NONE | SLOW VEHICLES | FARM VEHICLES | MOTOR-CYCLES | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 7 | 8 | 27 | 8 | 71 | 34 | 2 | 30 | 67 | 9 | 2 | 10 | 275 |
| 2 | 0 | 1 | 4 | 6 | 22 | 13 | 1 | 28 | 0 | 0 | 2 | 2 | 79 |
| 3 | 0 | 2 | 0 | 5 | 2 | 8 | 1 | 7 | 0 | 0 | 0 | 0 | 25 |
| TOTAL | 7 | 11 | 31 | 19 | 95 | 55 | 4 | 65 | 67 | 9 | 4 | 12 | |

WHICH ARE HAZARDOUS VEH.
ON TWO-LANE

| CHOICE | PASSENGER CARS | SPORTS CARS | CAMPERS | SINGLE-UNIT TRUCKS | MOBILE HOMES | SEMIS | BUSES | TRAILERS | NONE | SLOW VEHICLES | FARM VEHICLES | MOTOR-CYCLES | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 4 | 9 | 39 | 13 | 110 | 41 | 4 | 25 | 16 | 6 | 3 | 6 | 276 |
| 2 | 1 | 1 | 6 | 13 | 39 | 29 | 0 | 31 | 0 | 0 | 4 | 0 | 124 |
| 3 | 0 | 0 | 2 | 9 | 13 | 20 | 1 | 15 | 0 | 1 | 2 | 1 | 64 |
| TOTAL | 5 | 10 | 47 | 35 | 162 | 90 | 5 | 71 | 16 | 7 | 9 | 7 | |

WHICH VEH. CAUSE DELAY
ON INTERSTATE

| CHOICE | PASSENGER CARS | SPORTS CARS | CAMPERS | SINGLE-UNIT TRUCKS | MOBILE HOMES | SEMIS | BUSES | TRAILERS | NONE | SLOW VEHICLES | FARM VEHICLES | MOTOR-CYCLES | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 11 | 1 | 25 | 16 | 49 | 33 | 2 | 26 | 106 | 7 | 0 | 0 | 276 |
| 2 | 1 | 1 | 7 | 9 | 14 | 17 | 0 | 16 | 0 | 2 | 2 | 0 | 69 |
| 3 | 0 | 0 | 0 | 2 | 3 | 6 | 0 | 7 | 0 | 0 | 0 | 0 | 18 |
| TOTAL | 12 | 2 | 32 | 27 | 66 | 56 | 2 | 49 | 106 | 9 | 2 | 0 | |

TABLE G-1 (Continued)

WHICH VEH. CAUSE DELAY
ON TWO-LANE

| CHOICE | PASSENGER CARS | SPORTS CARS | CAMPERS | SINGLE-UNIT TRUCKS | MOBILE HOMES | SEMIS | BUSES | TRAILERS | NONE | SLOW VEHICLES | FARM VEHICLES | MOTOR-CYCLES | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 5 | 1 | 41 | 23 | [illegible] | 49 | 2 | 44 | 20 | 7 | 5 | 0 | 277 |
| 2 | 1 | 1 | 8 | 20 | 29 | 42 | 0 | 21 | 0 | 0 | 6 | 0 | 128 |
| 3 | 0 | 0 | 3 | 9 | 16 | 15 | 1 | 16 | 0 | 0 | 0 | 0 | 60 |
| TOTAL | 6 | 2 | 52 | 52 | 125 | 106 | 3 | 81 | 20 | 7 | 11 | 0 | |

WHICH VEH. SHOULD BE
LIMITED ON INTERSTATE

| CHOICE | PASSENGER CARS | SPORTS CARS | CAMPERS | SINGLE-UNIT TRUCKS | MOBILE HOMES | SEMIS | BUSES | TRAILERS | NONE | SLOW VEHICLES | FARM VEHICLES | MOTOR-CYCLES | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 16 | 10 | 115 | 26 | 1 | 17 | 85 | 3 | 0 | 3 | 276 |
| 2 | 0 | 0 | 5 | 7 | 20 | 20 | 0 | 10 | 0 | 0 | 3 | 1 | 66 |
| 3 | 0 | 0 | 0 | 2 | 5 | 5 | 0 | 9 | 0 | 0 | 0 | 0 | 21 |
| TOTAL | 0 | 0 | 21 | 19 | 140 | 51 | 1 | 36 | 85 | 3 | 3 | 4 | |

WHICH VEH. SHOULD BE
LIMITED ON TWO-LANE

| CHOICE | PASSENGER CARS | SPORTS CARS | CAMPERS | SINGLE-UNIT TRUCKS | MOBILE HOMES | SEMIS | BUSES | TRAILERS | NONE | SLOW VEHICLES | FARM VEHICLES | MOTOR-CYCLES | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 1 | 23 | 15 | 127 | 35 | 1 | 21 | 48 | 1 | 0 | 3 | 275 |
| 2 | 0 | 0 | 7 | 13 | 27 | 30 | 0 | 14 | 0 | 0 | 6 | 1 | 98 |
| 3 | 0 | 0 | 4 | 5 | 10 | 14 | 0 | 13 | 0 | 0 | 0 | 0 | 46 |
| TOTAL | 0 | 1 | 34 | 33 | 164 | 79 | 1 | 48 | 48 | 1 | 6 | 4 | |

TABLE G-1 (Continued)

WHICH VEH. SHOULD BE BANNED ON INTERSTATE

| CHOICE | PASSENGER CARS | SPORTS CARS | CAMPERS | SINGLE-UNIT TRUCKS | MOBILE HOMES | SEMIS | BUSES | TRAILERS | NONE | SLOW VEHICLES | FARM VEHICLES | MOTOR-CYCLES | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 5 | 7 | 26 | 8 | 3 | 13 | 192 | 2 | 9 | 6 | 273 |
| 2 | 0 | 0 | 1 | 1 | 4 | 4 | 0 | 2 | 0 | 0 | 1 | 0 | 13 |
| 3 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| TOTAL | 0 | 0 | 6 | 8 | 32 | 13 | 3 | 15 | 192 | 2 | 10 | 7 | |

WHICH VEH. SHOULD BE BANNED ON TWO-LANE

| CHOICE | PASSENGER CARS | SPORTS CARS | CAMPERS | SINGLE-UNIT TRUCKS | MOBILE HOMES | SEMIS | BUSES | TRAILERS | NONE | SLOW VEHICLES | FARM VEHICLES | MOTOR-CYCLES | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 0 | 7 | 6 | 65 | 12 | 0 | 10 | 161 | 0 | 6 | 7 | 276 |
| 2 | 0 | 0 | 1 | 0 | 10 | 12 | 0 | 5 | 0 | 0 | 1 | 0 | 29 |
| 3 | 1 | 0 | 0 | 1 | 0 | 4 | 1 | 3 | 0 | 0 | 0 | 1 | 11 |
| TOTAL | 3 | 0 | 8 | 7 | 75 | 28 | 1 | 18 | 161 | 0 | 7 | 8 | |

WHAT DO YOU OWN

| CHOICE | PASSENGER CARS | SPORTS CARS | CAMPERS | SINGLE-UNIT TRUCKS | MOBILE HOMES | SEMIS | BUSES | TRAILERS | NONE | SLOW VEHICLES | FARM VEHICLES | MOTOR-CYCLES | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 263 | 6 | 3 | 0 | 0 | 0 | 1 | 2 | 3 | 0 | 0 | 0 | 278 |
| 2 | 12 | 23 | 9 | 9 | 0 | 5 | 1 | 23 | 0 | 0 | 0 | 5 | 87 |
| 3 | 7 | 0 | 5 | 3 | 0 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 19 |
| TOTAL | 282 | 29 | 17 | 12 | 0 | 7 | 2 | 27 | 3 | 0 | 0 | 5 | |

TABLE G-1 (Concluded)

WHAT DO YOU OFTEN DRIVE

| CHOICE | PASSENGER CARS | SPORTS CARS | CAMPERS | SINGLE-UNIT TRUCKS | MOBILE HOMES | SEMIS | BUSES | TRAILERS | NONE | SLOW VEHICLES | FARM VEHICLES | MOTOR-CYCLES | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 253 | 3 | 1 | 1 | 0 | 6 | 0 | 3 | 9 | 0 | 0 | 0 | 276 |
| 2 | 8 | 47 | 14 | 24 | 1 | 8 | 0 | 23 | 0 | 0 | 0 | 4 | 129 |
| 3 | 4 | 0 | 12 | 14 | 0 | 10 | 3 | 17 | 0 | 0 | 0 | 0 | 60 |
| TOTAL | 265 | 50 | 27 | 39 | 1 | 24 | 3 | 43 | 9 | 0 | 0 | 4 | |

WHICH VEH. CAUSE PROBLEMS

| CHOICE | PASSENGER CARS | SPORTS CARS | CAMPERS | SINGLE-UNIT TRUCKS | MOBILE HOMES | SEMIS | BUSES | TRAILERS | NONE | SLOW VEHICLES | FARM VEHICLES | MOTOR-CYCLES | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 9 | 4 | 27 | 7 | 65 | 41 | 1 | 43 | 38 | 10 | 3 | 7 | 275 |
| 2 | 7 | 2 | 23 | 22 | 46 | 48 | 4 | 39 | 0 | 1 | 5 | 2 | 199 |
| 3 | 1 | 5 | 15 | 22 | 22 | 26 | 9 | 37 | 0 | 5 | 0 | 3 | 145 |
| TOTAL | 17 | 11 | 65 | 51 | 153 | 115 | 14 | 119 | 38 | 16 | 8 | 12 | |

