**OS-8** Rev. 0G'11



## **Ohio Department of Transportation**

Office of Highway Management

Special Hauling Permit Section (614) 351-2300 1JÌ 0 West Broad Street Columbus, OH 43223

www.dot.state.oh.us/permits/

# LEGAL DIMENSION and WEIGHT LIMITS for HIGHWAY VEHICLES

(As per Ohio Revised Code, Sections 5577.04, 5577.05)

PENALTIES for VIOLATION (As per Ohio Revised Code, Section 5577.99)

John Kasich Governor Jerry Wray Director

An Equal Opportunity Employer

#### MAXIMUM OVERALL DIMENSIONS

(inc	luding any loads)			
Width of municipal passenger bus	8'-8''	Length of saddlemount vehicle transporter operated on all Interstate, US and State routes		
Width of passenger bus operated over free	eways 8'-6"			
Width of traction engine	11'-0"	Length of saddlemount vehicle transporter operated on other roadways	75'-0"	
Width of recreational vehicles	8'-6"	Length of any other combination	65'-0"	
Width of all other vehicles	8'-6"	6 ,	45'-0ö"	
Length of muncipal passenger bus	66'-0"	Length of recreational vehicles		
		Length of all other vehicles	50ø-0"	
Length of all other passenger bus type ve	chicles 45'-0"	Length of automobile or boat transporter (plus	65'-0"	
Length of semitrailer used in a commercia tractor-semitrailer combination	al 53'-0"	load overhang of 3'-0" in front and 4'-0" in rear)	00 0	
Length of semitrailer or full trailer used in commercial tractor-semitrailer-trailer combination	n a 28'-6"	Length of stinger-steered automobile or boat transporter (plus load overhang of 3'-0" in front and 4'-0" in rear)	75'-0"	
		Height of all vehicles	13'-6"	

Sec. 5577.05:

- (A) No vehicle shall be operated upon the public highways, streets, bridges, and culverts within the state, whose dimensions exceed those specified in this section.
- (B) No such vehicle shall have a width in excess of:
  - (1) 8'-8" for passenger bus type vehicles operated exclusively within municipal corporations;
  - (2) 8'-6", excluding such safety devices as are required by law, for passenger bus type vehicles operated over freeways, and such other state roads with minimum pavement widths of twenty-two feet, except those roads or portions thereof over which operation of 8'-6" buses is prohibited by order of the director of transportation;
  - (3) 11' for traction engines;
  - (4) 8'-6" for recreational vehicles, excluding safety devices and retracted awnings and other appurtenances of 6" or less in width and except that the director may prohibit the operation of 8'-6" recreational vehicles on designated state highways or portions of highways;
  - (5) 8'-6", including load, for all other vehicles, except that the director may prohibit the operation of 8'-6" vehicles on such state highways or portions thereof as the director designates.
- (C) No such vehicle shall have a length in excess of:
  - (1) 66' for passenger bus type vehicles and articulated passenger bus type vehicles operated by a regional transit authority pursuant to sections 306.30 to 306.54 of the Revised Code;
  - (2) 45' for all other passenger bus type vehicles;
  - (3) 53' for any semitrailer when operated in a commercial tractor-semitrailer combination, with or without load, except that the director may prohibit the operation of any such commercial tractor-semitrailer combination on such state highways or portions thereof as the director designates.
  - (4) 28'-6" for any semitrailer or trailer when operated in a commercial tractor-semitrailer-trailer or commercial tractor-semitrailer-semitrailer combination, except that the director may prohibit the operation of any such commercial tractor-semitrailer-trailer or commercial tractor-semitrailer-semitrailer combination on such state highways or portions thereof as the director designates;
  - (5) (a) 97' for drive-away saddlemount vehicle transporter combinations and drive-away saddlemount with fullmount vehicle transporter combinations, when operated on all Interstate, US and State routes, including reasonable access travel on all other roadway for a distance not to exceed one road mile; not to exceed three saddlemounted vehicles, but which may include one fullmount.
    - (b) 75øfor drive-away saddlemount vehicle transporter combinations and drive-away saddlemount with fullmount vehicle transporter combinations, when operated on all roadways not designated as an Interstate, US and State routes, other than roadways within one road mile of any Interstate, US and State routes, not to exceed three saddlemounted vehicles, but which may include one fullmount.
  - (6) 65' for any other combination of vehicles coupled together, with or without load, except as provided in divisions (C)(3) and (4), and in division (E) of this section;
  - (7) 45' for recreational vehicles;
  - (8) 70' for all other vehicles except trailers and semitrailers, with or without load.

