

very close to the present H15-44 loading as specified in the AASHO Specifications. Moment is the principal measure of force which stresses the bridge load carrying members, and is the basis used for analysis in this statement.

About 1920 the use of concentrated loads gained in popularity.

The 1923 highway bridge specifications of the American Association of State Highway Officials, the Iowa State Highway Commission, and the 1923 tentative specifications of the American Society of Civil Engineers contain the following specifications for floor loads for girders and trusses, and for floors, as given in Table 1-a.

TABLE 1-a.—UNIFORM LIVE LOADS FOR GIRDERS AND TRUSSES

Loaded length (feet)	Live load in pounds per square feet, proportionate values for intermediate lengths		
	1- to 15-ton truck	1- to 20-ton truck, 2 to 15 ton truck	2- to 20-ton truck
50.....	100	130	180
100.....	80	90	120
200 and more.....	60	70	90

"The uniform load used shall correspond to the length of that portion of the span which, when fully loaded, will produce maximum stress in the member under consideration.

When the loaded length is less than 50 ft., girders and truss members shall be designed for the floor live load. The trucks shall be placed so as to produce the most severe stresses. Two trucks shall be considered as headed in the same direction. Trucks in tandem need not be considered.

Floor Live Loads.—All parts of the floor system and all girders and truss members when the loaded length is less than 50 ft. shall be designed for the following loads: (1-15) one 15-ton truck, or 100 lb. per sq. ft. of roadway; (1-20) one 20-ton truck, or 130 lb. per sq. ft. of roadway; (2-15) two 15-ton trucks; (2-20) two 20-ton trucks.

In bridges involving three or more lines of traffic, the floorbeams and floorbeam hangers shall be designed for two trucks assumed to be located in the most unfavorable position, together with a uniform live load of 100 lb. per sq. ft. on the remaining lines of roadway not occupied by the trucks."

1924 Requirements in Highway Bridge Loadings are clearly shown in the following excerpts from the Am. Soc. C.E. 1924 Specifications. The Standard Specifications of the A.A.S.H.O. for 1926 differ only slightly from these loading requirements.

"Traffic Classification of Bridges. Bridges shall be classified, on the basis of traffic, as follows:

Class A. City bridges or other bridges carrying a highway traffic of exceptionally heavy load units.

Class B. Bridges on primary roads.

Class C. Bridges on secondary roads.

Class D.—Bridges carrying electric railway traffic in addition to highway traffic.

Roadway Live Load.—The live loads for roadway shall be represented by typical truck loadings. Each typical truck loading shall be considered as occupying one lane of traffic 9 ft. wide. Typical truck loading shall be designated by the Letter H, followed by a numeral indicating the weight in tons of the typical truck loads.

Typical Truck Loadings.

For Floor System:

H20, 20-ton trucks

H15, 15-ton trucks, or one 20-ton truck

H13, 13-ton trucks, or one 15-ton truck

For Girders and Trusses:

H20, 600 lb. per lin.ft. and 28,000 lb. concentrated

H15, 450 lb. per lin.ft. and 21,000 lb. concentrated

H13, 390 lb. lin.ft. and 18,200 lb. concentrated