TABLE G-2

RESPONSES BY TWO-LANE HIGHWAY DRIVERS

| Category | Number | Percent |
|---|---|---|
| Wide Load Interview | | |
| First Summary | 1855 | |
| | | |
| State | 1855 | |
| Oregon | 270 | 14.56 |
| Idaho | 261 | 14.07 |
| Nebraska | 738 | 39.78 |
| Indiana | 150 | 8.09 |
| New Hampshire | 436 | 23.50 |
| Florida | 0 | 0.00 |
| | | |
| Road Type | 1855 | |
| Two Lane | 1855 | 100.00 |
| Divided, Not Interstate | 0 | 0.00 |
| Interstate | 0 | 0.00 |
| | | |
| Lane Width | 1855 | |
| Under 10 ft | 150 | 8.09 |
| 10 ft | 261 | 14.07 |
| 11 ft | 0 | 0.00 |
| 12 ft | 1308 | 70.51 |
| Over 12 ft | 136 | 7.33 |
| | | |
| Shoulders | 1855 | |
| Paved | 662 | 35.69 |
| Unpaved | 1193 | 64.31 |
| None | 0 | 0.00 |
| | | |
| Speed Limit | 1855 | |
| 70 or Over | 0 | 0.00 |
| 65 | 738 | 39.78 |
| 60 | 381 | 20.54 |
| 55 | 300 | 16.17 |
| 50 | 436 | 23.50 |
| 45 | 0 | 0.00 |
| 40 or Under | 0 | 0.00 |

TABLE G-2 (Continued)

| Category | Number | Percent |
|---|---|---|
| Vehicles/Hour | 1855 | |
| 2000 and Over | 0 | 0.00 |
| 1500-1999 | 0 | 0.00 |
| 1000-1499 | 0 | 0.00 |
| 800-999 | 0 | 0.00 |
| 600-799 | 0 | 0.00 |
| 400-599 | 0 | 0.00 |
| 200-399 | 300 | 16.17 |
| 100-199 | 607 | 32.72 |
| Under 100 | 948 | 51.11 |
| Trip Purpose | 1855 | |
| Business | 1003 | 54.07 |
| Nonbusiness | 822 | 44.31 |
| Both | 30 | 1.62 |
| Miles Per Year | 1838 | |
| Under 1,000 | 22 | 1.20 |
| 1,000 to 3,000 | 83 | 4.52 |
| 3,000 to 10,000 | 362 | 19.70 |
| 10,000 to 20,000 | 583 | 31.72 |
| Over 20,000 | 788 | 42.87 |
| Usual Purpose Driving | 1851 | |
| Business | 961 | 51.92 |
| Nonbusiness | 711 | 38.41 |
| Both | 177 | 9.56 |
| Usual Type Roads | 1843 | |
| Local Streets (A) | 180 | 9.77 |
| 2-Lane Rural Highway(B) | 913 | 49.54 |
| Combination of A-B | 89 | 4.83 |
| High-Speed Freeways (C) | 347 | 18.83 |
| Combination of A-C | 13 | 0.71 |
| Combination of B-C | 215 | 11.67 |
| Combination of A-B-C | 86 | 4.67 |
| Been Delayed Today | 1836 | |
| Yes | 288 | 15.69 |
| No | 1543 | 84.04 |

TABLE G-2 (Continued)

| Category | Number | Percent |
|---|---|---|
| What Delayed You | 284 | |
| Accident | 1 | 0.35 |
| Traffic Congestion | 14 | 4.93 |
| Slow-Moving Vehicle | 88 | 30.99 |
| Construction | 136 | 47.89 |
| Other | 43 | 15.14 |
| What Type Slow Vehicle | 90 | |
| Truck | 40 | 44.44 |
| Mobile Home | 8 | 8.89 |
| Bus | 1 | 1.11 |
| Car | 13 | 14.44 |
| Tractor, Farm Equipment | 16 | 17.78 |
| Camper, Trailer | 9 | 10.00 |
| Motorcycle | 0 | 0.00 |
| Other | 3 | 3.33 |
| Seen Safety Hazard Today | 1851 | |
| Yes | 304 | 16.42 |
| No | 1547 | 83.58 |
| What Hazard Did You See | 296 | |
| Accident | 0 | 0.00 |
| Traffic Congestion | 4 | 1.35 |
| Slow-Moving Vehicle | 75 | 25.34 |
| Construction | 35 | 11.82 |
| Other (except road) | 59 | 19.93 |
| Factor Related to Road | 123 | 41.55 |
| What Type Slow Vehicle | 71 | |
| Truck | 33 | 46.48 |
| Mobile Home | 4 | 5.63 |
| Bus | 0 | 0.00 |
| Car | 9 | 12.68 |
| Tractor, Farm Equipment | 18 | 25.35 |
| Camper, Trailer | 3 | 4.23 |
| Motorcycle | 1 | 1.41 |
| Other | 3 | 4.23 |

TABLE G-2 (Continued)

| Category | Number | Percent |
|---|---|---|
| What Types are Problems | 1056 | |
| Truck | 297 | 28.13 |
| Mobile Home | 144 | 13.64 |
| Bus | 5 | 0.47 |
| Car | 129 | 12.22 |
| Tractor, Farm Equipment | 194 | 18.37 |
| Camper, Trailer | 179 | 16.95 |
| Motorcycle | 37 | 3.50 |
| Other | 71 | 6.72 |
| None | 794 | |
| Notice Any Wide Loads | 1842 | |
| Yes | 425 | 23.07 |
| No | 1390 | 75.46 |
| Yes (not mobile home) | 27 | 1.47 |
| Was it Going Your Way | 441 | |
| Yes | 170 | 38.55 |
| No | 271 | 61.45 |
| Did it Cause Problems | 335 | |
| Yes | 60 | 17.91 |
| No | 275 | 82.09 |
| Why Did it Cause Problem | 57 | |
| Hard to See Around | 7 | 12.28 |
| Moving Too Slowly | 25 | 43.86 |
| Could Not Pass | 13 | 22.81 |
| Taking Two Lanes | 7 | 12.28 |
| Other | 5 | 8.77 |
| Sex | 1831 | |
| Male | 1419 | 77.50 |
| Female | 410 | 22.39 |
| Age | 1800 | |
| Under 20 | 66 | 3.67 |
| 20-29 | 349 | 19.39 |
| 30-39 | 400 | 22.22 |
| 40-49 | 453 | 25.17 |
| 50-59 | 350 | 19.44 |
| 60 and Over | 182 | 10.11 |

TABLE G-2 (Continued)

| Category | Number | Percent |
|---|---|---|
| Vehicle Type | 1754 | |
| Car | 1089 | 62.09 |
| VW | 91 | 5.19 |
| Pick-up | 339 | 19.33 |
| Truck | 113 | 6.44 |
| Semi | 122 | 6.96 |
| Passed Wide Load When | 529 | |
| 30 min | 273 | 51.61 |
| 1 hr | 163 | 30.81 |
| 3 hr | 80 | 15.12 |
| Over 3 hr | 13 | 2.46 |

TABLE G-2 (Continued)

WHICH VEH. SHOULD BE LIMITED ON INTERSTATE

| CHOICE | PASSENGER CARS | SPORTS CARS | CAMPERS | SINGLE-UNIT TRUCKS | MOBILE HOMES | SEMIS | BUSES | TRAILERS | NONE | SLOW VEHICLES | FARM VEHICLES | MOTOR-CYCLES | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 13 | 17 | 35 | 22 | 84 | 49 | 2 | 51 | 161 | 13 | 9 | 21 | 477 |
| 2 | 0 | 2 | 6 | 8 | 23 | 32 | 3 | 26 | 0 | 3 | 1 | 9 | 113 |
| 3 | 2 | 0 | 1 | 5 | 6 | 5 | 2 | 12 | 0 | 1 | 2 | 4 | 40 |
| TOTAL | 15 | 19 | 42 | 35 | 113 | 86 | 7 | 89 | 161 | 17 | 12 | 34 | |

WHICH ARE HAZARDOUS VEH. ON INTERSTATE

| CHOICE | PASSENGER CARS | SPORTS CARS | CAMPERS | SINGLE-UNIT TRUCKS | MOBILE HOMES | SEMIS | BUSES | TRAILERS | NONE | SLOW VEHICLES | FARM VEHICLES | MOTOR-CYCLES | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 7 | 15 | 63 | 30 | 171 | 53 | 3 | 23 | 52 | 8 | 25 | 22 | 472 |
| 2 | 0 | 3 | 13 | 25 | 46 | 47 | 3 | 44 | 0 | 6 | 7 | 8 | 202 |
| 3 | 0 | 2 | 7 | 7 | 26 | 23 | 2 | 25 | 0 | 1 | 7 | 5 | 105 |
| TOTAL | 7 | 20 | 83 | 62 | 243 | 123 | 8 | 92 | 52 | 15 | 39 | 35 | |

WHICH ARE HAZARDOUS VEH. ON TWO-LANE

| CHOICE | PASSENGER CARS | SPORTS CARS | CAMPERS | SINGLE-UNIT TRUCKS | MOBILE HOMES | SEMIS | BUSES | TRAILERS | NONE | SLOW VEHICLES | FARM VEHICLES | MOTOR-CYCLES | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 19 | 2 | 32 | 13 | 55 | 63 | 1 | 40 | 235 | 8 | 5 | 2 | 475 |
| 2 | 0 | 1 | 6 | 13 | 13 | 19 | 3 | 19 | 0 | 4 | 1 | 2 | 81 |
| 3 | 0 | 0 | 2 | 0 | 6 | 5 | 2 | 7 | 0 | 0 | 0 | 0 | 22 |
| TOTAL | 19 | 3 | 40 | 26 | 74 | 87 | 6 | 66 | 235 | 12 | 6 | 4 | |