#### MAXIMUM OVERALL DIMENSIONS (continued)

- (D) No such vehicle shall have a height in excess of 13'-6", with or without load.
- (E) An automobile transporter or boat transporter shall be allowed a length of 65' and a stinger-steered automobile transporter or stinger-steered boat transporter shall be allowed a length of 75', except that the load thereon may extend no more than 4' beyond the rear of such vehicles and may extend no more than 3' beyond the front of such vehicles, and except further that the director may prohibit the operation of a stinger-steered automobile transporter, stinger-steered boat transporter, or a B-train assembly on any state highway or portion thereof that the director designates.
- (F) The widths prescribed in division (B) of this section shall not include side mirrors, turn signal lamps, marker lamps, handholds for cab entry and egress, flexible fender extensions, mud flaps, splash and spray suppressant devices, and load-induced tire bulge.

The width prescribed in division (B)(5) of this section shall not include automatic covering devices , tarp and tarp hardware, and tiedown assemblies, provided these safety devices do not extend more than three inches from each side of the vehicle.

The lengths prescribed in divisions (C)(2) to (7) of this section shall not include safety devices, bumpers attached to the front or rear of such bus or combination, B-train assembly used between the first and second semitrailer of a commercial tractor-semitrailer-semitrailer combination, energy conservation devices as provided in any regulations adopted by the secretary of the United States department of transportation, or any noncargo-carrying refrigeration equipment attached to the front of trailers and semitrailers. In special cases, vehicles whose dimensions exceed those prescribed by this section may operate in accordance with rules adopted by the director.

(G) This section does not apply to fire engines, fire trucks, or other vehicles or apparatus belonging to any municipal corporation or to the volunteer fire department of any municipal corporation or used by such department in the discharge of its functions. This section does not apply to vehicles and pole trailers used in the transportation of wooden and metal poles, nor to the transportation of pipes or well-drilling equipment, nor to farm machinery and equipment. The owner or operator of any vehicle, machinery, or equipment not specifically enumerated in this section but the dimensions of which exceed the dimensions provided by this section, when operating the same on the highways and streets of this state, shall comply with the rules of the director governing such movement, which the director may adopt. Sections 119.01 to 119.13 of the Revised Code apply to any rules the director adopts under this section, or the amendment or rescission thereof, and any person adversely affected shall have the same right of appeal as provided in those sections.

This section does not require the state, a municipal corporation, county, township, or any railroad or other private corporation to provide sufficient vertical clearance to permit the operation of such vehicle, or to make any changes in or about existing structures now crossing streets, roads, and other public thoroughfares in this state.

(H) As used in this section, "recreational vehicle" has the same meaning as in section 4501.01 of the Revised Code.

#### **MAXIMUM WEIGHTS**

- Sec. 5577.04 Maximum axle load, wheel load, gross weights, for pneumatic tired vehicles.
- (A) The maximum wheel load of any one wheel of any vehicle, trackless trolley, load, object, or structure operated or moved upon improved public highways, streets, bridges, or culverts shall not exceed six hundred fifty pounds per inch width of pneumatic tire, measured as prescribed by section 5577.03 of the Revised Code.
- (B) The weight of vehicle and load imposed upon a road surface that is part of the interstate system by vehicles with pneumatic tires shall not exceed any of the following weight limitations:
  - (1) On any one axle, twenty thousand pounds;
  - (2) On any tandem axle, thirty-four thousand pounds;
  - (3) On any two or more consecutive axles, the maximum weight as determined by application of the formula provided in division (C) of this section.
- (C) For purposes of division (B)(3) of this section, the maximum gross weight on any two or more consecutive axles shall be determined by application of the following formula:

$$W = 500](LN/N-1) + 12N + 36_.$$

In this formula, W equals the overall gross weight on any group of two or more consecutive axles to the nearest five hundred pounds, L equals the distance in rounded whole feet between the extreme of any group of two or more consecutive axles, and N equals the number of axles in the group under consideration. However, two consecutive sets of tandem axles may carry a gross load of thirty-four thousand pounds each, provided the overall distance between the first and last axles of such consecutive sets of tandem axles is thirty-six feet or more.

