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FEDERAL LEGISLATION AFFECTING MOTOR VEHICLE DESIGN

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INTERIM REPORT

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16. Abstract

This report discusses federal legislation and regulations affecting, or having the potential to affect, the design and manufacture of motor vehicles.

The regulations included in this report are those in effect as of April 1, 1974. This report does not reflect changes in automobile emission standards under the Clean Air Act, which would result from enactment of H.R. 14368, the "Energy Supply and Environmental Coordination Act of 1974". Appendix E describes these changes.

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PREFACE

This report was written for the Automotive Energy Efficiency Project (AEEP), OS-514, sponsored by the Office of the Assistant Secretary of Transportation for Systems Development and Technology, R. Strombotne, Program Manager. The basic objective of the AEEP is to evaluate the capability of the automotive industry to make substantial improvements in the fuel economy of the vehicles they produce.

In connection with this objective, this report cites and discusses federal legislation and regulations affecting, or having the potential to affect, the design and production of motor vehicles.

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1. INTRODUCTION

This paper discusses federal legislation and regulations affecting, or having the potential to affect, the design and manufacture of motor vehicles. State legislation, which because of federal pre-emption must generally fall within the parameters of federal laws,* is not covered.

Section 2 of the paper discusses the statutory framework which provides the authority for federal regulation in this field. Section 3 outlines the specific design and performance standards.

The statutes discussed in Section 2 include both safety-oriented statutes such as the National Traffic and Motor Vehicle Safety Act of 1966, the Highway Safety Act of 1966 and the Interstate Commerce Act, and statutes with other purposes such as the Clean Air Act, the Noise Control Act of 1972, the Motor Vehicle Information and Cost Savings Act, and Federal Aid Highway legislation concerning weights and widths of vehicles. All of these statutes have a direct bearing on the design and manufacture of vehicles. Statutes with only a tangential relationship to the manufacture of motor vehicles, such as the Occupational Safety and Health Act, P.L. 91-596, 29 USC.651 et seq., are not discussed. (See Appendix D.)

Section 3 provides a brief survey of specific standards and regulations governing the design of motor vehicles. Such regulations influence the manufacture of motor vehicles in several ways: by requiring certain equipment, by setting mandatory performance standards or limitations, or by compelling manufacturers to make certain warranties, or at least certain information, available to the consumer. A synopsis of the regulations governing various features of a motor vehicle is presented.

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* But see § 209 of the Clean Air Act, as amended, 42 U.S.C. 1857f-6a(b), which authorizes the EPA Administrator to permit states having emission standards in effect as of March 30, 1966 (California), which are more stringent than applicable federal standards, to continue to enforce such standards.

The regulations included in this report are those in effect as of April 1, 1974. This paper does not reflect changes in automobile emission standards under the Clean Air Act which would result from enactment of H.R. 14368, the "Energy Supply and Environmental Coordination Act of 1974." Appendix E contains a memorandum describing these changes.

2. STATUTORY FRAMEWORK

2.1 NATIONAL TRAFFIC & MOTOR VEHICLE SAFETY ACT OF 1966

The National Traffic & Motor Vehicle Safety Act of 1966 (hereinafter referred to as the "Traffic Safety Act") requires that practical and objective safety standards be established by the Secretary of Transportation to reduce traffic accidents and deaths.[1] These safety standards are to apply to all motor vehicles and motor vehicle equipment[2] (unless exempted[3]); that is, to all vehicles "driven or drawn by mechanical power manufactured for use on the public streets, roads and highways, except any vehicle operated exclusively on a rail or rails,"[4] and to all equipment of such vehicles.[5] In addition the Secretary is to establish safety standards for tires.[6]

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[1] 15 U.S.C. 1381 et seq.

[2] 15 U.S.C. 1392 (a).

[3] See discussion infra at page 2-4.

[4] 15 U.S.C. 1391 (3).

[5] "'Motor vehicle equipment' means any system, part, or component of a motor vehicle as originally manufactured or any similar part or component manufactured or sold for replacement or improvement of such system, part, or component or as any accessory, or addition to the motor vehicle, and any device, article, or apparel not a system, part, or component of a motor vehicle (other than medicines, or eyeglasses prescribed by a physician or other duly licensed practioner), which is manufactured, sold, delivered, offered, or intended for use exclusively to safeguard motor vehicles, drivers, passengers, and other highway users from risk of accident, injury, or death." 15 U.S.C. 1391 (4).

[6] 15 U.S.C. 1421-1424, 1426, as supplemented by National Highway Traffic Safety Administration (NHTSA) regulations, 49 C.F.R., parts 569 and 574. Section 574.109 was amended by 39 F.R. 5192 (2.11.74).

Every manufacturer[7] or distributor[8] of motor vehicles or of motor vehicle equipment must, at the time of delivery, provide the distributor or dealer[9] with certification that each vehicle or item of motor vehicle equipment conforms to all applicable federal safety regulations.[10] The manufacturer must also furnish performance and technical data to the Secretary of Transportation, who may then require that such information be furnished to prospective purchasers and to the actual first purchaser.[11]

If, after sale to a dealer and before sale to the ultimate purchaser, any motor vehicle or item of motor vehicle equipment is found not to conform to the applicable safety standard or to contain a defect relating to motor vehicle safety, the manufacturer or distributor must either repurchase or replace the defective vehicle or component thereof,[12] or be subject to suit by the distributor or dealer.[13] If, after the sale to the purchaser, the

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[7]"'Manufacturer' means any person engaged in the manufacturing of assembling of motor vehicles or motor vehicle equipment, including any person importing motor vehicles or motor vehicle equipment for resale." 15 U.S.C. 1391 (5). Note that manufacturers involved in producing vehicles manufactured in two or more parts are specifically regulated by NHTSA regulations, 49 C.F.R. part 568 as amended by 38 F.R. 30107 (11.1.73).

[8]"'Distributor' means any person primarily engaged in the sale and distribution of motor vehicles or motor vehicle equipment for resale." 15 U.S.C. 1391 (6).

[9]"'Dealer' means any person who is engaged in the sale and distribution of new motor vehicles or motor vehicle equipment primarily to purchasers who in good faith purchase any such vehicle or equipment for purposes other than resale." 15 U.S.C. 1391 (7).

[10]15 U.S.C. 1403, supplemented by NHTSA regulations 49 C.F.R., part 567, as amended by 38 F.R. 30107 (11.1.73).

[11]15 U.S.C. 1401 (d), supplemented by NHTSA regulations 49 C.F.R. §§ 575.6, 575.101-575.103, 575.106. Military vehicles, exported vehicles, and vehicles imported other than for resale are excepted, 49 C.F.R. § 575.4. Sections 575.4 and 575.6 are revised by 39 F.R. 1039 (1.4.74).

[12]15 U.S.C. 1400 (a).

[13]15 U.S.C. 1400 (b).

motor vehicle, its equipment, its tires or retreads are found to be defective by the manufacturer or by the Secretary of Transportation,[14] the manufacturer must notify the purchasers.[15]

In each case, the manufacturer is to furnish the Secretary of Transportation with copies of communications made to dealers and purchasers concerning such defects, as well as other records.[16] Failure to provide such records, to issue the requisite certification, or to provide access to the Secretary for purposes of inspection and investigation, is prohibited.[17]

Any person who "shall manufacture for sale, sell, offer for sale, or introduce or deliver for introduction in interstate commerce, or import" any motor vehicle or item of motor vehicle equipment which does not conform to all applicable federal safety standards,[18] is subject to civil or criminal penalties.[19] However, this prohibition against sale or delivery of a non-conforming vehicle[20] does not apply to:

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[14] See 15 U.S.C. 1402 (e). For the Secretary's authority to inspect and investigate, see 15 U.S.C. 1400 (b), (c).

[15] Generally, 15 U.S.C. 1402, supplemented by NHTSA regulations at 49 C.F.R., part 577. The manufacturer must notify the purchaser "where known to the manufacturer," 15 U.S.C. 1402 (a). Every manufacturer of motor vehicles or tires must keep records of the first purchaser, 15 U.S.C. 1402 (f).

[16] 15 U.S.C. 1402 (d) and 15 U.S.C. 1401 (c) supplemented by NHTSA regulations, 49 C.F.R., part 573, revised by 39 F.R. 4579 (2.5.74).

[17] 15 U.S.C. 1397 (a).

[18] Id.

[19] 15 U.S.C. 1397-1399.

[20] 15 U.S.C. 1397 (a) (1).

1. used vehicles (though the Secretary does have authority to issue standards for performance of such motor vehicles after studying state inspection requirements and procedures);[21]

2. a person who establishes that "he did not have reason to know in the exercise of due care" that the vehicle or equipment was not in conformance with the standards;

3. a person, prior to the first purchaser, who holds a certificate from the manufacturer or importer indicating compliance, unless such a person knows otherwise.[22]

In addition to these specific exceptions in the enforcement provisions of the Traffic Safety Act, blanket temporary exemptions are available in certain circumstances[23] consistent with the public interest and objectives of the statute. Manufacturers of less than 10,000 vehicles per year may apply to the Secretary for exemption upon a showing that the manufacturer has made a good faith effort to comply with the applicable regulations and that compliance would cause substantial economic hardship.[24] Any manufacturer can apply for an exemption for up to 2,500 vehicles either upon a showing that the temporary exemption would facilitate development of new safety features or low emission vehicles or upon a showing that compliance would prevent the sale of a vehicle whose "overall level of safety" is at least equivalent to that of other vehicles.[25]

The Secretary of Transportation has delegated his duties under the statute to the Administrator of the National Highway

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[21] 15 U.S.C. 1397 (b) (1). See also definition of "dealer," 15 U.S.C. 1391 (7) at note #9, supra.

[22] 15 U.S.C. 1397 (b) (2).

[23] 15 U.S.C. 1410, supplemented by NHTSA regulations, 49 C.F.R., part 555, as revised by 39 F.R. 5489 (2.13.74).

[24] 15 U.S.C. 1410 (a) (1) (A) and (d) (1).

[25] 15 U.S.C. 1410 (a)(1)(B), (C), (D), and (d)(2).