TABLE G-2 (Continued)

WHICH VEH. CAUSE DELAY
ON INTERSTATE

| CHOICE | PASSENGER CARS | SPORTS CARS | CAMPERS | SINGLE-UNIT TRUCKS | MOBILE HOMES | SEMIS | BUSES | TRAILERS | NONE | SLOW VEHICLES | FARM VEHICLES | MOTOR-CYCLES | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 19 | 2 | 77 | 44 | 127 | 70 | 2 | 50 | 41 | 12 | 28 | 2 | 474 |
| 2 | 2 | 1 | 14 | 38 | 50 | 54 | 2 | 35 | 0 | 6 | 7 | 3 | 212 |
| 3 | 0 | 0 | 5 | 13 | 26 | 35 | 2 | 25 | 0 | 1 | 7 | 0 | 114 |
| TOTAL | 21 | 3 | 96 | 95 | 203 | 159 | 6 | 110 | 41 | 19 | 42 | 5 | |

WHICH VEH. CAUSE DELAY
ON TWO-LANE

| CHOICE | PASSENGER CARS | SPORTS CARS | CAMPERS | SINGLE-UNIT TRUCKS | MOBILE HOMES | SEMIS | BUSES | TRAILERS | NONE | SLOW VEHICLES | FARM VEHICLES | MOTOR-CYCLES | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 3 | 2 | 32 | 19 | 127 | 40 | 1 | 29 | 198 | 4 | 6 | 16 | 477 |
| 2 | 0 | 0 | 2 | 10 | 30 | 29 | 0 | 21 | 0 | 3 | 4 | 6 | 105 |
| 3 | 0 | 0 | 1 | 5 | 11 | 9 | 1 | 11 | 0 | 0 | 0 | 2 | 40 |
| TOTAL | 3 | 2 | 35 | 34 | 168 | 78 | 2 | 61 | 198 | 7 | 10 | 24 | |

WHICH VEH. SHOULD BE
LIMITED ON TWO-LANE

| CHOICE | PASSENGER CARS | SPORTS CARS | CAMPERS | SINGLE-UNIT TRUCKS | MOBILE HOMES | SEMIS | BUSES | TRAILERS | NONE | SLOW VEHICLES | FARM VEHICLES | MOTOR-CYCLES | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 4 | 1 | 45 | 23 | 198 | 60 | 1 | 29 | 91 | 2 | 13 | 10 | 477 |
| 2 | 0 | 0 | 14 | 25 | 50 | 50 | 1 | 21 | 0 | 4 | 12 | 5 | 182 |
| 3 | 0 | 0 | 4 | 11 | 21 | 18 | 1 | 21 | 0 | 2 | 2 | 1 | 81 |
| TOTAL | 4 | 1 | 63 | 59 | 269 | 128 | 3 | 71 | 91 | 8 | 27 | 16 | |

TABLE G-2 (Continued)

WHICH VEH. SHOULD BE
BANNED ON INTERSTATE

| CHOICE | PASSENGER CARS | SPORTS CARS | CAMPERS | SINGLE-UNIT TRUCKS | MOBILE HOMES | SEMIS | BUSES | TRAILERS | NONE | SLOW VEHICLES | FARM VEHICLES | MOTOR-CYCLES | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 3 | 2 | 9 | 9 | 60 | 15 | 0 | 5 | 307 | 13 | 19 | 27 | 469 |
| 2 | 0 | 0 | 0 | 6 | 7 | 9 | 0 | 5 | 0 | 2 | 4 | 3 | 36 |
| 3 | 0 | 0 | 1 | 1 | 1 | 2 | 0 | 5 | 0 | 0 | 0 | 0 | 10 |
| TOTAL | 3 | 2 | 10 | 16 | 68 | 26 | 0 | 15 | 307 | 15 | 23 | 30 | |

WHICH VEH. SHOULD BE
BANNED ON TWO-LANE

| CHOICE | PASSENGER CARS | SPORTS CARS | CAMPERS | SINGLE-UNIT TRUCKS | MOBILE HOMES | SEMIS | BUSES | TRAILERS | NONE | SLOW VEHICLES | FARM VEHICLES | MOTOR-CYCLES | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 2 | 10 | 5 | 91 | 27 | 0 | 7 | 288 | 5 | 19 | 12 | 468 |
| 2 | 1 | 0 | 1 | 5 | 8 | 15 | 0 | 5 | 0 | 1 | 4 | 2 | 42 |
| 3 | 0 | 0 | 2 | 1 | 2 | 1 | 0 | 4 | 0 | 0 | 0 | 0 | 10 |
| TOTAL | 3 | 2 | 13 | 11 | 101 | 43 | 0 | 16 | 288 | 6 | 23 | 14 | |

WHAT DO YOU OWN

| CHOICE | PASSENGER CARS | SPORTS CARS | CAMPERS | SINGLE-UNIT TRUCKS | MOBILE HOMES | SEMIS | BUSES | TRAILERS | NONE | SLOW VEHICLES | FARM VEHICLES | MOTOR-CYCLES | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 438 | 10 | 6 | 3 | 1 | 2 | 1 | 5 | 8 | 0 | 3 | 1 | 478 |
| 2 | 47 | 21 | 9 | 32 | 2 | 6 | 0 | 34 | 0 | 0 | 5 | 3 | 163 |
| 3 | 5 | 3 | 4 | 7 | 0 | 3 | 0 | 10 | 0 | 0 | 0 | 2 | 34 |
| TOTAL | 490 | 34 | 19 | 42 | 3 | 11 | 1 | 53 | 8 | 0 | 8 | 6 | |

TABLE G-2 (Concluded)

WHAT DO YOU OFTEN DRIVE

| CHOICE | PASSENGER CARS | SPORTS CARS | CAMPERS | SINGLE-UNIT TRUCKS | MOBILE HOMES | SEMIS | BUSES | TRAILERS | NONE | SLOW VEHICLES | FARM VEHICLES | MOTOR-CYCLES | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 422 | 3 | 4 | 13 | 1 | 10 | 3 | 7 | 13 | 0 | 1 | 1 | 478 |
| 2 | 27 | 62 | 10 | 66 | 3 | 12 | 3 | 22 | 0 | 0 | 4 | 2 | 211 |
| 3 | 8 | 7 | 13 | 27 | 0 | 13 | 1 | 24 | 0 | 0 | 2 | 0 | 95. |
| TOTAL | 457 | 72 | 27 | 106 | 4 | 35 | 7 | 53 | 13 | 0 | 7 | 3 | |

WHICH VEH. CAUSE PROBLEMS

| CHOICE | PASSENGER CARS | SPORTS CARS | CAMPERS | SINGLE-UNIT TRUCKS | MOBILE HOMES | SEMIS | BUSES | TRAILERS | NONE | SLOW VEHICLES | FARM VEHICLES | MOTOR-CYCLES | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 26 | 11 | 27 | 17 | 159 | 62 | 3 | 51 | 51 | 20 | 20 | 23 | 470 |
| 2 | 11 | 6 | 41 | 40 | 74 | 89 | 8 | 77 | 0 | 7 | 7 | 9 | 369 |
| 3 | 7 | 4 | 44 | 48 | 40 | 56 | 6 | 57 | 0 | 3 | 4 | 5 | 274 |
| TOTAL | 44 | 21 | 112 | 105 | 273 | 207 | 17 | 185 | 51 | 30 | 31 | 37 | |

TABLE G-3

DIVIDED HIGHWAY DRIVERS VS TWO-LANE HIGHWAY DRIVERS

| Question | Tendencies Relative to Other Drivers: Divided Highway Drivers | Tendencies Relative to Other Drivers: Two-Lane Highway Drivers | Level of Significance |
|---|---|---|---|
| Trip Purpose | Non-Business | Business | 0.005 |
| Annual Mileage | Moderate | High | 0.025 |
| Usual Trip Purpose | Non-Business | Business | 0.005 |
| Major Driving Experience | Local and Divided | Two-Lane | 0.005 |
| Any Delay? | Yes | No | 0.005 |
| Delay Cause | Accident or Construction | Slow Vehicles | 0.005 |
| Slow Vehicle Type | Mobile Home | --- | 0.05 |
| Any Safety Hazards? | --- | --- | N.S. |
| Hazard Cause | Accident or Traffic Congestion | --- | 0.10 |
| Slow Vehicle Type | --- | --- | N.S. |
| General Problem Vehicle Type | Trucks, Cars and Campers | Mobile Homes and Farm Vehicles | 0.005 |
| Notice any Wide loads? | Yes | No | 0.005 |
| Cause Problems? | No | Yes | 0.005 |
| Why? | --- | --- | N.S. |
| Sex | Males | Females | 0.005 |
| Age | Older | Younger | 0.05 |
| Vehicle Type | Cars | Pickups and Single Unit Trucks | 0.005 |