- (D) Except as provided in division (I) of this section, the weight of vehicle and load imposed upon a road surface that is not part of the interstate system by vehicles with pneumatic tires shall not exceed any of the following weight limitations:
  - (1) On any one axle, twenty thousand pounds;
  - (2) On any two successive axles:
    - (a) Spaced four feet or less apart, and weighed simultaneously, twenty-four thousand pounds;
    - (b) Spaced more than four feet apart, and weighed simultaneously, thirty-four thousand pounds, plus one thousand pounds per foot or fraction thereof, over four feet, not to exceed forty thousand pounds.
  - (3) On any three successive load-bearing axles designed to equalize the load between such axles and spaced so that each such axle of the three-axle group is more than four feet from the next axle in the three-axle group and so that the spacing between the first axle and the third axle of the three-axle group is no more than nine feet, and with such load-bearing three-axle group weighed simultaneously as a unit:
    - (a) Forty-eight thousand pounds, with the total weight of vehicle and load not exceeding thirty-eight thousand pounds plus an additional nine hundred pounds for each foot of spacing between the front axle and the rearmost axle of the vehicle;
    - (b) As an alternative to division (D)(3)(a) of this section, forty-two thousand five hundred pounds, if part of a sixaxle vehicle combination with at least twenty feet of spacing between the front axle and rearmost axle, with the total weight of vehicle and load not exceeding fifty-four thousand pounds plus an additional six hundred pounds for each foot of spacing between the front axle and the rearmost axle of the vehicle.
  - (4) The total weight of vehicle and load utilizing any combination of axles, other than as provided for three-axle groups in division (D) of this section, shall not exceed thirty-eight thousand pounds plus an additional nine hundred pounds for each foot of spacing between the front axle and rearmost axle of the vehicle.
- (E) Notwithstanding divisions (B) and (D) of this section, the maximum overall gross weight of vehicle and load imposed upon the road surface shall not exceed eighty thousand pounds.
- (F) Notwithstanding any other provision of law, when a vehicle is towing another vehicle, such drawbar or other connection shall be of a length such as will limit the spacing between nearest axles of the respective vehicles to a distance not in excess of twelve feet and six inches.
- (G) As used in division (B) of this section, "tandem axle" means two or more consecutive axles whose centers may be included between parallel transverse vertical planes spaced more than forty inches but not more than ninety-six inches apart, extending across the full width of the vehicle.
- (H) This section does not apply to passenger bus type vehicles operated by a regional transit authority pursuant to sections 306.30 to 306.54 of the Revised Code.
- (I) Either division (B) or (D) of this section applies to the weight of a vehicle and its load imposed upon any road surface that is not a part of the interstate system by vehicles with pneumatic tires. As between divisions (B) and (D) of this section, only the division that yields the highest total gross vehicle weight limit shall be applied to any such vehicle. Once that division is determined, only the limits contained in the subdivisions of that division shall apply to that vehicle.

#### FEDERAL BRIDGE FORMULA DEFINITIONS

The following definitions are used in conjunction with the federal bridge formula table.

GROSS WEIGHT: The weight of a vehicle combination without load plus the weight of any load thereon. The maximum overall gross weight of vehicle and load imposed upon the road surface shall not exceed eighty thousand pounds.

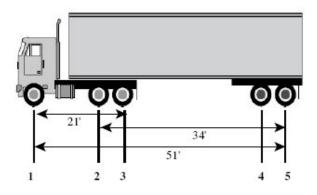
SINGLE AXLE WEIGHT: The total weight imposed upon the road surface by all wheels whose centers may be included between two parallel transverse vertical planes forty inches apart, extended across the full width of the vehicle. The maximum single axle weight shall not exceed twenty thousand pounds.

TANDEM AXLE WEIGHT: The total weight imposed upon the road surface by two or more consecutive axles whose centers may be included between parallel transverse vertical planes spaced more than forty inches but not more than ninety-six inches apart, extending across the full width of the vehicle. The maximum tandem axle weight shall not exceed thirty-four thousand pounds.