Traffic Safety Administration (hereinafter NHTSA).[26] Pursuant to this authority NHTSA has established numerous vehicle safety standards which influence the design of passenger cars, multi-purpose passenger vehicles, buses, trucks, trailers,[27] tires,[28] and motorcycles.[29]

2.2 INTERSTATE COMMERCE ACT

The Secretary of Transportation further regulates motor vehicle design pursuant to his authority under the Interstate Commerce Act.[30] (The Secretary has delegated this responsibility to the Director of the Bureau of Motor Carrier Safety within the Federal Highway Administration (FHWA)[31].) The Secretary is to establish "reasonable requirements" for the safety of operation and equipment of common carriers by motor vehicle, contract carriers by motor vehicle, private carriers of property by motor vehicle and carriers of migrant workers.[32] Essentially the scope of the Secretary's authority under this Act encompasses the in-use regulation of those motor vehicles or carriers[33] engaged in commercial transpor-

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[26] 49 C.F.R. §§ 1.4 (h), 1.51.

[27] See 15 U.S.C. 1392 and 1407. These terms are defined in the context of NHTSA's regulations, 49 C.F.R., part 571. (See Appendix C.)

[28] See 15 U.S.C. 1421-24, 1426 and 1407 and NHTSA regulations 49 C.F.R, parts 569, 571, and 574, as amended.

[29] Motorcycles are not specifically discussed within the context of this report. For relevant regulations, see 49 C.F.R. § 571.122, 571.123, 571.218, 49 F.R., part 555 and 23 C.F.R. § 1204.4, Standard #3.

[30] 49 U.S.C. 304(a). This authority was formerly vested in the Interstate Commerce Commission. Those aspects discussed in the text were transferred to DOT in 1966 by the Department of Transportation Act, 49 U.S.C. 1655(e)(6) (C), (D), and 1655 (f)(2).

[31] 49 C.F.R. § 1.48(e), (f), (h), and 49 C.F.R. §389.4.

[32] 49 U.S.C. 304(a). For definitions of these terms, see Appendix A.

tation of property or passengers in interstate or foreign commerce.[34] Whether a carrier does operate in interstate commerce is determined by the Secretary.[35]

The statutory exceptions from this authority are minimal, at least as regards safety regulations. The authority of the Secretary does not include regulation of transportation by motor vehicle incident to or within the terminals of railroads, water carriers, or freight forwarders.[36] Other vehicles generally excepted from operation of the Interstate Commerce Act are explicitly not excepted from those aspects of the law concerning "safety of operation or standards of equipment."[37] Thus, every motor carrier, its officers,

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[33] See Appendix A for definitions of these terms. Note: The definition of motor carrier in the regulations includes not only common and contract carriers covered by the statutory definition but also private carriers of property by motor vehicle. The term motor carrier is used in this report in the more encompassing form used in the regulations, 49 C.F.R. §393.1.

[34] 49 U.S.C. 302(a). See also Appendix A.

[35] 49 U.S.C. 304(a)(4a).

[36] 49 U.S.C. 302(c). These carriers are subject to other chapters of the Interstate Commerce Act (e.g., transportation by motor vehicle incidental to transportation by aircraft is subject to motor carrier safety regulations, 49 U.S.C. 303(b) and 49 C.F.R. §390.33 (NOTE)).

[37] Thus, school vehicles, taxicabs, hotel vehicles, vehicles under authority of the Secretary of the Interior, vehicles of farmers transporting agricultural commodities, vehicles or cooperative associations, vehicles used in distribution of newspapers, transportation incidental to air flights, transportation in interstate commerce wholly within a municipality, etc., and casual transportation of passengers or property for compensation, are subject to FHWA regulation, see 49 C.F.R. §390.33 and 49 U.S.C. 303(b). Lightweight mail vehicles and intracity operations are exempt, however, 49 C.F.R. §393.1 and 49 C.F.R. §390.16.

agents, drivers, representatives, and employees directly concerned with the installation and maintenance of equipment and accessories must comply with the applicable requirements and specifications, and no motor carrier may operate any vehicle unless it is equipped in accordance with these requirements and specifications.[38]

The Secretary of Transportation may, upon written complaint or on his own initiative, investigate alleged failures to comply with the statute. After proper notice and hearing, if the Secretary finds such noncompliance, he may issue an appropriate order requiring the carrier or broker to comply[39] and may seek judicial enforcement of such order.[40] Any person who knowingly and willingly violates any statutory or regulatory provision governing motor carriers is also subject to a fine for each day of violation.[41]

Motor carrier safety standards and regulations have been promulgated for such vehicles as buses, trucks, truck tractors, semi-trailers, full trailers and pole trailers.[42] The regulations cover the following categories of design and equipment: 1) Lighting Devices, Reflectors and Electrical Equipment, 2) Brakes, 3) Glazing and Window Construction, 4) Fuel Systems, 5) Coupling Devices and Towing, 6) Protection Against Shifting Cargo,

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[38] 49 C.F.R. §393.1. Also see generally 49 U.S.C. 304,322.

[39] 49 U.S.C. 304(c).

[40] 49 U.S.C. 322(b)(1).

[41] 49 U.S.C. 322(a).

[42] See generally, 49 C.F.R., part 390 et seq. Each type of vehicle is defined in the regulations, 49 C.F.R. §390.3-390.8. (See Appendix C.)

7) Emergency Equipment, and 8) Miscellaneous Parts and Accessories.[43] Regulations have also been issued requiring certain inspection and maintenance procedures.[44]

2.3 FEDERAL AID HIGHWAY WEIGHT AND WIDTH PROVISIONS

In addition to the authority to regulate motor carriers themselves, another function transferred from the Interstate Commerce Commission (ICC) to the Department of Transportation (DOT) which may influence motor vehicle design is the authority to investigate the need for federal regulation of the sizes and weights of motor vehicles and combinations of motor vehicles.[45]

Beyond this investigative authority under the Interstate Commerce Act, there exists a federal statute which in effect limits the width and weight of vehicles using the Interstate Highway System. Under that provision, federal aid highway funds may not be used in states which permit Interstate highways to be used by vehicles

> "with weight in excess of 18,000 pounds carried on any one axle or with a tandem axle weight in excess of 32,000 pounds or with an overall gross weight in excess of 73,280 pounds or with a width in excess of 96 inches or the corresponding maximum weights or maximum widths permitted for vehicles using the public highways of such state under laws or regulations established by appropriate state authority in effect on July 1, 1956, whichever is greater...[46]

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[43] These regulations are discussed in detail in Section 3 of the text infra, except for the category of Emergency Equipment which includes items such as fire extinguishers and first aid kits not relevant to the design of the vehicle itself. See generally 49 C.F.R.§§393.95 and 393.96.

[44] 49 C.F.R., part 396.

[45] 49 U.S.C. 325, 49 U.S.C. 1655(e) (6)(B). The Secretary's authority under this section has been delegated to the Federal Highway Administrator, 49 C.F.R. §§148(e), (f), (h).

[46] 23 U.S.C. 127. Authority to administer this and various other sections of Title 23, except as regards mass transportation, was delegated to the Federal Highway Administrator, 38 F.R. 31497 (11.14.73).

2.4 HIGHWAY SAFETY ACT OF 1966

While the Traffic Safety Act and Interstate Commerce Act influence motor vehicle design by specifically regulating vehicles and their equipment, the Highway Safety Act of 1966 (as amended) provides a more general framework for further federal regulation.[47] The Secretary of Transportation is to assist and cooperate with other federal departments, with state and local governments, and with private industries or parties to increase highway safety.[48] Each state is to have a highway safety program which conforms to uniform standards set by the Secretary.[49] The statute requires the Secretary to promulgate standards to improve driver and pedestrian performance, bicycle safety, record keeping, traffic surveillance, accident investigation, traffic control, vehicle codes and laws, and emergency services.[50]

Beyond these specific categories, the Secretary is also authorized to promulgate other regulations relating to traffic safety, which may, in practice, affect the design of motor vehicles. The Secretary has delegated his authority under the Highway Safety Act to the Federal Highway Administrator and the National Traffic Traffic Safety Administrator.[51] The only standards issued to date[52] which are directly relevant to motor vehicles are those governing motorcycles and schoolbuses.[53] As of August 13, 1973, no new standards

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[47] 23 U.S.C. 401 et seq. as amended by P.L. 93-87 (1973).

[48] 23 U.S.C. 401.

[49] 23 U.S.C. 402.

[50] Id. The categories enumerated in the text are not exclusive.

[51] 49 C.F.R.§§1.48, 1.51, 38 F.R. 31498 (11.14.73).

[52] As of March 1, 1974.

[53] Highway Safety and Program Standards #3 and #17, respectively, 23 C.F.R., part 1204.4. Relevant aspects of the Schoolbus Highway Safety Program Standard are discussed in Section 3, infra.

or modifications of existing standards are to be issued without specific Congressional authorization.[54]

There are no specific enforcement provisions under the Highway Safety Act, though the Secretary may refuse to approve a state's safety program, thus causing loss of federal highway safety funds.[55]

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[54] 23 U.S.C. 402(h) (P.L. 93-87, §229).

[55] 23 U.S.C. 402(a), (b), (c).

2.5 MOTOR VEHICLE INFORMATION AND COST SAVINGS ACT

The Motor Vehicle Information and Cost Savings Act requires that federal standards be set in order to reduce damage and economic loss resulting from automobile accidents.[56] The Secretary of Transportation is to set bumper standards for all passenger motor vehicles manufactured in or imported into the United States and may set bumper standards for equipment of such motor vehicles.[57] The definition of "bumper standard" elucidates the Secretary's duty:

> The term "bumper standard" means any property loss reduction standard the purpose of which is (A) to eliminate or reduce substantially physical damage to the front or rear ends (or both) of a passenger motor vehicle resulting from (i) a low-speed collision (including but not limited to a low-speed collision with a fixed barrier) or (ii) from the towing of such a vehicle, or (B) to reduce substantially the cost of repair of the front or rear ends (or both) of such a vehicle when damaged (i) in such a collision or (ii) as a result of being towed; but such a standard may not specify a specific dollar amount for the cost of repair of a vehicle when so damaged.[58]

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[56] 15 U.S.C. 1901 et seq.

[57] 15 U.S.C. 1912. For the purpose of this Act, these terms are defined by Section 1901 as follows:

> Passenger motor vehicle: "a motor vehicle with motive power designed for carrying 12 persons or less, except, (A) a motorcycle or (B) a truck not designed primarily to carry its operator or passengers."
>
> Passenger motor vehicle equipment: "(A) any system, part, or component of a passenger motor vehicle as originally manufactured or any similar part or component sold for replacement or improvement of such system, part, or component or as an accessory or addition to a passenger motor vehicle, or (B) a towing device.
>
> Motor vehicle: "any vehicle driven or drawn by mechanical power manufactured primarily for use on the public streets, roads or highways except any vehicle operated for use exclusively on a rail or rails."