TABLE G-3 (Concluded)

| Question | Tendencies Relative to Other Drivers: Divided Highway Drivers | Two-Lane Highway Drivers | Level of Significance |
|---|---|---|---|
| Safety Hazard on Interstate | Mobile Homes or Trailers | None or Motorcycles | 0.10 |
| Safety Hazard on Two-Lane | Mobile Homes, Semis or Trailers | None or Farm Vehicles Motorcycles | 0.005 |
| Delay on Interstate | Single Unit Trucks or Mobile Homes | None | 0.05 |
| Delay on Two-Lane | Semis or Trailers | Farm Vehicles | 0.10 |
| Limitations on Interstates | Mobile Homes | None or Motorcycles | 0.005 |
| Limitations on Two-Lane | --- | --- | N.S. |
| Ban on Interstate | --- | Motorcycles or Slow Vehicles | 0.10 |
| Ban on Two-Lane | --- | --- | N.S. |
| General Problem Vehicles (Mail Back) | Campers or Trailers | Cars, Farm Vehicles or Motorcycles | 0.025 |

The mail-back responses from divided highway drivers also were generally different from those of divided highway drivers. Regarding safety hazards and delays caused by other vehicles, two-lane drivers tended to be more tolerant. They were more likely than divided highway drivers to mention farm vehicles, as would be expected, as well as motorcycles. Divided highway drivers were more likely to consider mobile homes, trucks and trailers as being safety hazards and delay producers, both on divided highways and two-lane highways. There was a large difference between the driver groups regarding restrictions on vehicle types using the interstate system. Divided highway drivers were more likely to place mobile homes in this category whereas two-lane drivers were more likely to say that no vehicles should be restricted or that motorcycles should be restricted. There were no differences in the responses regarding limitations on two-lane highways. The same general type of differences were apparent regarding banning of vehicles on interstate and two-lane highways.

Finally, according to the mail-back responses, the drivers' general feelings also differed in a similar fashion concerning problem vehicles, as indicated by their answers to the last question. Two-lane drivers tended more often to mention farm vehicles, motorcycles, and other cars, whereas divided highway drivers tended to mention campers and trailers more frequently.

4. Differences between states: Chi-square tests were performed on the responses of the drivers in the various states. Two sets of these analysis were conducted, one for divided highway drivers and the other for two-lane highway drivers. In every comparison made there were significant differences. The types of drivers and their opinions differed greatly from state to state. The detailed results of these comparisons are given in Tables G-4 and G-5 together with the major tendencies giving rise to the significance.

5. Driver stratifications: Approximately 450 cross tabulations of responses to the survey were prepared. The intent of these tabulations was to compare a number of characteristics of the respondents to their opinions and attitudes. Again, drivers interviewed on two-lane highways were analyzed separately from those stopped on divided highways.

The tabulations were examined and most were then subjected to chi-square analyses to determine the significance of the differences noted, if any. The conclusions from the majority of the chi-square analyses are summarized in Tables G-6 through G-9.

TABLE G-4

## DIFFERENCES IN DIVIDED HIGHWAY DRIVERS, BY STATE

| Question | Tendencies Relative to Drivers of Other States | | | | | Level of Significance |
|---|---|---|---|---|---|---|
| | Florida | Idaho | Indiana | New Hamsphire | Oregon | |
| Trip Purpose | Nonbusiness | Business | Business | Business | Nonbusiness | 0.005 |
| Annual Mileage | Medium | Very Low or Very High | -- | -- | -- | 0.005 |
| Usual Trip Purpose | Nonbusiness | Business | -- | -- | -- | 0.005 |
| Major Driving Experience | Divided | Local | Divided | Mixed | Two Lane | 0.005 |
| Any Delay? | Yes | No | Yes | -- | Yes | 0.005 |
| Delay Cause | Misc. | Misc. | Construction | Construction | -- | 0.005 |
| Any Safety Hazards? | -- | -- | Yes | -- | -- | 0.005 |
| Cause of Safety Hazards | -- | -- | Slow Vehicles | -- | -- | 0.01 |
| General Problem Vehicle Type | Trucks | Campers or Trailers | Trucks | Small Vehicles | Campers or Trailers | 0.005 |

TABLE G-4 (Concluded)

| Question | Tendencies Relative to Drivers of Other States | | | | | Level of Significance |
|---|---|---|---|---|---|---|
| | Florida | Idaho | Indiana | New Hampshire | Oregon | |
| Any Wide loads | Yes | No | -- | No | Yes | 0.005 |
| Any Problems | -- | -- | -- | -- | Yes | 0.005 |
| Sex | Males | -- | -- | Females | Females | 0.005 |
| Age | Old | Middle | Middle | -- | Young | 0.005 |
| Vehicle Type | Cars | Trucks or Pickups | -- | -- | Pickups | 0.005 |

TABLE G-5

DIFFERENCES IN TWO-LANE HIGHWAY DRIVERS, BY STATE

| | Tendencies Relative to Drivers of Other States | | | | | |
|---|---|---|---|---|---|---|
| Question | Idaho | Indiana | Nebraska | New Hampshire | Oregon | Level of Significance |
| Trip Purpose | Nonbusiness | -- | Business | Nonbusiness | Nonbusiness | 0.005 |
| Annual Mileage | Low | High | High | Moderate | Low | 0.01 |
| Usual Trip Purpose | -- | Business | Business | Nonbusiness | Nonbusiness | 0.005 |
| Major Driving Experience | Two Lane | Divided | Two Lane | -- | Divided | 0.005 |
| Any Delay? | -- | Yes | Yes | No | -- | 0.005 |
| Delay Cause | Slow Vehicles | Construction | Construction | -- | -- | 0.025 |
| Any Safety Hazards? | -- | Yes | -- | No | -- | 0.05 |
| Causes of Safety Hazards | Misc. | -- | -- | Slow Vehicles | -- | 0.025 |
| General Prob. Vehicle Type | Campers or Trailers | Mobile Homes or Cars | Mobile Homes or Farm Equip. | Trucks or Cars | Campers, Trailers or Cars | 0.025 |
| Any Wide Loads | -- | Yes | -- | -- | -- | 0.005 |

TABLE G-5 (Concluded)

| Question | Tendencies Relative to Drivers of Other States | | | | | Level of |
|---|---|---|---|---|---|---|
| | Idaho | Indiana | Nebraska | New Hampshire | Oregon | Significance |
| Any Problems? | No | Yes | -- | -- | No | 0.01 |
| Sex | -- | Males | Males | Females | -- | 0.01 |
| Age | -- | -- | Middle | Old | Old | 0.005 |
| Vehicle Type | Pickups | Cars | Trucks | Cars | Pickups | 0.005 |

TABLE G-6

ANALYSIS OF ON-SITE, DIVIDED HIGHWAY INTERVIEWS*

| | Any delay today? | Delay cause | Safety hazard today? | Hazard cause | Problem vehicle type? | Recall passing wide load? | Caused problem? | Nature of problem |
|---|---|---|---|---|---|---|---|---|
| Trip purpose | 0.10 | N.S. | N.S. | N.S. | 0.005 | 0.005 | 0.10 | N.S. |
| Annual mileage | N.S. | N.S. | N.S. | N.S. | 0.005 | 0.05 | N.S. | N.S. |
| Usual trip purpose | N.S. | N.S. | N.S. | 0.025 | 0.005 | 0.025 | N.S. | N.S. |
| Major driving experience | N.S. | 0.10 | N.S. | N.S. | 0.025 | 0.025 | N.S. | N.S. |
| Sex | N.S. | N.S. | 0.05 | 0.05 | 0.005 | 0.05 | N.S. | N.S. |
| Age | N.S. | N.S. | 0.10 | N.S. | 0.005 | 0.025 | 0.025 | N.S. |
| Vehicle type | N.S. | N.S. | N.S. | N.S. | 0.005 | N.S. | N.S. | 0.10 |
| Recall passing wide load? | 0.005 | 0.10 | 0.10 | N.S. | 0.005 | - | - | - |

* Entries are the levels of significance of the analysis; N.S. means not significant.

TABLE G-7

ANALYSIS OF ON-SITE, TWO-LANE INTERVIEWS*

| | Any delay today? | Delay cause | Safety hazard today? | Hazard cause | Problem vehicle type? | Recall passing wide load? | Caused problem? | Nature of problem |
|---|---|---|---|---|---|---|---|---|
| Trip purpose | 0.005 | N.S. | N.S. | N.S. | 0.005 | 0.10 | N.S. | N.S. |
| Annual mileage | 0.005 | N.S. | N.S. | N.S. | 0.005 | 0.01 | N.S. | N.S. |
| Usual trip purpose | 0.10 | N.S. | N.S. | N.S. | 0.005 | N.S. | N.S. | N.S. |
| Major driving experience | N.S. | N.S. | N.S. | N.S. | 0.005 | 0.005 | N.S. | 0.05 |
| Sex | N.S. | N.S. | 0.10 | N.S. | 0.01 | 0.10 | N.S. | N.S. |
| Age | 0.005 | N.S. | 0.05 | N.S. | 0.005 | 0.005 | N.S. | N.S. |
| Vehicle type | 0.005 | 0.10 | N.S. | 0.05 | 0.005 | N.S. | N.S. | 0.05 |
| Recall passing wide load? | 0.005 | N.S. | 0.005 | N.S. | 0.05 | - | - | - |

* Entries are the levels of significance of the analysis; N.S. means not significant.