CONSECUTIVE AXLE WEIGHT: Any consecutive two or more axles may not exceed the weight as computed by the formula even though the single axles, tandem axles, and gross weights are within the legal requirements.

#### CHECKING A VEHICLE

This illustration of a tractor-semitrailer combination is used to illustrate a bridge formula check. Before beginning to check your vehicle, be sure that single axle 1 does not exceed 20,000 lbs., tandem axles 2-3 and 4-5 do not exceed 34,000 lbs. each and that the gross vehicle weight does not exceed 80,000 lbs. If these weight requirements are satisfactory, the following combinations should be checked as follows:



Axle 1 is 12,000 lbs. Axle 2,3,4 and 5 are 17,000 lbs. each and show a spacing violation

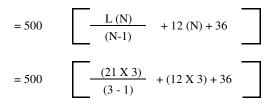
Check axles 1 through 3 using the illustration. W (actual weight)

$$= 12,000 + 17,000 + 17,000 = 46,000$$
 lbs.

N = 3 axles;

L = 21 feet

W = maximum



= 51,500 lbs.

The actual weight of axles 1 through 3 of the illustrated combination is 46,000 lbs. so the bridge formula requirement is satisfied.

To use the Bridge Formula Table to obtain the maximum load allowed on axles 1 through 3, read down the left column (Distance in feet between ...axles) to L = 21 and across the number of axles to the right to N = 3 (axles).

Now check axles 1 through 5 using the illustration and table. W (actual weight)

= 12,000 + 17,000 + 17,000

+ 17,000 + 17,000 = 80,000 lbs.

N = 5 axles; L = 51 feet

W maximum from the table for L of 51 feet and N of 5 (axles) = 80,000 lbs.

This axle spacing is satisfactory.

Now check axles 2 through 5 using the illustration and table. W (actual weight)

= 17,000 + 17,000 + 17,000 + 17,000

$$= 68,000$$
 lbs.

N = 4 axles; L = 34 feet

W maximum from the table for L = 34 feet and N = 4 (axles) = 64,500 lbs.

This means the illustration shows a violation; the actual weight of 68,000 lbs. exceeds the maximum allowable weight of 64,500 lbs. for the given axle spacing. To correct the situation, some load must be removed from the vehicle or the 34-foot axle spacing must be increased.

#### **EXCEPTION TO FORMULA**

There is one exception to the use of the formula and table: two consecutive sets of tandem axles may carry a gross load of 34,000 pounds each providing the overall distance between the first and last axles of such consecutive sets of tandem axles is 36 feet of more. For example, a 5-axle tractor-semitrailer may be used to haul a full 34,000 lbs. on the tandem of the tractor (axles 2 and 3) and the tandem of the trailer (axles 4 and 5) providing there is a spacing of 36 or more feet between axles 2 and 5. A spacing of 36 feet or more for axles 2 through 5 is satisfactory for an actual W of 68,000 lbs. even though the formula or table computes W maximum to be 66,000 to 67,500 lbs. for spacing of 36 to 38 feet.

### FEDERAL BRIDGE FORMULA TABLE

Permissible Gross Loads for Vehicles in Regular Operation Based on weight formula: W = 500 [(L(N) / (N-1)) + 12(N) + 36]the maximum weight in pounds that can be carried on a group of two or more axles to the nearest

500 pounds

W =

L = spacing in feet between the outer axles of any two or more consecutive axles N = number of axles being considered