[58] 15 U.S.C. 1901(b).

The standards so issued cannot conflict with standards promulgated under the Traffic Safety Act.[59]

The bumper standards do not apply to motor vehicles or motor vehicle equipment which are exported.[60] Other partial or complete exemptions may be granted by the Secretary for "good cause shown" in the case of multipurpose passenger vehicles or any other class of passenger vehicles manufactured for special use where the bumper standards would unreasonably interfere with such use.[61].

Unless exempted, a manufacturer[62] or distributor must certify to a subsequent distributor or dealer that each vehicle or item of equipment complies with the applicable federal bumper standard.[63] Failure to issue such a certificate or to issue a certificate that is known to be false is prohibited. Also prohibited is the refusal to provide records, reports, information or access for the Secretary's inspection.[64] In general; "No person shall

"1. manufacture for sale, sell, offer for sale, or introduce or deliver for introduction into interstate commerce or import into the United States, any passenger motor vehicle equipment manufactured on or after the date any applicable Federal bumper standard takes effect under this subchapter unless it is in conformity with such standard;

"2. fail to comply with any rule prescribed by the Secretary under this subchapter."[65]

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[59] 15 U.S.C. 1912 (b)(2). See also proposed NHTSA regulations, Note #16 infra.

[60] 15 U.S.C. 1912 (a)(2) and 1915 (c)(2).

[61] 15 U.S.C. 1912(c).

[62] A manufacturer includes "any person engaged in the manufacturing or assembling of passenger motor vehicles or passenger motor vehicle equipment including any person importing motor vehicles or motor vehicle equipment for resale." 15 U.S.C. 1901(7).

[63] 15 U.S.C. 1915(c)(1).

[64] 15U.S.C. 1916(a) (3), (4).

[65] 15 U.S.C. 1916(a)(1), (2).

The Secretary may require vehicles to continue to conform to the standard for a certain period of use. However, the prohibitions quoted above do not apply to used cars, i.e., to a car "after the first purchase of it in good faith for purposes other than resale."[66] Violations of this Act are subject to injunction and to other civil and criminal penalties.[67] Furthermore, any owner of a passenger motor vehicle may sue the manufacturer for damages sustained in an accident because the vehicle did not comply with the applicable standards.[68]

In addition to this regulatory authority regarding bumper standards, the Secretary has investigative authority which may vicariously influence motor vehicle design. The Secretary is directed by Subchapter II of this Act to investigate the damage susceptibility of passenger motor vehicles, their degree of crashworthiness, the ease of diagnosis and repair of their mechanical and electrical systems, and their operating costs relative to such factors.[69] Such information is then to be made available to the public in readily understandable form to facilitate comparison among various makes of motor vehicles.[70] The Secretary also is directed to establish procedures requiring automobile dealers to provide prospective customers with information comparing the

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[66] 15 U.S.C. 1916(b) (1).

[67] 15 U.S.C. 1917.

[68] 15 U.S.C. 1918.

[69] 15 U.S.C. 1941 et seq., "Automotive Consumer Information Study." Note that damage susceptibility is defined as "susceptibility to physical damage incurred by a passenger motor vehicle involved in a motor vehicle accident," and crashworthiness as "the protection that a passenger motor vehicle affords its passengers against personal injury or death as a result of a motor vehicle accident." 15 U.S.C. 1901 (13), (14).

[70] 15 U.S.C. 1941 (c), (d).

difference in insurance costs for various makes and models based on differences in damage susceptibility.[71] Failure or refusal to furnish the information requested by the Secretary pursuant to this subchapter[72] or to comply with rules so issued, may result in civil penalties.[73]

The Secretary of Transportation has delegated his authority under this Act to NHTSA[74] which has issued proposed bumper standards for all passenger cars (except multipurpose passenger vehicles).[75] The proposed standards would require that passenger cars be able to meet specified damage criteria after impact with a fixed barrier in accordance with the procedures outlined by the regulation.[76]

2.6 CLEAN AIR ACT

The Clean Air Act[77] requires the Administrator of the Environmental Protection Agency (hereinafter "EPA") to establish

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[71] 15 U.S.C. 1941(e). These procedures are to be established no later than February 1, 1975.

[72] For authority of Secretary to obtain information, see 15 U.S.C. 1943-45.

[73] 15 U.S.C. 1946-48.

[74] See 49 C.F.R. §501.2(c).

[75] These standards will be issued as 49 C.F.R., part 581; they now appear at 38 F.R. 20899 (8.3.73). The proposed effective date is 9.1.74, but no final regulations have been issued as of March 31, 1974.

[76] These procedures were first outlined in connection with Vehicle Safety Standard #215, (49 C.F.R. §571.215, issued pursuant to the Traffic Safety Act). The proposed regulations indicate that NHTSA intends that as of September 1, 1975, Standard #215 will be replaced by bumper standards issued under the Motor Vehicle Information and Costs Savings Act.

[77] 42 U.S.C. 1857f, generally. For definition of terms used in the Clean Air Act and regulations issued thereunder, consult Appendix B.

standards regulating fuels and fuel additives[78] and limiting the emission of air pollutants from new motor vehicles.[79]

Fuels may not be sold unless registered with EPA,[80] and sale of certain fuels found to endanger the public health or to impair significantly the functioning of emission control devices may be banned.[81] Violation of these provisions subjects the seller to civil penalty of up to $10,000 per day.[82]

By the original terms of the Clean Air Act, emissions of carbon dioxide and hydrocarbons from new light duty vehicles manufactured in model year 1975 were to be reduced by 90 percent from emissions allowable under the standards for light duty vehicles manufactured in 1970. Similarly, emissions of oxides of nitrogen from such vehicles manufactured in model year 1976 were to be reduced by 90 percent from the average of such emissions from vehicles manufactured in model year 1971.[83]

However, the Administrator, following the procedures outlined by the statute, has postponed these effective dates one year, to 1976 and 1977 respectively.[84]

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[78] 42 U.S.C. 1857f-6c.

[79] 42 U.S.C. 1857f-1(a)(1).

[80] 42 U.S.C. 1857f-6c(a)(b). Proposed EPA regulations for registration of fuels and fuel additives appear at 39 F.R. 8929 (3.7.74) revising 40 C.F.R. parts 79 and 80. The proposed regulations would cover both fuel additives and various grades of fuels.

[81] 42 U.S.C. 1857f-6c(c).

[82] 42 U.S.C. 1857f-6c(c).

[83] 42 U.S.C. 1857f-1(b).

[84] See 38 F.R. 10317 (4.26.73).

There are currently proposals in Congress to amend the Clean Air Act to extend the suspension of these deadlines.[85] Pending final passage of such bills, the interim standards issued by the Administrator are applicable.[86]

The procedure for enforcement of EPA standards is similar to that under the Motor Vehicle Information and Cost Savings Act and the Traffic Safety Act. The Administrator of EPA is to issue a certificate of conformance upon determining that a new motor vehicle or motor vehicle engine complies with the applicable standards promulgated under the Clean Air Act.[87] A manufacturer for distribution or an importer is prohibited from selling or importing any vehicle or engine which is not covered by a certificate of conformance.[88]

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[85] For example, H.R. 12672 would suspend all automobile emission standards for the duration of the "energy crisis."

[86] See 38 F.R. 17441.

[87] 42 U.S.C. 1857f-5.

[88] 42 U.S.C. 1857f-2(a). For authority of Administrator to test and certify, see 42 U.S.C. 1857f-5 supplemented by EPA regulations as follows:

a) concerning cerfification: 40 C.F.R. § § 85.004 to 85.006, 85.074-2, 85.074-30 to -34; 85.075-2, 85.075-30 to -34, 85.704, 85.705, 85.773-2, 85.773-30 to -34, 85.774-2, 85.774-30 to -34, 85.804, 85.805, 85.873-2, 85.873-30 to -34, to 85.874-2, 85.874-30 to -34, 85.904, 85.905, 85.974-2, 85.974-30 to -34, 85.1503, 85.1603, 85.1608.

b) concerning testing: 40 C.F.R. §§85.074-3 to -29, and -37, 85.075-3 to -29 and -37, 85.773-3 to -29 and -37, 85.774-3 to -29 and -37, 85.873-3 to -29 and -37, 85.874-3 to -29 and -37, 85.974-3 to -29 and -37, 85.1502, 85.1604 to .1608, as amended by 39 F.R. 7548.

Similarly, a manufacturer may not sell or lease a new vehicle or engine unless he has:

1. marked each vehicle by a permanent label indicating compliance with the Clean Air Act,[89]
2. furnished such written instructions with each new motor vehicle or motor vehicle engine as may be necessary to assure the functioning of emission control devices,[90]
3. warranted to the ultimate purchaser and each subsequent purchaser that the vehicle or engine is designed, built, and equipped to conform at the time of sale with all applicable regulations and that the vehicle or engine is free from defects in materials and workmanship which would cause the vehicle or engine to fail to conform to such regulations during its useful life,[91]
4. complied with any other warranty regulations which may have been issued by EPA,[92]

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[89] 42 U.S.C. 1857f-5a(c)(3). Supplementary EPA regulations governing labeling are 40 C.F.R. §§85.074-35, -36; 85.075-35, -36; 85.773-35, (-36 reserved but not yet issued); 85.774-35, (-36 reserved but not yet issued); 85.873-35, (-36 reserved but not yet issued); 85.874-35, (-36 reserved but not yet issued); 85.974-35, (-36 reserved but not yet issued).

[90] 40 C.F.R. §§85.074-38 and -39, 85.075-38 and -39, 85.773-38 and -39, 85.774-38 and -39, 85.873-38 and -39, 85.874-38 and -39, 85.974-38 and -39.

[91] 42 U.S.C. 1857f-5a(a).

[92] 42 U.S.C. 1857f-5a(b). The Administrator is to establish such regulations after determining that there are testing methods, procedures, and inspection facilities available.

5. provided for the remedy of non-conforming vehicles as required by the Administrator,[93]

6. advertised the cost or value of emission control devices only as allowed by statute.[94]

In addition to these prohibitions running explicitly against the manufacturer, there is a prohibition running against both manufacturers and dealers which forbids the knowing removal or rendering inoperative of any emission control device after the sale of the vehicle to the ultimate purchaser.[95]

Furthermore, "any person" is precluded from failing to provide the Administrator or his employees with records, reports, and information as required under the Act.[96] Removing or rendering inoperative any required emission control device or design prior to sale of the vehicle or engine to the ultimate purchaser is also prohibited.[97]

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[93] 42 U.S.C. 1857f-5a(c). For proposed EPA rules for recall of vehicles not in compliance, see 39 F.R. 11103 (3.25.74). It is interesting to note that in March of 1974, EPA ordered the recall of 826,000 Chryslers for correction of faulty anti-pollution devices, 4 Environment Rptr. 1864.