TABLE G-8

ANALYSIS OF RETURNED QUESTIONNAIRES FROM DIVIDED HIGHWAY SITES*

| | Hazard on Interstate | Hazard on Two-Lane | Delay on Interstate | Delay on Two-Lane | Limited on Interstate | Limited on Two-Lane | Banned on Interstate | Banned on Two-Lane | Most Problems, First Choice | Most Problems, Top Three Choices |
|---|---|---|---|---|---|---|---|---|---|---|
| Trip Purpose | N.S. | N.S. | N.S. | N.S. | N.S. | N.S. | N.S. | N.S. | N.S. | N.S. |
| Annual Mileage | N.S. | N.S. | 0.005 | N.S. | N.S. | N.S. | N.S. | N.S. | 0.10 | N.S. |
| Usual Trip Purpose | N.S. | 0.10 | 0.01 | 0.05 | N.S. | N.S. | N.S. | 0.10 | N.S. | 0.005 |
| Major Driving Experience | N.S. | N.S. | 0.05 | N.S. | 0.05 | N.S. | N.S. | 0.05 | N.S. | N.S. |
| Sex | N.S. | N.S. | N.S. | N.S. | N.S. | N.S. | N.S. | N.S. | N.S. | N.S. |
| Age | N.S. | N.S. | N.S. | N.S. | N.S. | N.S. | N.S. | N.S. | N.S. | N.S. |
| Vehicle Type | 0.005 | 0.005 | N.S. | N.S. | 0.025 | N.S. | N.S. | 0.05 | 0.005 | 0.005 |
| Recall Passing Wide Load? | N.S. | N.S. | N.S. | N.S. | N.S. | N.S. | 0.10 | N.S. | N.S. | N.S. |

* Entries are the levels of significance of the analysis; N.S. means not significant.

TABLE G-9

ANALYSIS OF RETURNED QUESTIONNAIRES FROM TWO-LANE SITES*

| | Hazard on Interstate | Hazard on Two-Lane | Delay on Interstate | Delay on Two-Lane | Limited on Interstate | Limited on Two-Lane | Banned on Interstate | Banned on Two-Lane | Most Problems, First Choice | Most Problems, Top Three Choices |
|---|---|---|---|---|---|---|---|---|---|---|
| Trip Purpose | N.S. | N.S. | N.S. | 0.025 | N.S. | N.S. | 0.005 | N.S. | 0.025 | N.S. |
| Annual Mileage | 0.025 | N.S. | N.S. | 0.025 | N.S. | N.S. | 0.025 | N.S. | 0.025 | N.S. |
| Usual Trip Purpose | N.S. | 0.10 | N.S. | 0.025 | N.S. | N.S. | N.S. | 0.10 | 0.10 | N.S. |
| Major Driving Experience | N.S. | N.S. | 0.005 | N.S. | 0.025 | N.S. | N.S. | N.S. | N.S. | N.S. |
| Sex | 0.005 | N.S. | 0.005 | N.S. | N.S. | N.S. | N.S. | N.S. | 0.10 | 0.10 |
| Age | 0.10 | 0.10 | N.S. | N.S. | N.S. | N.S. | N.S. | N.S. | N.S. | N.S. |
| Vehicle Type | 0.005 | 0.10 | 0.005 | 0.025 | N.S. | N.S. | N.S. | 0.05 | 0.10 | 0.005 |
| Recall Passing Wide Load? | N.S. | N.S. | N.S. | N.S. | N.S. | N.S. | N.S. | N.S. | N.S. | N.S. |

* Entries are the levels of significance of the analysis; N.S. means not significant.

In many of the comparisons the stratifications were found to be not significant. However, where significant differences were observed, further explanation is required. Because of the bulk of information contained in these tables, it is necessary, unfortuantely, to discuss the significances one at a time.

a. On-site responses of divided highway drivers (Table G-6): Drivers on business trips were less likely to recall delay than those on nonbusiness trips. They were also less likely to recall having passed a wide load. However, of the drivers who did recall passing a wide load, those driving for business purposes were more likely to have encountered problems with respect to it. In general these drivers were more likely to name mobile homes, other cars, and campers as problem vehicles; whereas drivers on nonbusiness trips were more likely to mention trucks as problem vehicles or to say there were no particular types of vehicles which caused problems.

Low mileage drivers were more likely to consider trucks as problem vehicles whereas high mileage drivers considered other cars and campers in this category. The high mileage drivers were also less likely to have recalled a wide load on this trip than drivers who drove more moderate amounts.

People whose driving is usually for business purposes were usually the same people whose present trip was for business purposes. Therefore, the stratifications according to the usual trip purpose were much like the stratifications for the present trip purpose. In addition, drivers who usually travel on business were more likely to classify accidents, congestion and construction projects as safety hazards whereas other drivers were more likely to consider slow vehicles as hazardous.

Divided highway drivers who usually drive on divided highways were less likely to consider slow vehicles as causing delays. However, they tended to consider mobile homes and campers as problem vehicles more than did other drivers. Persons whose major driving is done on two-lane highways or local streets were more likely to state that no particular type of vehicle was a problem. Drivers accustomed to local streets were more likely to recall passing a wide load than those accustomed to driving on two-lane or divided highways.

Female drivers were more likely to recall safety hazards than males. However, they defined safety hazards differently. Male drivers tended to consider slow vehicles as hazardous whereas females drivers were quite diverse in their hazard identifications. Male drivers were more likely to recall having passed a wide load although female drivers were more likely to consider mobile homes as being a common problem vehicle.

Older drivers were more likely to recall passing a wide load but less likely to consider the encounter a problem or, in fact, to consider any type of vehicle a problem. Younger drivers tended to name hazards more readily.

Drivers of automobiles were bothered by mobile homes because of their slowness. They were also bothered, in general, by trucks. Truck drivers, however, tended to say they were given more problems by cars, campers, and mobile homes.

Persons who recalled passing a wide load were more likely to recall encountering delay and encountering hazardous situations. However, the cause of the delay or the hazard was generally not the mobile home. This probably just signifies that the drivers who were alert enough to recall passing the wide load were also alert enough to recall other situations they had encountered. Finally, the drivers who recalled having passed a wide load were more likely to mention mobile homes as the type of vehicle which causes problems in general. They were also more likely to mention other cars in this category.

b. On-site responses of two-lane drivers (Table G-7): Two-lane highway drivers on business trips were more likely to recall a delay and more likely to recall a wide load. This is just the reverse trend from that observed of divided highway drivers. The two-lane drivers on business trips were more likely to mention mobile homes, sport cars, campers and trailers as problem vehicles whereas other drivers tended to mention trucks, buses, other cars or no particular vehicle type. High mileage drivers were more likely to recall delays and wide loads, and to consider trucks, mobile homes, campers and trailers as problem vehicles. Low mileage drivers tended to not mention any particular vehicle type.

Drivers who usually are on business trips were more likely to have observed delays and to consider mobile homes, sports cars, and single unit trucks as problems. Persons whose driving is mostly not for business purposes tended to consider other cars as problems more frequently than did business trip drivers.

Persons whose driving is usually on two-lane roads were less likely to have observed a mobile home, but if they did observe one it tended to cause problems because it was moving too slow. Two-lane drivers who normally drive on divided highways were more likely to recall a wide load. They also tended to consider other cars and single unit trucks as problem vehicles.

Male drivers were more likely to recall a safety hazard and more likely to recall passing a wide load than female drivers. Males tended to consider sports cars, single unit trucks, campers, and trailers as hazardous more often than did females, who tended to put other cars and busses in this category.

Younger drivers were more likely to recall delays, safety hazards, and wide loads than older drivers. Older drivers were more likely not to consider any particular vehicle type as being a problem, with the possible exception of single unit trucks. Young drivers, however, were more apt to mention mobile homes and other cars as being problems.

Truck drivers were more likely to recall delays than passenger vehicle drivers. Moreover, the delay to a truck driver tended to be because of a slow vehicle. Automobile drivers were more often bothered by construction projects as a cause of delay, although truck drivers viewed construction projects as a safety hazard. Neither automobile drivers or truck drivers were more likely to have recalled seeing a wide load, although of those who did, the truck drivers were more often bothered by its slowness whereas passenger vehicle drivers were bothered for a variety of reasons. Truck drivers on two-lane roads tended to consider other truck drivers and mobile homes as being problems in general, whereas automobile drivers tended to think of other automobiles as being problems.

Two-lane highway drivers who recalled having recently passed a wide load were more likely to have recalled delays and safety hazards but, in consonance with similar divided highway drivers, the named delay causes and safety hazards were not the mobile homes. Finally, the drivers who recalled passing a wide load tended to name sports cars, other cars and single unit trucks as generally the most troublesome, whereas other drivers were more likely to mention semis.

c. <u>Mail-back responses of divided highway drivers (Table G-8)</u>: There were no significant differences associated with the purpose of the present trip although the "usual" trip purpose was important. People who usually drive for business purposes tended to consider trailers as both hazards and impedances on two-lane roads, and trailers, campers, and mobile homes as impedances on Interstate highways. They were more likely to say that no vehicles should be banned from two-lane roads, however, as compared to other drivers. The other drivers were more likely to suggest that mobile homes, trucks, and campers should be banned from two-lane roads and that, in particular, trucks were a hazard and an impedance factor on two-lane roads. They also felt that single unit trucks create delays on Interstate highways. In general, nonbusiness drivers considered trucks as problem vehicles more frequently than did business drivers, who were more likely to name cars, campers, motorcycles, and busses in this category.

High mileage drivers were more likely to think that cars pulling trailers were the major problem vehicles, than did low or moderate mileage drivers, who put semis in this category. The high mileage drivers also were more likely to consider mobile homes and cars pulling trailers as causing delays on Interstate highways whereas other drivers were more likely to name single unit trucks in this regard.

Drivers who do most of their driving on divided highways were more likely to suggest banning mobile homes from two-lane roads than were other drivers. They also were more likely to name trucks and cars pulling trailers as causing delays on this type of facility. Other drivers, however, were more likely to be either more tolerant or noncommittal, with a disposition to not name any particular vehicle types in these categories.