Distance in feet between the extremes of any group of 2 or	Maximum load in pounds carried on any group of 2 or more consecutive axles						
more consecutive axles	2 axles	3 axles	4 axles	5 axles	6 axles	7 axles	
4	34,000						
5	34,000						
6	34,000						
/	34,000						
8 and less	34,000	34,000					
More than 8	38,000	42,000					
9	39,000	42,500					
10	40,000	43,500					
11		44,000					
12		45,000	50,000				
13		45,500	50,500				
14		46,500	51,500				
15		47,000	52,000				
16		48,000	52,500	58,000			
17		48,500	53,500	58,500			
18		49,500	54,000	59,000			
19		50,000	54,500	60,000			
20		51,000	55,500	60,500	66,000		
21		51,500	56,000	61,000	66,500		
22		52,500	56,500	61,500	67,000		
23		53,000	57,500	62,500	68,000		
24		54,000	58,000	63,000	68,500	74,000	
25		54,500	58,500	63,500	69,000	74,500	
26		55,500	59,500	64,000	69,500	75,000	
27		56,000	60,000	65,000	70,000	75,500	
28		57,000	60,500	65,500	71,000	76,500	
29		57,500	61,500	66,000	71,500	77,000	
30		58,500	62,000	66,500	72,000	77,500	
31		59,000	62,500	67,500	72,500	78,000	
32		60,000	63,500	68,000	73,000	78,500	
33			64,000	68,500	74,000	79,000	
34			64,500	69,000	74,500	80,000	
35			65,500	70,000	75,000		
36		Exception	66,000	70,500	75,500		
37		23 U.S.C.	66,500	71,000	,		
					76,000		
38		127	67,500	71,500	77,000		
39	T		68,000	72,500	77,500		
40			68,500	73,000	78,000		
41			69,500	73,500	78,500		
42			70,000	74,000	79,000		
43			70,500	75,000	80,000		
44			71,500	75,500			
45			72,000	76,000			
46			72,500	76,500			
47			73,500	77,500			
48			74,000	78,000			
49			74,500	78,500			
50			75,500	79,000			
51			76,000	80,000			
52			76,500				
53			77,500				
54			78,000				
55			78,500				
56			79,500				
50	<b>_</b>						
57			80,000				

NON-INTERSTATE BRIDGE FORMULA										
	5577.04 Ohio Revised Code									
	Paragraph D									
	Maximum Allowable Load									
	for Various Distances									
	Center to Center of Extreme Axles (in feet)									
Feet	Table A Pounds	Table B Pounds	Feet	Table A Pounds	Table B Pounds	Feet	Table A Pounds	Table B Pounds		
3	24,000	х	18	54,200	Х	34	68,600	74,400		
4	24,000	х	19	55,100	Х	35	69,500	75,000		
4.5	35,000	х	20	56,000	66,000	36	70,400	75,600		
5	35,000	х	21	56,900	66,600	37	71,300	76,200		
6	36,000	х	22	57,800	67,200	38	72,200	76,800		
7	37,000	х	23	58,700	67,800	39	73,100	77,400		
8	38,000	Х	24	59,600	68,400	40	74,000	78,000		
9	39,000	Х	25	60,500	69,000	41	74,900	78,600		
10	40,000	Х	26	61,400	69,600	42	75,800	79,200		
11	47,900	Х	27	62,300	70,200	43	76,700	79,800		
12	48,800	Х	28	63,200	70,800	44	77,600	80,000		
13	49,700	Х	29	64,100	71,400	45	78,500	80,000		
14	50,600	х	30	65,000	72,000	46	79,400	80,000		
15	51,500	х	31	65,900	72,600	47	80,000	80,000		
16	52,400	х	32	66,800	73,200	48	80,000	80,000		
17	53,300	Х	33	67,700	73,800					

#### 5577.15 APPLICATION OF SIZE AND WEIGHT PROVISIONS OF CHAPTER.

- (A) The size and weight provisions of this chapter do not apply to a person who is engaged in the initial towing or removal of a wrecked or disabled motor vehicle from the site of an emergency on a public highway where the vehicle became wrecked or disabled to the nearest site where the vehicle can be brought into conformance with the requirements of this chapter or to the nearest qualified repair facility.
- (B) Any subsequent towing of a wrecked or disabled vehicle shall comply with the size and weight provisions of this chapter.
- (C) No court shall impose any penalty prescribed in section 5577.99 of the Revised Code or the civil liability established in section 5577.12 of the Revised Code upon a person towing or removing a vehicle in the manner described in division (A) of this section.