[94] 42 U.S.C. 1857f-5a(e).

[95] 42 U.S.C. 1857f-2(a)(3). See also note #102 infra.

[96] 42 U.S.C. 1857f-2(a) (2). For requirements by manufacturers for reports, records and information, see §1857f-6 supplemented by EPA regulations 40 C.F.R. §§85.006, 85.106, 85.206, 85.706, 85.806, 85.906 as amended by 39 F.R. 7548.

[97] 42 U.S.C. 1857f-2(a)(3). Supplemented by EPA regulations concerning "defeat devices" which appear directly in requirements for application for certification, 40 C.F.R. §§85.074-2, 85.075-2, 85.175-2, 85.275-2, 85.774-2, 85.775-2, 85.874-2, 85.974, and indirectly in requirements for certification, 40 C.F.R. §§85.074-3 and -30, 85.075-3 and -30, 85.175-3 and -30 85.257-3 and -30, 85.774-30, 85.775-3 and -30, 85.874-3 and -30, 85.874-3 and -30, 85.974-3 and -30, 85.013-30, 85.883-30. All of these sections appear in 39 F.R. 7548.

Violation of any provision of the Clean Air Act or regulations issued thereunder may result in civil penalties[98] including citizen suits against the violator.[99]

The Administrator of EPA may exempt any new motor vehicle or motor vehicle engine from these requirements and prohibitions "upon such terms and conditions as he may find necessary for the purpose of research, investigation, studies, or demonstrations or training, or for reasons of national security." Also, vehicles intended solely for export to countries with dissimilar standards are exempt.[100]

Pursuant to his authority under the Clean Air Act[101] the Administrator of EPA has issued regulations governing interference with emission control devices, requiring registration of fuel and fuel additives, and limiting emissions from gasoline fueled light duty vehicles, gasoline fueled heavy duty vehicles, gasoline fueled light duty trucks, diesel light duty vehicles and diesel heavy duty vehicles.[102]

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[98] 42 U.S.C. 1857f-4.

[99] 42 U.S.C. 1857h-2.

[100] 42 U.S.C. 1857f-2(b).

[101] 42 U.S.C. 1857g.

[102] See Section 3, infra where these regulations are discussed under the headings of exhaust and fuel systems (through other aspects of motor vehicle design might be affected). For proposed regulations concerning emission control devices, see note #97 supra.

2.7 NOISE CONTROL ACT

Under the Noise Control Act of 1972,[103] the Administrator of EPA is authorized to issue regulations to reduce noise emissions from motor carriers[104] and from other major sources of noise for which noise emission standards are feasible, and which fall within certain categories. These categories include both "transportation equipment (including recreational vehicles and related equipment)" and "any motor or engine (including any equipment of which an engine or motor is an integral part)."[105]

For motor carriers engaged in interstate commerce the Administrator of EPA is authorized to set noise emission standards upon consultation with the Secretary of Transportation. The Secretary of Transportation is then, upon consultation with the Administrator of EPA, to issue further regulations to insure that motor carriers comply with all such standards.[106] Failure of any person to comply with any standard or regulation so issued is prohibited.[107] The violator is subject to criminal penalties,[108] administrative orders to protect public health,[109] and to citizen

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[103] 42 U.S.C. 4901 et seq.

[104] For the purposes of this section "motor carrier" includes a common carrier by motor vehicle, a contract carrier by motor vehicle, and a private carrier by motor vehicle. 42 U.S.C. 4917(d). See Appendix A.

[105] 42 U.S.C. 4905(a)(1)(A), (B), (C) (ii), (iii).

[106] 42 U.S.C. 4917(b). Except for conducting consultations with EPA, the Secretary of Transportation has delegated his authority under the Noise Control Act to FHWA; consultation functions are delegated to the Assistant Secretary for Systems Development and Technology, 39 F.R. 7791 (2.28.74).

[107] 42 U.S.C. 4909(a)(b).

[108] 42 U.S.C. 4910(a)-(c). Each day of violation is a separate offense.

[109] 42 U.S.C. 4910(d). The person is then prohibited from violation of such an order. See 42 U.S.C. 4909(a)(6).

enforcement suits.[110] Departments, agencies or instrumentalities of the United States, however, are not subject to criminal penalties or to administrative orders.[111]

To date, no final regulations have been issued pursuant to this statute, but the Administrator of EPA has published proposed regulations indicating a maximum permissible noise level of 90 dbA for vehicles weighing over 10,000 pounds operating in interstate commerce.[112]

For the second area (which covers other products including motor vehicles other than carriers), no regulations have yet been issued by EPA.[113]

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[110] 42 U.S.C. 4911.

[111] 42 U.S.C. 4910 (e).

[112] The proposed regulations which are to be numbered 40 C.F.R. part 202 are now published in 38 F.R. 20102 (7.27.73). The period for comments was extended to December 7, 1973 (38 F.R. 30773, 32528 (1973); no final regulations have been issued as of March 31, 1974. Final regulations were issued October 21, 1974 at 39 F.R. 38208.

[113] As of March 1, 1974. However, on April 4, 1974, EPA did issue the document required by the Act concerning noise levels: "Information of Levels of Environmental Noise Requisite to Protect Public Health & Welfare with an Adequate Margin of Safety". Vol. 4 of the Environmental Reporter, at page 2029.

3. SPECIFIC DESIGN STANDARDS

This section presents an outline of regulations promulgated pursuant to the statutory authority discussed in Section 2. For the purposes of this outline, the regulations are categorized according to equipment systems and features as follows:[114]

3.1 Lighting Devices & Electrical Equipment
3.2 Brakes
3.3 Glazing Materials and Window Construction
3.4 Fuel Systems
3.5 Exhaust Systems
3.6 Exhaust and Fuel Systems
3.7 Interior Features & Crash Protection
3.8 Exterior Strength and Crash Protection Features
3.9 Wheel Construction and Tires
3.10 Towing Methods
3.11 Cargo Loading
3.12 Miscellaneous[115]

Within each category the statutory source of each regulation is indicated and the applicability of each regulation to each type of vehicle is discussed.

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[114] Regulations of features which are essentially not part of the design of the vehicle itself are not specifically discussed; for example, those governing brake fluids (49 C.F.R. §571.116); warning devices not attached to the vehicle (49 C.F.R. §571.125); flags on projecting loads (49 C.F.R. §393.87); marking of windows, doors and other bus features (49 C.F.R.§§393.63, 393.92, 393.90). Also, see note #29 supra concerning motorcycles, and note #43 supra concerning emergency equipment.

[115] (a) accelerator, (b) driveshaft protection, (c) heaters, (d) horns, (e) interior controls, (f) interior noise, (g) material flammability, (h) mirrors, (i) reflecting surfaces, (j) sleeping berths, (k) speedometer, (l) steering systems and suspension systems, (m) television receivers and (n) theft protection.

Although the applicability of each regulation is generally clear, some confusion may arise because the same words take on different meanings in different regulations. For example, "bus" is defined one way by the regulations issued pursuant to the Interstate Commerce Act and another way by the regulations issued pursuant to the National Traffic and Motor Vehicle Safety Act. (See Appendix C.)

To help clarify the presentation of this paper, those regulations promulgated pursuant to the Interstate Commerce Act will be referred to as "Carrier Safety Regulations"[116] and those promulgated pursuant to the National Traffic and Motor Vehicle Safety Act will be referred to as "Vehicle Safety Standards."[117] Further, whenever a category of vehicle is referred to in the context of either Vehicle Safety Standards or Carrier Safety Regulations, that category of vehicle will be defined in accordance with regulations establishing those standards. Thus, whenever the requirements of a "Vehicle Safety Standard" apply to a particular category of vehicle, the vehicles included in that category will be determined in accordance with definitions contained in the Vehicle Safety Standard regulations issued pursuant to the National Traffic and Motor Vehicle Safety Act.[118] Similarly, whenever the requirements of a "Carrier Safety Regulation" apply to a particular category of vehicles, the vehicles included in that category will be determined in accordance with definitions contained in the Carrier Safety Regulations issued pursuant to the Interstate Commerce Act.[119] In other words, Vehicle Safety Standards for windows of buses would apply to all vehicles which meet the definition of "bus" as it appears in the NHTSA vehicle regulations while Carrier

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[116] Carrier Safety Regulations promulgated by FHWA appear at 49 C.F.R., part 393.

[117] Vehicle Safety Standards promulgated by NHTSA appear at 49 C.F.R., part 571.

[118] 49 C.F.R. §571.3.

[119] 49 C.F.R. §§390.1-390.28.

Safety Regulations for windows of buses would apply to all other vehicles which operate in interstate commerce and which otherwise meet the definition of "bus" as it appears in the FHWA carrier regulations. (See Appendix C.)

It should be noted that Carrier Safety Regulations apply to in-use motor vehicles; further, when any motor vehicle of one type is used to perform functions of vehicles of another type, for example, a truck functioning as a bus, it must comply with Carrier Safety Regulations pertaining to the in-use function.[120] Vehicle Safety Standards are performance standards and apply to new vehicles and new equipment.

This section provides only a brief outline of the regulations influencing vehicle design. For complete detail, the Code of Federal Regulations and the Federal Register must be consulted.[121]

3.1 LIGHTING DEVICES AND ELECTRICAL EQUIPMENT

The location and number of lamps and reflectors is specified in the Carrier Safety Regulations for the front, rear and sides of small[122] buses and trucks,[123] large buses and trucks,[124] truck tractors,[125] large semitrailers and fulltrailers,[126] small semi-trailers or fulltrailers,[127] pole trailers,[128] combinations of

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[120] 49 C.F.R. §390.31.

[121] Unless otherwise indicated, citations are to the Code of Federal Regulations (C.F.R.) revised as of July 1, 1973 and to the Federal Register as of March 31, 1974.

[122] Generally "small" denotes a vehicle of less than 80" in overall width.

[123] 49 C.F.R. §393.11.

[124] 49 C.F.R. §393.12.

[125] 49 C.F.R. §393.13.

[126] 49 C.F.R. §393.14.

[127] 49 C.F.R. §393.15.