No significant differences could be noted in the mail-back responses of divided highway drivers attributable to sex or age. And the only difference attributable to having seen a wide load on the present trip was a marginal tendency for such drivers to more frequently suggest banning mobile homes from Interstate highways.

The type of vehicle driven by the motorist was the most discriminating variable of those studied. Truck drivers were generally more likely to be concerned with cars pulling trailers and campers as safety hazards. They were also more likely to mention campers as the vehicle type causing the most problems. However, they were more predisposed to not banning any vehicle types from any type of highway. Passenger vehicle drivers, on the other hand, tended to mention both single unit trucks and semis as being hazards and problem makers. They were also more likely to suggest that semis be restricted in their use of the Interstate highway system and that they be banned entirely from two-lane highways, along with mobile homes. Undoubtedly, the strong influence of vehicle type on the respondent's answers also interacted with the other variables such as trip purpose and driving experience.

d. Mail-back responses of two-lane highway drivers (Table G-9): The responses of this group showed greater dependence on the driver stratifications than did the responses of the divided highway group. Drivers on business trips were more likely to consider mobile homes and farm equipment as causing delays on two-lane highways and to suggest they both be banned on Interstate highways. Other drivers were more likely to place semis in these categories. Drivers on business trips were more likely to consider campers and mobile homes as being problem vehicles in general, whereas other drivers were more likely to mention semis, motorcycles, and other cars.

Low mileage drivers appeared overly concerned about trucks. They were more likely than other drivers to suggest banning trucks on Interstate highways and, along with mobile homes, to consider trucks as safety hazards on the Interstate system. They had a tendency to name trucks and motorcycles as being problem vehicles in general, whereas high mileage drivers had a tendency to mention campers and trailers. High mileage drivers were more likely than others to say that no vehicles presented a safety hazard on the Interstate system, but that campers and mobile homes cause delays on two-lane highways. They were also more likely to suggest banning mobile homes on the Interstate system.

Drivers who usually drive for nonbusiness purposes were overly troubled by semis on two-lane highways. They tended to mention them as safety hazards and as impedances, more than did other drivers. They were more likely to say that trucks were, in general, problem vehicles and that they should be banned on two-lane highways. Drivers who usually drive for business purposes were more apt to consider mobile homes as both safety hazards and as impedances on two-lane highways. Also, they were more apt to mention single unit trucks as safety hazards and farm vehicles as impedances than did other drivers.

Two-lane motorists who do most of their driving on divided highways were more apt to consider trucks as the type of vehicle causing delay on Interstate highways, and as vehicles which should be limited in their use of the Interstate system. Persons most used to two-lane driving, however, were more likely to consider motorcycles as a vehicle type which should be limited in Interstate highway usage. Two-lane drivers were also most apt to say that no vehicles should be limited in their usage of the Interstate system. Drivers whose experience tended to be rather general, covering local streets, two-lane highways, and Interstate roads about equally, were most apt to say that mobile homes should be limited on the Interstate system, but that no vehicles cause delay on these highways.

Male drivers were more likely than females to say that no vehicles were a safety hazard on the Interstate system, and that other automobiles were a safety hazard, whereas females were more likely to place motorcycles in this category. Similarly, males tended to say that no vehicles were impedances on the Interstate system or that campers caused delay. As far as causing problems in general, females were more likely to mention motorcycles first, and to rate them along with trucks very highly. Males were more likely to mention campers or other autmobiles as being problem vehicles.

Young drivers were more likely to say that mobile homes were a safety hazard, both on Interstate highways and on two-lane highways, than were other drivers. Older drivers tended to mention campers and single unit trucks as safety hazards on the Interstate system and other cars or no vehicles on two-lane highways.

Automobile drivers were more likely than pickup or truck drivers to say that trucks were problem vehicles. Compared with other drivers they were more likely to name trucks and trailers as being hazardous on the Interstate system, semis as being hazardous on two-lane highways, trucks as causing delays on both Interstate and two-lane highways, trucks and mobile homes as vehicles to be banned from two-lane highways, and trucks and farm vehicles as the number one problem vehicles. Pickup truck drivers tended to consider other cars as being safety hazards more than did other drivers; they also were more likely to mention other cars as being general problem vehicles. Single unit and semi truck drivers, however, responded differently. They were most likely to say that no vehicle should be banned from the two-lane highways and that no vehicles cause delay on the Interstate system. They tended to say that campers were a safety hazard on the Interstate system and that mobile homes cause delay on two-lane highways. As problem vehicles they were more likely to mention cars pulling trailers, slow vehicles and campers.

Drivers interviewed on two-lane highways who had recently passed a wide load did not respond to the mail-back questionnaire in a different fashion than did other drivers.

# APPENDIX H

## SELECTED COMMENTS FROM MOTORISTS

Task C involved obtaining motorists' opinions and attitudes regarding mobile homes on the highway. This was accomplished by conducting surveys in six states, at approximately 18 interstate and two-lane road locations. Nearly 3,000 people were interviewed and their responses analyzed. That data is contained elsewhere in this report.

The motorists were also given a mail-back form which they were asked to complete and return. Approximately 30% of the motorists did so. In addition to the questions included on the form, space was provided for general comments. About one-fourth of the respondents took advantage of that opportunity.

Most of the comments do not relate specifically to the contract objectives. However, they do represent a wide and interesting cross-section of public opinions regarding many facets of traffic safety. Therefore, it was decided to include a selected sample of these comments here for the interested reader, even though they don't impact the project conclusions. The selection was not random; rather the comments were chosen to typify the categories of responses obtained. The relative numbers included on each subject are roughly proportional to the total number of comments received.

The comments were reproduced verbatim from the questionnaires, except that spelling corrections have been made. Occasionally, we have inserted a word or two, in brackets, for clarification.

The responses have been grouped into seven major categories. Category 1 involves negative comments concerning wide loads. We were rather surprised to receive so few comments in this regard because, although the respondents were not told that the subject of interest was mobile homes, the final question(s) during the interview process did explictly address this subject.

The second category is representative of the many comments received regarding other types of vehicles. The comments are further grouped according to vehicle type--trucks, farm equipment, buses, campers and other trailers, old vehicles, sports cars, motorcycles, bicycles, and police cars.

Generally speaking, however, most comments did not specifically relate to types of vehicles. Many persons commented that it was the speed (or lack thereof) of vehicles that was hazardous. Some of these coments are included in Category 3. Comments of a closely related nature are in Category 4. A surprisingly large percentage of the respondents commented that the problem is the driver and not the vehicle. What they were saying in effect was that, in their opinion, our survey was asking the wrong questions.

The fifth category is composed of miscellaneous suggestions and comments regarding the highway system and suggestions for improvement. Within this category the first subgroup expressed negative opinions about further highway expansion. The second subgroup expressed pro-highway feelings. Following these are comments concerning highway improvements, driver improvements, vehicle inspection and signing.

The third and fourth questions on the mail-back questionnaire regarded restricting highway usage for certain classes of vehicles. Several respondents commented that no vehicles should be restricted. Category 6 is representative of these comments.

Finally, we received three negative comments concerning the survey itself. These are in Category 7. The first of these comments, we believe, simply reflects the difference in attitudes concerning surveys among various jurisdictions. Many states, in fact, prohibit by law the stopping of any motorists for any type of survey. In the state in which this particular respondent was stopped the signing and traffic control was conducted in accordance with the printed procedures of that state. These procedures included the use of large (4 ft by 8 ft) electric flashing arrows. A highway department employee was on site and assisted in placement of the signing, etc., and in traffic control. Also, a state highway patrolman was assigned full-time to work with the survey crew.

The second comment in the group was the only one critical of an interviewer. The interviewers were instructed, if asked about the purpose of the survey, to simply answer that the survey deals with traffic and traffic safety. To minimize respondent bias, they were not to say that this was a mobile home or wide load survey. However, the last question asked of the respondent does address the subject of mobile homes and could have given that respondent a negative impression. Since he was the only respondent to express that view, we are of the opinion that most motorists did not receive this impression.

1. Wide Loads

We just returned from a 2-week trip to Oregon. We nearly had a very bad accident. A mobile home being transported was holding up traffic, a van was trying to pass the line and lost control coming down a hill--we were meeting the line of cars and he barely missed us by pulling over on the shoulder of the road.

* * *

Pilot cars for mobile homes are not necessary on either four-lane or two-lane highways except in a few mountainous areas with inadequate roads to begin with. They do nothing but contribute to the congestion of a two-lane highway and in my opinion create more hazards than they are meant to prevent. Anyone that can't see a 14-ft wide load with flashing lights has no business driving so it does not appear that a pilot car is really adding anything to public safety.

* * *

My reasons against "large mobile homes transported by truck" are that I was once pushed off the road when one approaching in the opposite direction missed a curve. Often this sort of thing happens; the drivers do not seem cautious or courteous.

* * *

I feel that the most hazardous [vehicle] is the large mobile home carrier and that they should not be allowed on two-lane roads unless there are adequate turn offs or extra lanes for slow moving vehicles on hills and curves. Also, pickups with these high over-sized campers on them are real bad--you can't see around them or through them and they are usually under powered so that on hills they slow way down. These vehicles should be outlawed from narrow two-lane roads that don't have proper turnouts for slow traffic.

* * *

Would like to see everything put back to 8 ft width or else wider highways. I think wide farm equipment and large trailer homes cause the most hazards. Nebraska highways have not kept up with their permits with wider loads.