#### **4511.04 EXCEPTION TO TRAFFIC RULES.**

- (A) Sections 4511.01 to 4511.18, 4511.20 to 4511.78, 4511.99, and 4513.01 to 4513.37 of the Revised Code do not apply to persons, teams, motor vehicles, and other equipment while actually engaged in work upon the surface of a highway within an area designated by traffic control devices, but apply to such persons and vehicles when traveling to or from such work.
- (B) The driver of a highway maintenance vehicle owned by this state or any political subdivision of this state, while the driver is engaged in the performance of official duties upon a street or highway, provided the highway maintenance vehicle is equipped with flashing lights and such other markings as are required by law and such lights are in operation when the driver and vehicle are so engaged, shall be exempt from criminal prosecution for violations of sections 4511.22, 4511.25, 4511.26, 4511.27, 4511.28, 4511.30, 4511.31, 4511.33, 4511.35, 4511.66, 4513.02, and 5577.01 to 5577.09 of the Revised Code.
- (C)(1) This section does not exempt a driver of a highway maintenance vehicle from civil liability arising from a violation of section 4511.22, 4511.25, 4511.26, 4511.27, 4511.28, 4511.30, 4511.31, 4511.33, 4511.35, 4511.66, or 4513.02 or sections 5577.01 to 5577.09 of the Revised Code.
  - (2) This section does not exempt the driver of a vehicle that is engaged in the transport of highway maintenance equipment from criminal liability for a violation of sections 5577.01 to 5577.09 of the Revised Code.
- (D) As used in this section, "highway maintenance vehicle" means a vehicle used in snow and ice removal or road surface maintenance, including a snow plow, traffic line striper, road sweeper, mowing machine, asphalt distributing vehicle, or other such vehicle designed for use in specific highway maintenance activities.

#### SEC 5577.99 PENALTIES

- (A) Whoever violates the weight provisions of sections 5577.01 to 5577.07 or the weight provisions in regard to highways under section 5577.04 of the Revised Code shall be fined eighty dollars for the first two thousand pounds, or fraction thereof, of overload; for overloads in excess of two thousand pounds, but not in excess of five thousand pounds, such person shall be fined one hundred dollars, and in addition thereto one dollar per one hundred pounds of overload; for overloads in excess of five thousand pounds, but not in excess of ten thousand pounds, such person shall be fined one hundred dollars per one hundred pounds of overload; for overloads in excess of five thousand pounds, but not in excess of ten thousand pounds, such person shall be fined one hundred thirty dollars and in addition thereto two dollars per one hundred pounds of overload, or imprisoned not more than thirty days, or both. For all overloads in excess of ten thousand pounds of overload, or imprisoned not more than thirty days, or both. Whoever violates the weight provisions of vehicle and load relating to gross load limits shall be fined not less than one hundred dollars. No penalty prescribed in this division shall be imposed on any vehicle combination if the overload on any axle does not exceed one thousand pounds, and if the immediately preceding or following axle, excepting the front axle of the vehicle combination, is underloaded by the same or a greater amount. For purposes of this division, two axles on one vehicle less than eight feet apart, shall be considered as one axle.
- (B) Whoever violates the weight provisions of section 5577.071 or 5577.08 or the weight provisions in regard to bridges under section 5577.09, and whoever exceeds the carrying capacity specified under section 5591.42 of the Revised Code, shall be fined eighty dollars for the first two thousand pounds, or fraction thereof, of overload; for overloads in excess of two thousand pounds, but not in excess of five thousand pounds, the person shall be fined one hundred dollars, and in addition thereto one dollar per one hundred pounds of overload; for overloads in excess of five thousand pounds, the person shall be fined one hundred thirty dollars, and in addition thereto two dollars per one hundred pounds of overload, or imprisoned not more than thirty days, or both. For all overloads in excess of ten thousand pounds, the person shall be fined one hundred sixty dollars, and in addition thereto three dollars per one hundred pounds, or imprisoned not more than thirty days, or both.

Notwithstanding any other provision of the Revised Code that specifies a procedure for the distribution of fines, all fines collected pursuant to division (B) of this section shall be paid into the treasury of the county and credited to any fund for the maintenance and repair of roads, highways, bridges, or culverts.

- (C) Whoever violates any other provision of sections 5577.01 to 5577.09 of the Revised Code is guilty of a minor misdemeanor on a first offense; on a second or subsequent offense, such person is guilty of a misdemeanor of the fourth degree.
- (D) Whoever violates section 5577.10 of the Revised Code shall be fined not more than five thousand dollars or imprisoned for not less than thirty days nor more than six months, or both.
- (E) Whoever violates section 5577.11 of the Revised Code shall be fined not more than twenty-five dollars.