[128] 49 C.F.R. §393.16.

motor vehicles engaged in driveaway-towaway operations,[129] and vehicles with projecting loads.[130]

In addition, Carrier Safety Regulations require that every motor vehicle have both a turning signal system capable of flashing the turn signals simultaneously[131] and a set of clearance lamps mounted so as to indicate the extreme width of the vehicle.[132] Combination of lighting devices, which must all be electric,[133] is allowed unless specifically prohibited by a particular carrier safety standard.[134]

In addition to these general requirements there are specific requirements for the operation and mounting of headlamps (including auxiliary road lighting lamps),[135] other lamps,[136] and reflectors.[137] There are also Carrier Safety Regulations which set out performance standards for wiring circuits,[138] provide for

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[129] 49 C.F.R. §393.17. For definition of driveaway-towaway operations, see 49 C.F.R. §390.9. These regulations cover both the towing and the towed vehicle.

[130] 49 C.F.R. §393.18. This regulation requires still more lights where the vehicle's load extends beyond the width or rear of the vehicle.

[131] 49 C.F.R. §393.19. See also, 49 C.F.R. §§ 392.15, 392.22(a) or 392.23.

[132] 49 C.F.R. §393.20.

[133] 49 C.F.R. §393.23.

[134] See 49 C.F.R. §393.22.

[135] See 49 C.F.R. §393.24.

[136] See 49 C.F.R. §393.25.

[137] See 49 C.F.R. §393.26.

[138] 49 C.F.R. §393.27.

protection of the wiring[139] and the battery;[140] control installation of electrical connections, wiring and battery;[141] and require devices to protect against overloading.[142]

The above Carrier Safety Regulations apply according to their terms to various types of motor carriers.[143] In addition to these Carrier Safety Regulations, Vehicle Safety Standard #108 also governs aspects of lighting equipment including requirements for the number, type, strength and location of lights, reflective devices, and related wiring.[144] This Vehicle Safety Standard applies to passenger cars, multipurpose passenger vehicles, trucks, buses (including special provision for school buses), trailers (except pole trailers and trailer converter dollies), as well as to lamps and other equipment used to replace equipment on these vehicles.[145]

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[139] 49 C.F.R. §393.28. See also 49 C.F.R. §393.29 re: battery trailer return ground connections.

[140] 49 C.F.R. §393.30.

[141] 49 C.F.R. §393.32, 393.33, and 393.30 respectively.

[142] 49 C.F.R. §393.31.

[143] For exact applicability consult the text of each regulation and the definitions set out in Appendix A.

[144] 49 C.F.R. §571.108 and 38 F.R. 33085 (11.30.73) (amending Standard #108 to specify requirements for rectangular headlights). See especially Tables I-IV indicating the required types and locations of lighting equipment for each type of vehicle (according to vehicle width). Note that there is also a Vehicle Safety Standard concerning headlamp concealment devices, 49 C.F.R. §571.112.

[145] 49 C.F.R. §571.108.S2.

3.2 BRAKES

Vehicle Safety Standard #105 outlines the present performance requirements for service, parking, and emergency hydraulic brake systems.[146] Generally, the requirements adopt the performance standards of the Society of Automotive Engineers (hereinafter SAE) with some additional equipment requirements.[147]

Vehicle Safety Standard #105-75 provides further requirements for all hydraulic brake parking and service systems. In addition to a general requirement of brake system integrity, vehicles must be manufactured with a split service brake system capable of stopping under certain circumstances within the specified distance, with a friction type mechanical parking brake system, with a specified number of brake indicator lamps designed to inform the driver of the brake malfunctions, and with fluid reservoirs of specified capacity.[148] Vehicle Standard #105 applies to passenger cars. Vehicle Standard #105-75 applies to passenger cars, multi-purpose passenger vehicles, trucks, and buses equipped with hydraulic brakes.

Vehicles with air brake systems must conform with the design and performance standards of Vehicle Safety Standard #121, effective September 1, 1974.* This standard applies to trucks, buses and trailers.[149]

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[146] An emergency brake is a "mechanism designed to stop a motor vehicle after a failure of the service brake system;" a parking brake is a mechanism to "prevent movement of a stationary motor vehicle;" and a service brake is the "primary mechanism designed to stop a motor vehicle." 49 C.F.R. §571.3.

[147] 49 C.F.R. §571.105.

[148] Standard #105-75 was formerly designated as #105a. For current requirements under this Standard consult 49 C.F.R. §571.105a and 39 F.R. 6708 ff. (2.22.74).

[149] 49 C.F.R. §571.121, as amended by 39 F.R. 806 (1.3.74).

*This date has been changed to January 1, 1975 for trailers, and to subsequent dates for other equipment.

In addition, brakes of motor vehicles are also required to comply with in-use safety and inspection regulations if such regulations are adopted in individual states. (These regulations are issued pursuant to the Traffic Safety Act, but are not grouped with other Vehicle Safety Standards.)[150]

Still another factor in federal regulation relevant to brake function (of passenger vehicles) is the requirement that manufacturers provide consumers with information concerning stopping distances and other performance attributes.[151]

In addition to these Vehicle Safety Standards, there are Carrier Safety Regulations governing general attributes of the carriers' brake systems,[152] operating requirements,[153] equipment requisites[154] and performance criteria.[155]

Both Vehicle Safety Standards and Carrier Safety Regulations have also been issued to regulate aspects of brake tubing and hoses. Vehicle Safety Standard #106 provides design and performance requirements for brake hoses, brake hose assemblies and brake hose end fittings for hydraulic, air, and vacuum brakes for all vehicles.[156] The Carrier Safety Regulations provide that brake hose and tubing be designed, constructed, and installed so as to function properly and adequately. Specifically, hose and tubing must be installed in a manner that prevents contact with the vehicle's exhaust system and materials used must comply with the designated SAE standards.[157] Brake tubing and hose connections must be

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[150] 49 C.F.R. §§570.5, 570.6.

[151] 49 C.F.R. §757.101. (Issued pursuant to the National Traffic and Motor Vehicle Safety Act.)

[152] 49 C.F.R.§§393.40, 393.42, 393.47, 393.49.

[153] 49 C.F.R.§§393.48, 393.43, 393.44.

[154] 49 C.F.R.§§393.50, 393.51.

[155] 49 C.F.R.§§393.40, 393.52, 393.41, 393.52(b).

[156] 49 C.F.R. §571.106 as amended by 38 F.R. 31302 (11.13.73) 39 F.R. 3680 (1.29.74), 39 F.R. 7427, 7428 (2.26.74).

[157] 49 C.F.R. §393.45.

adequately designed and installed so as to insure proper functioning and an attachment free of leaks or defects.[158]

3.3 GLAZING MATERIALS AND WINDOW CONSTRUCTION

Vehicle Safety Standard #205 requires that glazing materials for use in passenger cars, multipurpose passenger vehicles, trucks, buses and other vehicles [159] comply with the American National Standard Safety Code.[160] (The Carrier Safety Regulation concerning glazing materials applies another version of this same standard[161] to buses, trucks and truck tractors.)

In addition to governing the composition of glazing materials, Vehicle Safety Standard #205 regulates the use of rigid and flexible plastics for vehicle window areas and requires certain treatment of window edges.[162]

The Carrier Safety Regulations in this area, in addition to dealing with the material composition of windows, also govern the location, number, and scope of windows in trucks and truck tractors.[163] Buses are required to have a specified number of unobstructed windows[164] to provide adequate means of escape for

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[158] 49 C.F.R. §393.46.

[159] Motorcycles, slide-in campers and pick-up covers designed to carry persons while in motion are also covered.

[160] 49 C.F.R. §571.205 "Safety Code for Safety Glazing Motor Vehicles Operating on Land Highways," Z26.1-1966 as supplemented by Z26.1a-1969.

[161] 49 C.F.R. §393.60(American Standard #Z26.1A-1964).

[162] 49 C.F.R. §571.205. S5.1.2 and S5.2 respectively. Note that there is a special requirement that edges of schoolbus windows be bonded.

[163] 49 C.F.R. §393.61(a).

[164] 49 C.F.R. §393.62.

passengers.[165] (This latter Carrier Safety Regulation relating to buses incorporates to some extent Vehicle Safety Standard #217 which establishes requirements for the retention of bus windows and the operation, opening dimensions and markings thereof.)[166]

Windshield areas are subject to additional regulation. Vehicle Safety Standard #212 establishes retention requirements for windshield mountings on passenger cars.[167] Vehicle Safety Standards #103 and #104 require certain windshield defrosting and defogging systems and wiping and washing systems for passenger cars, multipurpose passenger vehicles, trucks and buses.[168] Buses, trucks and truck tractors are subject to similar requirements for windshield wiper and defrosting systems under Carrier Safety Regulations.[169]

Finally, power-operated window and partition systems in passenger cars and multipurpose passenger vehicles are subject to performance requirements of Vehicle Safety Standard #118.[170]

3.4 FUEL SYSTEMS

Carrier Safety Regulations[171] require that all vehicles be designed so that no part of the fuel system extends beyond the widest part of the vehicle or forward of the front axle of a power unit. In addition, no part of the fuel system of a bus may be located within or above the passenger compartment. Vehicle and fuel system designs must also insure that any fuel spilled when

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[165] 49 C.F.R. §393.61(b) and (c).

[166] 49 C.F.R. §571.217.

[167] 49 C.F.R. §571.212.

[168] 49 C.F.R. §§571.103 and 571.104. Standard #103 applies only to vehicles manufactured for sale in the continental U.S.

[169] See 49 C.F.R. §§393.78 and 393.79.

[170] 49 C.F.R. §571.118.

[171] Basically, 49 C.F.R. §393.65.

filling the fuel tank will not contact the exhaust or electrical systems of the vehicle. The fill pipe itself must be located outside the passenger and cargo compartments. Additionally, there are specific requirements for the design and construction of fuel tanks[172] and liquified petroleum gas systems.[173]

Design of fuel systems is also influenced by Vehicle Safety Standard #301 which specifies requirements for the security and integrity of the fuel system and its components. This standard precludes discharge of more than one ounce of fuel during a test crash or during each minute after such an impact.[174] Vehicle Safety Standard #301-75 (301-a) contains additional provisions for fuel system integrity applicable to passenger cars manufactured as of September 1, 1975 and to multipurpose passenger vehicles, trucks, and buses with a Gross Vehicle Weight Rating (GVWR) of 10,000 pounds or less, manufactured as of September 1, 1976.[175]

Although Vehicle Safety Standard #215 essentially establishes requirements for impact resistance and the configuration of front and rear vehicle surfaces, this regulation may also influence fuel system design since it requires that on impact with a fixed barrier under certain conditions the fuel and cooling systems shall remain operative without leaks and constrictions.[176]

Finally, fuel system design may also be affected by regulation of fuels and fuel additives by the Administrator of EPA.[177]

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[172] 49 C.F.R. §393.67.