* * *

Large multiunit trucks and large mobile homes being transported by truck are hazards, in my opinion, when several seem to be traveling in groups. Passing them, or being passed by them can be pretty hair raising in areas such as ours where frequent winds can be a problem. Also, they send out a heavy spray from their wheels when pavement is wet. This can blind another driver. Motorcycles are a problem, as so many of the riders are careless about cutting in and out of traffic, and because they could upset easily by hitting a rough spot or fallen rock. To be quite truthful--they scare the hell out of me!

* * *

2. Other Vehicles

a. Trucks

There are far too many large trucks on the highways. They also have the habit of bunching together. Today I passed five in a row about 80 or 90 ft separating each truck at 70 mph.

The mobile homes seem pretty rocky on a windy day. I believe the speed limit is too high. I find about three out of six vehicles are in excess of the 70 mph limit part of the time. High speed is hurting our fuel shortage.

* * *

If feel that tractor trailers running too close together and playing tag with one another (I mean taking turns passing each other) is the most hazardous, and the most disgusting, thing that happens on the road, also cars driving 70 and 80 mph in the right lane and slower traffic in the left lane.

I like to drive around 60 and seems like I'm always in the way even if I'm in the right lane. Everyone is always snarling as they pass me. Thank you.

* * *

Large semi-trucks should not be allowed to use highways in congested areas during the time people are going to and from work. Example from 6:30 to 8:00 a.m. in the morning and 4:30 to 6:00 p.m. in the evening.

Also, passenger buses should all have pull out areas for loading and unloading of passengers.

Small sports cars and passenger cars should not be allowed to change lanes indiscriminately (at their whim).

* * *

Large semi-trucks present problems on our roads. During rain when following or passing on either side of the road a semi can send off enough spray onto a passenger car windshield as to interfere with visability. Also, many exceed the posted speed limit. I'm all for interstate transport but they must be aware of the problems the large semi's cause.

* * *

1. Trucks, including single axle, multiple axle and semi's have gotten too large for the roads, they overpower the average passenger car when passing or being passed.

2. Motorcycles are too dangerous to their riders and are too small to be seen easily, they should be prohibited from travel on public roads except for emergency use.

* * *

Trailer towing vehicles should have a minimum towing vehicle weight and horsepower. A ratio per ft and weight should increase weights and power for larger trailers.

Slow moving vehicles should be forced off the highway by law when three or more vehicles are in following procession.

Passing lanes on uphill traffic should be used by passenger cars only.

Accidents involving speeders should be investigated to see why driver was speeding. I feel fast drivers are being penalized for impatient drivers and careless drivers.

* * *

I am glad to know that someone is interested in how I feel driving on interstates and two-lane roads. We have a Volkswagon "bug", and the smallness of the car makes it very susceptible to wind draft. Huge trucks roaring down on me and passing me on hills is even worse. The larger Winnebagos also cause a problem as do cars towing trailers, their drivers seem often not to know how to handle them. I also deplore coal and lumber trucks. I swear they aim at Volkswagons.

* * *

I think all trucks hauling gravel, corn, grain, etc., should be covered. There is no way to protect yourself on a two-way highway from this type of oncoming vehicle.

Trucks and cars with trailers are becoming more difficult to pass.

* * *

b. Farm Equipment

I drive 50,000+ miles per year and most of this mileage is on two-lane highways. The biggest hazard I run into are farm tractors and other farm related vehicles which move at speeds less than 30 mph. Such vehicles should have hazard lights mounted at least 10 ft above them so they can be seen at a distance, particularly in hilly country. Slow drivers on the interstates are also a real hazard and the highway patrol should watch for them as much as speeders.

* * *

Many times I find farmers with their tractors, combines, etc., on two-way highways that cause considerable problems. It seems like there are becoming more and more cases where they are using the highway and they don't always pull over to the side where space is available.

I also noticed that so many drivers on the interstate system insist on driving in the left hand lane when they are not passing. This is a serious problem and quite often I feel like stopping them and asking what their reasoning is. (Passenger cars.)

My wife feels people should be instructed more on the use of their turn signals when passing. (All highways.)

* * *

I am a farmer near Blair, Nebraska. I would like to see all farm equipment used on highways and county roads day or night use a flashing amber light. This should be a state law.

Thank you.

P.S. your highway crew were very polite.

* * *

c. Buses

Passenger buses drive too fast and take too many chances on two-lane roads, semi-trucks are too slow and hard to pass which make people take chances.

Slow moving vehicles are more of a hazard than the one going 5 or 10 miles over speed limit as they also make people take chances.

* * *

d. Cars Towing Trailers

The reasons for feeling that H (cars towing trailers) is such a safety hazard is because they are not equipped with stable enough suspension or braking system which in turn makes it a highway menace.

* * *

Passenger car drivers who have never had experience driving tractor trailers seem to be the biggest hazard on truck-laden interstate highways.

Women drivers, unfamiliar with large vehicles such as self-contained campers, cars towing trailers, attempting to drive these vehicles present the greatest hazard on any highway.

Call boxes should be installed every night on all interstate highways and those two-lane highways in undeveloped sections. (hooboy!! there goes our taxes)

* * *

People that are going to use a self-contained camper should have to have the equipment checked to make sure the hitch and sway bars are heavy enough to handle the unit.

People who use the highway's with these campers should have to take a test in this unit to make sure they can handle the unit in a safe way so they won't get themselves into trouble on the highway.

As a tractor trailer driver I have to see people who don't know how to handle themselves in traffic, this also includes people who think that they are the only ones on the highway. They cut in and out of traffic, tailgate, and mostly the people who travel too slow on super highways, they are also a lot of people who like to play chicken on the roads with tractor trailers, this is stupid and when their number is turned into the police they should be taken to court and have their license taken for a 1-year period.

* * *

Pickups with campers and cars towing boats, camper trailers etc., should have their own roads to travel or at least a special lane, also F (tractor trailers) should. It makes my blood boil to get behind one of these on a two-lane road that's hilly enough you can't pass them for miles and you have a deadline to meet. I'm glad for this survey!!! Sure hope it will help.

* * *

The growing use of recreational vehicles is a threat to the safety of all. Repeatedly I encounter such vehicles--often improperly loaded--worst of all carrying loads never designed to be pulled, i.e., "campers," with a canoe on top, motorcycles on the rear, pulling a large boat! They weave all over--crawl up grades--are difficult to pass. Strict regulations and enforcement of load limits is needed--their braking and steering capacities are a nightmare, especially with nonprofessional drivers.

* * *

e. Old Vehicles

Old pickups seem to be exempt from rules regulating lights, signal and running--noise, exhaust, tires and brakes, load, windows broken or obstructed mirrors, windshield wipers, mufflers--etc. I couldn't get out of the city if my car was in the condition of some of the pickups I've seen on our trip.

* * *

I feel most accidents and hazards are caused by vehicles in improper state of repair, inspection should be more closely observed, spot checks, etc. . ., and get unsafe vehicles off roads.

* * *

f. Sports Cars

Sports cars are a safety hazard as most No Passing lines and signs are designed for a taller auto.

* * *

g. Motorcycles

I think cycles should not be on interstate highways. They zip in and out of traffic and they are hard to see from a distance. Whether day or night you must get close before you see them. Especially coming off of the exit ramps.

* * *

I drive a truck for a living, about 75,000 miles a year. Motorcycles are very hard to see ahead and behind. The compact cars are hazardous. They try to pass when there isn't room and they don't have the speed required. Farm equipment is a definite hazard. Too many operators will deliberately pull out in front of a fast moving vehicle expecting the car to yield with no notice. They are too long, too wide and too slow.

* * *

h. Bicycles

Bicycles are a great hazard on any highway. Bicycles should use all caution as any other vehicle. Should operate bicycles in same direction as other traffic on all highways and streets.

* * *

i. Police Cars

State police [cause the most problems for other drivers] when they come onto highway everyone else puts on brakes and slows down.

* * *

3. Slow Vehicles

I feel the slow driver should be penalized as well as a speeder. A slow driver tends to make other drivers worse drivers because of taking unnecessary chances to pass.

I would like to see the penalty for drunk driving really stiffened, and prosecution done speedily.

Thank you.

* * *

The biggest problem on any highway is the slow driver who won't drive with the flow of traffic and doesn't have sense enough to pull off the road long enough to let the traffic behind him pass.

On the two-lane highway this is asking for trouble if you try to pass. On the interstate it's the slow driver himself who may get hit from the rear. I think unless you drive at least 60 mph on an interstate you should be forced by law to stay in the right lane as you are in many states that have steep grades. This helps to keep the traffic flow normal and is less danger of rear end collision for the slow driver.

* * *

Slow moving vehicles (usually a car) that will not pull over, and you have a line-up and someone three or four cars back tries to pass. Cars will not pull over--even on the freeway. They'll get in that fast lane and will not pull over or speed up, you can honk, or pass on the right (like a lot do) and he still stays right there. I see a lot of speedsters stopped, but no slow cars. Semis are bad on two-lane and likewise school buses--they are terrible.

We need separate bike paths along the same roads and more respect to bike and cycle riders.

* * *

I feel slow moving vehicles should have to meet a minimum speed of not less than 45 mph on two-lane roads and 55 on interstate highways--or not be allowed on the roads.

I feel farm machinery should be hauled on trailers, etc., instead of being driven and there should be a width limit on such equipment. If they must use the roads they should at least have the courtesy to get as far off the road as possible.