[173] 49 C.F.R. §393.69. Fuel lines and control valves are also specifically governed and gravity or syphon feeding of fuel directly into the carburetor is prohibited, 49 C.F.R. §393.65.

[174] 49 C.F.R. §571.301, as revised by 39 F.R. 10588 (3.21.74).

[175] 49 C.F.R. §571.301a, effective Sept.1,1975 as revised by 39 F.R. 10589 (3.21.74).

[176] 49 C.F.R. §571.215.

[177] See note #80 supra.

Although the regulations issued thus far basically concern registration and labelling of fuels,[178] the design of a vehicle itself may be controlled. One example is the regulation of the size and functioning of tank filler inlets for certain motor vehicles.[179]

3.5 EXHAUST SYSTEMS

The location of systems on carriers is governed by a Carrier Safety Regulation. No part of the exhaust system of any vehicle may be located where it is likely to damage such combustible parts as electric wiring or the fuel supply. The regulation also specifically defines the requisite location of the point at which the exhaust systems of buses, trucks, and truck tractors discharge into the atmosphere.[180]

Exhaust systems may also be tangentially governed by Vehicle Safety Standard #215.[181]

3.6 EXHAUST AND FUEL SYSTEMS

The primary influence on the design of fuel and exhaust systems (and perhaps other vehicle systems) is exerted by the emissions limitations mandated by the Clean Air Act. The regulations issued under the Clean Air Act apply to new motor vehicles and establish maximum emissions that will be allowed for gasoline fueled light duty vehicles,[182a] gasoline fueled light duty trucks,[182b]

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[178] See generally 49 C.F.R., parts 79 and 80 as amended.

[179] 40 C.F.R. §80.24 as amended by 38 F.R. 26450 (9.21.73). This regulation is applicable to vehicles with emission control devices which the Administrator deems will be impaired by leaded gasoline.

[180] 49 C.F.R. §393.83.

[181] 49 C.F.R. §571.215. See discussion at note #176 supra for the general scope and purpose of Standard #215.

[182a] Gasoline fueled light duty vehicles. 1974 MY, 40 C.F.R. § 85.074(1). 1975 MY: 40 C.F.R. §85.075(1) as revised by 38 F.R. 17441 (7.2.73). 1976 MY: 40 C.F.R. §85.076(1) at 38 F.R. 22474

[182b] Gasoline fueled light duty trucks, 1975 M.Y.: 40 C.F.R. §85.275-1. 1976 M.Y.: 40 C.F.R. §85.276-1 at 38 F.R. 21365 and 21380 (8.7.73)

light duty diesel trucks[182c] light duty diesle vehicles[182d] gasoline fueled heavy duty vehicles[182e] and heavy duty diesel vehicles.[182f] (These terms are defined in Appendix C.)

3.7 INTERIOR FEATURES AND CRASH PROTECTION

Interior crash protection features are mandated by both Vehicle Safety Standards and Carrier Safety Regulations as follows:

Vehicle Safety Standard #201 requires certain design features to afford impact protection from contact with the instrument panel, seat backs, interior compartment doors, sun visors, and armrests of passenger cars.[183] Similarly, Vehicle Safety Standards #203 and #204 require that the steering control system in passenger cars be so designed that its impact force on the body[184] and its rearward displacement into the passenger area be at a specified minimum.[185] In addition, Vehicle Safety Standard #206 requires the doorlocks and other door retention components be designed to remain closed under specified pressures so as to reduce the likelihood that passengers will be thrown from their vehicles.[186] This standard applies to passenger cars, multipurpose passenger vehicles, trucks and buses.

[182c] Light duty diesel truck. Proposed rules 40 C.F.R. §85.301 at 39 F.R. 3276.

[182d] Light duty diesel vehicles. 1975 M.Y.: 40 C.F.R. §85.175, at 38 F.R. 21350, as amended by 39 F.R. 7548 et seq.

[182e] Gasoline fueled heavy duty vehicles. 1974 M.Y.: 40 C.F.R. §85.774-1.

[182f] Heavy duty diesel trucks. 1974 M.Y.: 40 C.F.R. §85.874-1 (exhaust).

[183] 49 C.F.R. §571.201.

[184] 49 C.F.R. §571.203.

[185] 49 C.F.R. §571.204.

[186] 49 C.F.R. §571.206.

Vehicle seating capacity and safety are influenced by the requirements of Vehicle Safety Standard #207, concerning seats, their attachment assemblies and their installation,[187] and of Vehicle Safety Standard #202, requiring head restraints.[188] Head restraints are required for passenger cars only; the seating requirement of Standard #207 applies to multipurpose passenger vehicles, trucks and buses as well.

Vehicle Safety Standard #208 specifies general performance standards for various crash protection options.[189] Vehicle Safety Standards #209 and #210 deal specifically with seat belts[190] and seat belt anchorages.[191] Each of these standards applies according to its terms to passenger cars, multipurpose passenger vehicles, trucks and buses.

In addition to these Vehicle Safety Standards there are Carrier Safety Regulations which govern the floors of vehicles,[192] seating arrangements,[193] seat belts,[194] and safety markings.[195] These general carrier regulations are supplemented by additional Carrier Regulations concerning necessary equipment required of carriers of migrant workers.[196]

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[187] 49 C.F.R. §571.207 For special requirements for children's seats see Vehicle Safety Standards #213 and 213a at 49 C.F.R. §§571.213 and 571.213a.

[188] 49 C.F.R. §571.202. Note: NHTSA has proposed to combine Standards #202 and #207 to produce a Vehicle Safety Standard covering the entire seating system.

[189] 49 C.F.R. §571.208 as amended by 39 F.R. 1513 (1.10.74) revising §571.208.S4.51.

[190] 49 C.F.R. §571.209 as amended by 39 F.R. 2771 (1.21.74) revising §571.209.S4.3(j)(4).

[191] 49 C.F.R. §571.210.

[192] 49 C.F.R. §393.84.

[193] 49 C.F.R. §393.91. This regulation applies to buses.

[194] 49 C.F.R. §393.93.

[195] 49 C.F.R. §393.90, 393.92

[196] See FHWA regulations, 49 C.F.R. §398.5(f)(1) and (f)(4).

3.8 EXTERIOR STRENGTH AND CRASH PROTECTION

Design of passenger cars is governed by standards for impact resistance of various outer areas of the car. Vehicle Safety Standards #214 and #216 demand a certain level of "crush resistance" for side doors[197] and roof respectively.[198] Similarly, Vehicle Safety Standard #215 establishes requirements for the configuration and impact resistance of the front and rear surfaces of passenger cars.[199]

Carrier Safety Regulations also specify certain requirements for rear end protection of all motor carriers except truck-tractors, pole trailers and vehicles engaged in driveway-towaway operations.[200]

3.9 TIRES AND WHEELS

Vehicle Safety Standards #109, #109a, #110, #117, #117a, #119, and #211 regulate tires, rims, and wheels. Standards #109 and #109a specify requisite dimensions and laboratory tests for resistance, strength, endurance, and performance of new pneumatic tires for passenger cars.[201] Standard #119 provides tire performance and marking requirements for multipurpose passenger vehicles,

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[197] 49 C.F.R. §571.214

[198] 49 C.F.R. §571.216

[199] 49 C.F.R. §571.215. Note that some aspects of this standard do not apply until Sept. 1, 1974, (§571.215.S5.2. re: corner impact), and others do not apply until Sept. 1, 1975, (§571.215.S5.2.2 re: fixed collision barriers impact.) For bumper standards, see discussion supra at note #56 and following.

[200] 49 C.F.R. §393.86.

[201] 49 C.F.R. §571.109 and 571.109a as corrected by 38 F.R. 27599 (10.5.73), and amended by 38 F.R. 28569, 28570 (10.15.73), 38 F.R. 30235 (11.1.73), 38 F.R. 31309 (11.13.73), 39 F.R. 808 (1.3.74), 39 F.R. 4578 (2.5.74), 39 F.R. 4664, 4665, (2.6.74), and 39 F.R. 11424 (3.28.74).

trucks, buses, trailers and motorcycles.[202] Standards #117 and #117a set out similar requirements for retreaded pneumatic tires for passenger cars.[203]

Standard #110 specifies requirements for tire selection and rims to prevent tire overloading in passenger cars;[204] and Standard #211 limits the use of certain hub caps, wheel nuts and wheel discs on passenger car and multipurpose passenger vehicle equipment.[205]

In addition to being governed by these Vehicle Safety Standards, sellers of all motor vehicle tires are also affected by other NHTSA regulations which forbid the sale of regrooved tires,[206] require certain tire information to be provided to consumers,[207] and provide general guidelines for state inspection of tires and wheel assemblies.[208]

Carrier Safety Regulations also govern tires by specifying required tread and limiting the use of retreaded, recapped or regrooved tires on buses, trucks and truck tractors.[209] Carrier Safety Regulations further outline special requirements for tires of vehicles carrying migrant workers[210] and for inspection of tires of vehicles carrying hazardous substances.[211]

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[202] 38 F.R. 31301-31302 (11.13.73) as amended by 39 F.R. 4087 (2.1.74) and 39 F.R. 5192 (2.11.74).

[203] 49 C.F.R. §§ 571.117 and 571.117a as amended by 39 F.R. 1443, 1444 (1.9.74), and 39 F.R. 3553 (1.28.74).

[204] 49 C.F.R. §571.110 as amended and revised by 38 F.R. 28570 (10.15.73) 38 F.R. 30243 (11.1.73), 38 F.R. 31309 (11.13.73) and 39 F.R. 4665 (2.6.74).

[205] 49 C.F.R. §571.211.

[206] See generally NHTSA regulations, 49 C.F.R., part 569.

[207] 49 C.F.R. §575.102.

[208] 49 C.F.R. §§570 and 570.10

[209] 49 C.F.R. §393.75.

[210] 49 C.F.R. §398.5.

[211] 49 C.F.R. §397.17.

3.10 TOWING METHODS

Carrier Safety Regulations set out extensive requirements and limitations for coupling devices and for towing methods in general towing situations[212] and in driveaway towaway operations.[213] These regulations apply according to their terms to all carriers engaged in such operations; there are additional requirements for carriers of migrant workers.[214]

3.11 CARGO LOADING

Vehicle Safety Standard #126 requires manufacturers of slide-in campers to provide certain information concerning proper loading of such vehicles[215]. Similarly, NHTSA's consumer information regulations require further statistics and information to be provided by manufacturers of trucks that can accommodate these slide-in campers.[216]

The majority of the cargo-loading regulations are contained in Carrier Safety Regulations. These provide several options for arrangements to protect against shifting and falling cargo on trucks, truck tractors, semitrailers, full trailers, and pole trailers.[217] The Carrier Safety Regulations also regulate securement systems,[218] blocking and bracing to protect against longitudinal and lateral cargo movement,[219] and front-end equipment to prevent load shifting and penetration of the driver's compartment.[220]

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[212] 49 C.F.R. § 393.70.

[213] 49 C.F.R. § 393.71.

[214] 49 C.F.R. § 398.5(d).

[215] 49 C.F.R. § 571.126.

[216] 49 C.F.R. § 575.103.

[217] 49 C.F.R. § 393.100.

[218] 49 C.F.R. § 393.102.

[219] 49 C.F.R. § 393.104.

[220] 49 C.F.R. § 393.106.

3.12 MISCELLANEOUS

3.12.1 Accelerator

Vehicle Safety Standard #124 sets forth performance requirements for return of the vehicle's throttle to the idle position when the driver removes his foot from the accelerator or when the accelerator system is otherwise disconnected. Two sources of energy capable of returning the throttle to the idle position within a minimum of time are required. This standard applies to passenger cars, multipurpose passenger vehicles, trucks and buses.[221] In addition, NHTSA consumer information regulations require manufacturers of passenger cars to provide information on acceleration and passing ability of the vehicle.[222]

3.12.2 Drive Shaft Protection

Motor Carrier Safety Regulations govern the installation of bus driveshafts and require that measures be taken to prevent whipping.[223]

3.12.3 Heaters

Carrier Safety Regulations stipulate the acceptable type and location of heaters.[224] There are special heater requirements for carriers of migrant workers.[225]

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[221] 49 C.F.R. §571.124.

[222] 49 C.F.R. §575.106.

[223] 49 C.F.R. §393.89.

[224] 49 C.F.R. §393.77.

[225] 49 C.F.R. §398.5(f).

3.12.4 Horns

Every bus, truck, truck tractor, and every driven vehicle in a driveaway-towaway operation is required by Carrier Safety Standards to be equipped with a horn.[226]

3.12.5 Interior Controls

Vehicle Safety Standard #101 specifies requirements for the location, identification, and illumination of the following controls in passenger cars, multipurpose passenger vehicles, trucks, and buses: steering wheel, horn, transmission shift lever, ignition switch, headlamp switch, turn signal, illumination intensity control, windshield wiper control, windshield washer control, manual choke and driver's sun visor.[227]

3.12.6 Interior Noise

According to Carrier Safety Regulations, trucks and buses must be designed to maintain an interior sound level of not more than 90 dB(A), tested in stationary test.[228]

3.12.7 Material Flammability

Vehicle Safety Standard #302 specifies minimum burn resistance requirements for materials used in the occupant compartments of passenger cars, multipurpose passenger vehicles, trucks and buses.[229]

3.12.8 Mirrors

Pursuant to Vehicle Safety Standard #111 passenger cars and multipurpose passenger vehicles must have inside and outside rearview mirrors of specified scope properly mounted[230]. Location

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[226] 49 C.F.R. §393.81 See also NHTSA interior control regulation 49 C.F.R. §571.101 discussed infra at section 3.12.5.

[227] 49 C.F.R. §571.101.

[228] 49 C.F.R. §393.94 at 38 F.R. 30881 (11.8.73).

[229] 49 C.F.R. §571.302

[230] 49 C.F.R. §571.111.

and function of bus, truck, and truck tractor rear-view mirrors are similarly prescribed by Carrier Safety Regulations.[231] Mirrors on school buses are further regulated by Highway Safety Standards.[232]

3.12.9 Reflecting Surfaces

Vehicle Safety Standard #107 specifies reflecting surface requirements for certain vehicle components in the driver's field of view such as windshield wiper arms and blades, windshield mountings, horn ring, steering wheel assembly and inside mirror frame and mounting. The standard applies to passenger cars, multipurpose passenger vehicles, trucks and buses.[233]

3.12.10 Sleeping Berths

Carrier Safety Regulations specify size, ventilation, equipment, location, and availability of exits for carrier sleeping berths.[234]

3.12.11 Speedometer

Every bus, truck, and truck-tractor is required by Carrier Safety Regulations to be equipped with a speedometer capable of indicating the vehicle's speed in miles per hour with reasonable accuracy.[235]

3.12.12 Steering Systems and Suspension System

Although not specifically governed by Vehicle Safety Standards and Carrier Safety Regulations, steering systems[236] and suspension systems[237]

[231] 49 C.F.R. §393.80.

[232] 23 C.F.R., part 1204.4 (Standard #17). This standard was issued pursuant to the Highway Safety Act, see note #54, supra.

[233] 49 C.F.R. § 571.107.

[234] 49 C.F.R. § 393.76.

[235] 49 C.F.R. § 393.82.

[236] 49 C.F.R. § 570.7.

[237] 49 C.F.R. § 570.8.

are a subject of the NHTSA guidelines for state inspection programs. These standards do not technically bind the manufacturer or any person but are intended to provide a basis for state regulation and inspection.[238]

3.12.13 Television Receivers

Carrier Safety Regulations require that any motor vehicle equipped with a television viewer or screen must locate the screen so that it is not visible to the driver.[239]

3.12.14 Theft Protection Devices

Passenger cars, multipurpose passenger vehicles, trucks, and buses are required by Vehicle Safety Standard #113 to be equipped with hoodlatch systems.[240] Vehicle Safety Standards also require passenger cars to have further theft protection devices[241] including mandatory identification numbers.[242]

3.12.15 Transmission

Vehicle Safety Standard #102 regulates the location of transmission shift lever positions and requires a transmission braking effect in vehicles with more than one forward transmission gear ratio. This standard, which applies to passenger cars, multipurpose passenger vehicles, trucks, and buses, also provides that the engine starter must be inoperative when the shift lever is in the forward or reverse drive position.[243]

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[238] See generally NHTSA regulations, 49 C.F.R., part 570, "Vehicle In Use Inspection Standards."

[239] 49 C.F.R. § 393.88.

[240] 49 C.F.R. § 571.113.

[241] 49 C.F.R. § 571.114.

[242] 49 C.F.R. § 571.115.

[243] 49 C.F.R. § 571.102.

APPENDIX A

DEFINITION OF TERMS USED IN THE INTERSTATE COMMERCE ACT*

*See also Appendix C. Definitions of Types of Vehicles as used in regulations issued pursuant to the Interstate Commerce Act and the Traffic Safety Act.

1. Motor Vehicle

The term "motor vehicle" means any vehicle, machine, tractor, trailer, or semitrailer propelled or drawn by mechanical power and used upon the highways in the transportation of passengers or property, or any combination thereof determined by the Commission, but does not include any vehicle, locomotive, or car operated exclusively on a rail or rails, or a trolley bus operated by electric power derived from a fixed overhead wire, furnishing local passenger transportation similar to street-railway service. 49 U.S.C. 303(a)(13).

2. Contract Carrier by Motor Vehicle

The term "contract carrier by motor vehicle" means any person which engages in transportation by motor vehicle of passengers or property in interstate or foreign commerce, for compensation (other than transportation referred to in paragraph (14) of this subsection and the exception therein), under continuing contracts with one person, or a limited number of persons either (a) for the furnishing of transportation services through the assignment of motor vehicles for a continuing period of time to the exclusive use of each person served or (b) for the furnishing of transportation services designed to meet the distinct need of each individual customer. 49 U.S.C. 303a(15).

3. Motor Carrier

The term "motor carrier" includes both a common carrier by motor vehicle and a contract carrier by motor vehicle, 49 U.S.C. 303a(16). See note #33 supra.

4. Private Carrier of Property by Motor Vehicle

The term "private carrier of property by motor vehicle" means any person not included in the terms "common carrier by motor vehicle" or "contract carrier by motor vehicle", who or which transports in interstate or foreign commerce by motor vehicle property of which such person is the owner, lessee, or bailee, when such

transportation is for the purpose of sale, lease, rent, or bailment, or in furtherance of any commercial enterprise. 49 U.S.C. 303a(17).

5. Definition of Common Carrier

The term "common carrier by motor vehicle" means any person which holds itself out to the general public to engage in the transportation by motor vehicle in interstate or foreign commerce of passengers or property or any class or classes thereof for compensation, whether over regular or irregular routes, except transportation by motor vehicle by an express company to the extent that such transportation has heretofore been subject to Chapter 1 of this title, to which extent such transportation shall continue to be considered to be and shall be regulated as transportation subject to Chapter 1 of this title. 49 U.S.C. 303(a) (14).

6. Services

The "services" and "transportation" to which this chapter applies include all vehicles operated by, for, or in the interest of any motor carrier irrespective of ownership or of contract, express or implied, together with all facilities and property operated or controlled by any such carrier or carriers, and used in the transportation of passengers or property in interstate or foreign commerce or in the performance of any service in connection therewith. 49 U.S.C. 303(a) (19).

7. Carrier of Migrant Workers

The term "carrier of migrant workers by motor vehicle" means any person, including any "contract carrier by motor vehicle" but not including any "common carrier by motor vehicle", who or which transports in interstate or foreign commerce at any one time three or more migrant workers to or from their employment by any motor vehicle other than a passenger automobile or station wagon, except migrant workers transporting themselves or their immediate families.

The term "migrant worker" means any individual proceeding to or returning from employment in agriculture as defined in section 203(f) of Title 29, or section 3121(g) of Title 26, Internal Revenue Code of 1954. 49 U.S.C. 303(a) (22) and (23).

APPENDIX B

DEFINITION OF TERMS USED IN THE CLEAN AIR ACT

GENERAL

Manufacturer:

The term "manufacturer" as used in sections 1857f-1, 1857f-2, 1857f-5, 1857f-6, and 1857f-6a of this title means any person engaged in the manufacturing or assembling of new motor vehicles or new motor vehicle engines, or importing such vehicles or engines for resale, or who acts for and is under the control of any such person in connection with the distribution of new motor vehicles or new motor vehicle engines, but shall not include any dealer with respect to new motor vehicles or new motor vehicle engines received by him in commerce. 42 U.S.C. 1857f-7 (1).