* * *

When you are driving on open road speed limit and come to an intersection and a Volkswagon pulls out and goes 30 miles an hour or even in town and you are doing speed limit 35 or 25 and a small car pulls in front of you and goes 10 or 15 mph and you have to slam on your brakes to keep from tail ending it. I have wanted to sound off about this for years. Thanks for the opportunity.

* * *

4. The Driver

Vehicles are not hazardous--the driver behind the wheel is the menace on the highway, any highway. Drivers from different states are more hazardous than others. New York and New Jersey head my list followed by Michigan, Massachusetts, Illinois and Florida. Take the drunken driver from behind the wheel and I mean all drunken drivers not just a select few who have no friends at city hall to intercede for them. Remove the gung-ho truck drivers who tailgate when they think the car in front of him is not going fast enough. Get rid of the immature driver of both sexes who think the roads are their private domain and to hell with everyone else.

As I said in the beginning, vehicles are not hazardous, it is the weirdo in back of the steering wheel.

* * *

I believe that we should educate the nut behind the wheel by stiff requirements for being able to drive, also, it should be a mandatory loss of license if proven he had been drinking beyond the certain level. Vehicles themselves cause very, very few accidents but the driver is where you should be concerned. No-fault insurance will make the poor driver worse because he then will not be responsible for accidents.

* * *

My comments may not be to your point--however we just completed a 2,400 mile vacation trip using all types of roads and meeting all types of vehicles. I feel that the greatest hazard is not the type of vehicle--but the way it is driven. Drivers with full awareness of their vehicles' capacities and considerations for the other vehicle user on the road--present very few hazards. To exclude, or permit use of road at certain times, to large or slow vehicles, may increase the hazards of speed, etc., to other vehicles. Motorcycles are very difficult to spot while looking for cars--and could be dangerous. I have great respect and confidence in "semi" drivers and bus drivers on interstate roads.

GOOD LUCK!

* * *

While the questionnaire concentrates on "vehicle" it has been my experience in over 45 years of driving that the greatest hazard is not the type of vehicle as much as the driver of the vehicle. Skipping the drunken driver, which is recognized as a universal menace, the others that I consider the greatest problem are: the too slow driver that holds up long lines of traffic when it is possible for him to pull over and allow the normal flow of traffic to pass him; and the too fast driver, that takes unnecessary risks, especially in passing. He passes on blind curves and on hills that he cannot see traffic coming from the other direction, and many times I've been forced off the road to keep from hitting such vehicles "headon." Although this questionnaire is about highways, I have a special resentment against the nit-wit who uses the parking lot of a busy shopping center to show off how fast his new car (or jalopy) will go. With this type of infantile thinking, they are found to be a hazard on the highway--any highway and vehicle.

* * *

5. Highways and Traffic Improvement

a. Anti-Highway

The interstate highway system should not be expanded further. The money should go for subsidies for mass transit, buses, trains. Highway building is self-aggravating.

* * *

I am paranoid about driving today. Accident statistics are frightening. I worry about insane maniacs that fail to comprehend serious accidents, and consequently, endanger the lives of others. I also find myself worrying about going 5 mph over or under the speed limits, crossing the line and failing to come to a complete stop. I seem to be on the watchout for patrols, especially in urban areas.

I really don't like to drive; but what choice do I have? Autos run a person off the road if one chooses to ride a bicycle or motorcycle. Why can't half the taxes being spent on highway development be spent on developments of more extensive passenger railroads. Better use of energy, less accidents, no litter and easier maintenance. At least people would have a choice!

* * *

America had railroads for the use of transporting heavy, bulky cargo. Why do we now have all this on any and all highways at all times of the day all times of the year?

In my opinion this heavy cargo on highways not only creates a safety hazard but costs the American tax payer lots of money in road repairs. There are too many of these trucks driving too close together with we own the road attitude.

* * *

b. Pro-Highway

We travel a lot from coast to coast and have had very little difficulty. The roads are wonderful!

* * *

I feel our highways are generally safe and in good condition and would be far safer if motorists would only drive with extreme caution and <u>not</u> speed--more people try to pass (with high speed, when it is not possible to see far enough ahead.)

I am in favor of reducing the speed limit down to 50 or 55 miles per hour (nation wide).

* * *

c. <u>Highway Improvements</u>

As a sales representative who stays on the road 5 days a week, I would like to see more rest stops along our highways in the South. Just a place to pull into, stretch and continue the journey without having to pull off on exits and waste time. You can frequently check your tires, clean windshields, etc., adding to safety on the highways.

* * *

I recently made a trip by car from Groton, Ct. to Clearwater, Fla. It was a fairly good trip except for two things: (1) in certain areas a definite lack of good rest areas and (2) there was debris on the highway itself and the shoulder. This was mainly tire rubber but I did encounter two small pieces of wood on the road itself. Had I been traveling at night following a large truck or about to pass, this wood could have been flung up at me causing a bad accident. I would suggest that roads be kept clear of debris <u>daily</u> and that all trucks carrying loads be covered securely no matter what they are carrying or how far.

I followed a tractor trailer hauling lumber and it looked like a small tornado running down the road. Leaves, bark, dirt and small pebbles were flying along behind it.

* * *

I think all (federal and state) numbered two-lane highways should at least be improved to have a 10 ft wide <u>paved</u> break down lane on each side which could also double as a bicycle lane, because bicycles traveling in the main roadway lanes are a serious hazard to both motorist and cyclist. This improvement could be made at minimal expense by accepting existing line and grade except where obviously hazardous and many times more miles of roadway could thus be improved than is being done at present and also eliminate the need for separate bicycle paths.

* * *

d. Driver Improvement

Driving tractor trailers 65,000 miles per year for the previous 15 years - I feel more emphasis should be put on driver training and retraining of all age groups -

Vehicle safety should sacrifice style and beauty for ruggedness, suspensions, steering, etc -

No one should be forced by law or any system to wear seat belts.

* * *

I would prefer to make a positive comment, which is this: I have taken the 8-hr course in defensive driving, given by the N.H. Department of Safety. I have learned to anticipate danger possibilities and I have learned to be patient, an essential attribute for a good driver. I would suggest that this course be offered EVERYWHERE!

* * *

The vehicles do not cause problems, but it is the drivers of the vehicles that cause the problem. One suggestion I have is specifically for drivers of self-contained campers and pickup campers. Many drivers of these vehicles are inexperienced at handling them and they need training. As truck drivers are trained for their type of vehicle and motorcyclists hold a special and additional license in some states, so also many inexperienced camper drivers need training. This training should be provided by private enterprises not the government!

In addition, I would be interested to know the cost to the people of this traffic survey.

* * *

e. Vehicle Inspection

Some states do not require a semi-annual or annual inspection of motor vehicles. In as much as the Federal Government is requiring antipollution devices, why not set a standard for inspection of vehicles using the interstate highway system and require a sticker for verification of inspection.

In 4,166 miles of traveling in 29 days, movement of large mobile homes and older model autos in poor condition were the most frequently encountered delays or safety hazards.

Thanks for the good roads.

* * *

f. Signing

We don't think the highways have enough markers on them. Sometimes we went 5 or 6 miles before we saw a sign. There definitely aren't enough signs in the large cities. Maybe we are country hicks I don't know.

* * *

The gentleman who conducted the first half of this survey was most courteous and friendly.

I have just driven 10,800 miles over 14 weeks, from California to Nova Scotia and am returning to California now. I found Connecticut the best on highway signs, California is the safest due to the reflectorized color-keyed highway buttons, which give visual and audial warnings as well, since they make a "bump" sound when driven over. I am a 41 year old widow, not afraid of traffic. Pennsylvania has a very good system requiring vehicles to use a distress blinker when traveling under the minimum speed.

* * *

6. No Restrictions

I do not feel that any legal vehicle should be prohibited from operating on our highways (federal, state, county, twp, etc.). Large loads when properly handled are not a hazard to other traffic. It is the drivers of vehicles who are hazards or create hazardous conditions.

* * *

I don't think it would be fair or possible to limit certain types of vehicles on most roads unless weather is a factor.

Also - we ride a motorcycle on trips and believe me, we watch out for the other guy! Also - we try to wear light, bright clothing so as to be more easily seen.

* * *

All vehicles buy gas and paying their share of road tax should be allowed to use all roads. (No snowmobiles - lawnmowers.)

* * *

7. Survey Criticisms

Aside from highway construction which could not be avoided, the most dangerous safety practice I observed on my coast to coast trip was your survey position. As a professional Law Enforcement Officer, had I had the jurisdiction, I would of filed criminal charges against the survey party. There was insufficient warning, and no justification for stopping interstate traffic. Might I suggest, a survey team simply jot down license plate numbers without stopping the traffic and using the LETS System, obtain the registration data, mailing the registrator a letter requesting the data. If that is unworkable, why not interview all personnel pulling into a rest area - but NEVER stop all the vehicles on an interstate highway!!!!!

I have strong feelings that "extra wide and long" travel trailers, mobile homes would be a better term, and dual-trailer rigs should not be allowed on anything but divided highways, and then only during daylight hours when escorted. Dual-trailer rigs should be prohibited from any highway as they are just too hard to safely pass. Of course, until the Interstate Highway System is completed, this would be an impractical regulation for mobile home owners/dealers, to limit them to four-lane or larger roads.

* * *

- Would like to know the purpose of questionnaire.

- Roadside pollster gave a slanted view against large mobile homes.

* * *

Campers, truck trailer, and etc., have the right to use our highways at anytime--roads should be made to have passing lanes.

Our gas taxes and etc. are enough now.

Some of your stupid questions and surveys are a waste of time and money.

* * *

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