Motor Vehicle:

The term "motor vehicle" means any self-propelled vehicle assigned for transporting persons or property on a street or highway. 42 U.S.C. 1857f-7 (2).

New Motor Vehicle and New Motor Vehicle Engine

Except with respect to vehicles or engines imported or offered for importation, the term "new motor vehicle" means a motor vehicle the equitable or legal title to which has never been transferred to an ultimate purchaser; and the term "new motor vehicle engine" means an engine in a new motor vehicle or a motor vehicle engine the equitable or legal title to which has never been transferred to the ultimate purchaser; and with respect to imported vehicles or engines, such terms mean a motor vehicle and engine respectively, manufactured after the effective date of a regulation issued under section 1857f-1 of this title which is applicable to such vehicle or engine (or which would be applicable to such vehicle or engine had it been manufactured for importation into the United States). 42 U.S.C. 1857f-7 (3).

Ultimate Purchaser:

"...the first person who in good faith purchases such new motor vehicle or new engine for purposes other than resale," 42 U.S.C. 1857f-7 (5).

VEHICLES

Light duty vehicle: "a passenger car or passenger car derivative capable of seating 12 passengers or less," 40 C.F.R. §85.002 (a) (5) as amended by 38 F.R. 21363 (8.7.73).

Light duty vehicle: "any motor vehicle either designed primarily for transportation of property and rated at 6000 pounds GVW or less or designed for transportation of persons and having a capacity of 12 persons or less," 40 C.F.R. § 85.102 at 38 F.R. 21348 (8.7.73). This definition is relevant to new diesel light duty motor vehicles, 40 C.F.R. § 85.101.

Light duty truck: "any motor vehicle rated at 6000 pounds GVW (gross vehicle weight) or less, which is designed primarily for purposes of transportation of property or is a derivative of such a vehicle or is available with special features enabling off-street or off-highway operation and use," 40 C.F.R. §85.202 (a) (5) at 38 F.R. 21364 (8.7.73).

Heavy duty vehicle: "any motor vehicle either designed primarily for transportation of property and rated at more than 6000 pounds GVW or designed primarily for transportation of persons and having a capacity of more than 12 persons," 40 C.F.R. §85.702 (a) (5). (This definition is repeated in 40 C.F.R.§§ 85.802 and 85.902).

Heavy duty engine: "any engine which the engine manufacturer could reasonably expect to be used for motive power in a heavy duty vehicle." 40 C.F.R. §35.702 (a) (6). (This definition is repeated in 40 C.F.R. §§ 85.802, and 85.902).

EMISSIONS

Crankcase emissions: "airborne substances emitted to the atmosphere from any portion of the engine crankcase ventilation or lubrication systems," 40 C.F.R. § 85.002 (a) (14). (This definition is repeated in 40 C.F.R. §§ 85.802, 85.702, 85.802 and 85.902) at 38 F.R. 21364.

Exhaust emissions: "substances emitted to the atmosphere from any opening downstream from the exhaust port of a motor vehicle engine," 40 C.F.R. § 85.002 (a) (15). (This definition is repeated in 40 C.F.R. §§ 85.102 at 38 F.R. 21348, 85.202 at 38 F.R. 21364, 85.702, 85.802 and 85.902).

Fuel evaporative emissions: "vaporized fuel emitted into the atmosphere from the fuel system of a motor vehicle." 40 C.F.R. § 85.002 (a) (16). (This definition is repeated in 40 C.F.R. § 85.202 at 38 F.R. 21364).

Smoke: "matter in exhaust emissions which obscures the transmission of light." 40 C.F.R. § 85.802 (a) (13).

APPENDIX C

DEFINITIONS OF VARIOUS TYPES OF VEHICLES REFERRED TO IN INTERSTATE COMMERCE ACT AND NATIONAL TRAFFIC AND MOTOR VEHICLE SAFETY ACT

A comparison of the definitions of the various types of vehicles as they appear in the regulations under these statutes:

a. Bus is defined by the carrier safety regulations, 49 C.F.R. § 390.3, as "any motor vehicle designed, constructed and used for the transportation of passengers including taxi cabs;" and, by the vehicle safety regulations, 49 C.F.R. §571.3, as a "motor vehicle with motive power, except a trailer, designed for carrying more than 10 persons." Note that school bus is further defined by the vehicle safety regulations as a bus "designed primarily to carry children to and from school, but not including buses operated by common carriers in urban transportation of school children."

b. Pole trailer is defined by the vehicle safety regulations as a "vehicle without motive power [possibly of variable wheel base] designed to be drawn by another motor vehicle, and attached to the towing vehicle by means of a reach or pole or by being boomed or otherwise secured to the towing vehicle [and ordinarily used] for transporting long or irregular shaped loads such as poles, pipes or structural members capable of generally sustaining themselves as beams between the supporting connections," 49 C.F.R. §571.3. The definition is the same in the carrier safety regulations with the addition of the phrases in brackets, 49 C.F.R. § 390.8.

c. Semitrailer is defined by the vehicle safety regulation as a "trailer, except a pole trailer, so constructed that a substantial part of its weight rests upon or is carried by another vehicle," 49 C.F.R. §571.3, and very similarly by the carrier safety regulation, 49 C.F.R. §390.6, as a "motor vehicle other than a 'pole trailer', with or without motive power, designed to be drawn by another motor vehicle and so constructed that some part of its weight rests upon the towing vehicle."

d. Trailer is defined by the vehicle safety regulations as a "motor vehicle with or without motive power, designed for carrying persons or property and for being drawn by another motor vehicle." 49 C.F.R. §571.3. The carrier safety regulations 49 C.F.R. § 390.7, further define full trailer as a "motor

vehicle, with or without motive power, other than a 'pole trailer' designed to be drawn by another motor vehicle and so constructed that no part of its weight except the towing device rests upon the towing vehicle. A semitrailer equipped with an auxiliary front axle (dolly) shall be deemed a 'full trailer'."

e. Truck is defined by the vehicle safety regulations as a "motor vehicle with motive power, except a trailer, designed primarily for the transportation of property or special equipment." 49 C.F.R. § 571.3. With only slight variation truck is defined by the carrier safety regulation, 49 C.F.R. §390.4, as any "self-propelled motor vehicle except a truck tractor designed and used, or exclusively used whether or not so designed, for the transportation of property."

f. Truck-tractor is defined in the vehicle safety regulations as a "truck [self-propelled motor vehicle] designed [and used] primarily for drawing other motor vehicles and not so constructed as to carry a load other than a part of the weight of the vehicles and the load so drawn." 49 C.F.R. §571.3. The definition of "truck tractor" in the carrier safety regulation, 49 C.F.R. §390.5, is the same except for the substitutions indicated in brackets.

The definition of passenger car and multipurpose passenger vehicles which appear only in the vehicle safety regulations issued pursuant to the Traffic Safety Act, 49 C.F.R. § 571.3, are as follows: "Passenger car means a motor vehicle with motive power, except a multipurpose passenger vehicle, motorcycle, or trailer, designed for carrying 10 persons or less." "Multipurpose passenger vehicle means a motor vehicle with motive power except a trailer, designed to carry 10 persons or less which is constructed on a truck chassis or with special features for occasional off-road operation."

APPENDIX D

OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, 29 U.S.C. 651 ET SEQ

This Act requires an employer to provide employees with "employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees" and to "comply with occupational safety and health standards promulgated under this chapter." 29 U.S.C. 653.

Pursuant to his authority under this Act, the Secretary of Labor has promulgated numerous occupational safety and health standards including standards concerning walking and working surfaces, means of egress, power platforms, environmental control, hazardous materials, protective equipment, fire protection, first aid, materials handling and storage, machinery, hand power tools, welding, etc., 29 C.F.R. §1910. To the extent such standards are relevant to their procedures and employees, manufacturers of motor vehicles must comply with these requirements or be subject to the enforcement and penalty provisions of the Act. 29 U.S.C. 659.

Consumer Product Safety Act of 1972, 15 U.S.C.A. 2051, et seq.

This Act does not apply to either motor vehicles or motor vehicle equipment, 15 U.S.C. 2052 (a) (i) (C).

APPENDIX E

MOTOR VEHICLE EMISSION STANDARDS 1974-1978

Section 5 of P.L. 93-319, enacted June 22, 1974, the "Energy Supply and Environmental Coordination Act of 1974," makes several changes in the timing of emission standards applicable to light duty vehicles and engines.

1. The goal of a 90% reduction in CO and hydrocarbon emissions over 1970 model year light duty vehicles is now postponed from the 1975 model year to the 1977 model year. Sec. 5(a).

2. Light duty vehicles manufactured during the 1975 and 1976 model years shall be subject to the interim standards prescribed (as of December 1, 1973) for 1975 model year light duty vehicles. Sec. 5(a).

3. The goal of a 90% reduction in NO_x emissions over 1971 model year light duty vehicles is now postponed from the 1976 model year to the 1978 model year. Sec. 5(b).

4. Light duty vehicles manufactured during the 1975 and 1976 model years shall be subject to the same interim NO_x emissions standards as prescribed (as of December 1, 1973) for 1975 model year light duty vehicles. Sec. 5(b).

5. The regulations on NO_x emissions applicable to 1977 model year light duty vehicles must require that NO_x emissions not exceed 2.0 grams/mile Sec. 5(b).

After January 1, 1975, manufacturers may request a one-year postponement of the 1977 H-C and CO standards. If the EPA Administrator grants the request, with regard to either or both hydrocarbon and CO emissions, he must prescribe interim emission standards applicable to the 1977 model year. Sec. 5(c).

The provision of the Clean Air Act allowing a manufacturer to seek a one-year postponement of NO_x emission standards is now repealed. Sec. 5(d).

The effect of these changes is summarized in the Conference Committee's report on Sec. 5:

1975 and 1976 model years: (49 states)	1.5 grams/mile hydrocarbons 15.0 grams/mile CO 3.1 grams/mile NO_x
California	0.9 grams/mile hydrocarbons 9.0 grams/mile CO 2.0 grams/mile NO_x
1977 model year:	0.41 grams/mile hydrocarbons 3.4 grams/mile CO (These figures constitute a 90% reduction over 1970 model year for hydrocarbons, CO) (But: manufacturers may seek a one-year suspension of these hydrocarbon and CO standards. If the suspension is granted, EPA must set interim standards) 2.0 grams/mile NO_x
1978 model year:	0.40 grams/mile NO_x (This constitutes a 90% reduction over 1971 model year.) (Same hydrocarbon, CO standards as 1977.)