

## Weight Restrictions

Seasonal weakening of the road structure, obsolete bridges, structurally unsound pavements, and other deficiencies may dictate the need to restrict the weight of loads permitted on certain roadways.

Sections 321.471 through 321.475 of the Code of Iowa allow state and local jurisdictions to apply temporary load restrictions where needed to avoid damage or destruction of a road or structure. However, the Code may exempt implements of husbandry and certain other vehicles under specific conditions and times of year.

### Weight Restriction Signs

The Weight Limit sign (R12-1) may be used to indicate restrictions pertaining to total vehicle weight including the load.



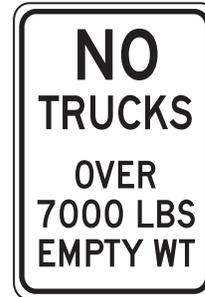
**R12-1**

If the restriction applies to axle weight rather than total load, the sign legend "AXLE WEIGHT LIMIT X TONS" (R12-2) can be used.



**R12-2**

In residential areas, where it is intended to restrict commercial vehicles of a certain size when empty, the legend may read "NO TRUCKS OVER X LBS EMPTY WT" (R12-3).



**R12-3**

In locations where multiple restrictions apply, a sign combining the necessary messages on a single panel may be used, such as "WEIGHT LIMIT X TONS PER AXLE X TONS GROSS" (R12-4).



**R12-4**

Increasing sign size may be needed when combining messages to be sure adequate lettering size is maintained.

Posting of specific load limits may be accomplished by use of the Weight Limit Symbol sign (R12-5). This sign includes the legend Weight Limit on the top two lines and shows three different truck symbols with allowable weight limits shown to the right of each symbol. A bottom line stating Gross Weight is permissible if needed for enforcement purposes. Only the truck symbols and respective weight restrictions need to be shown.



**R12-5**

A Weight Limit sign shall be located immediately in advance of the section of roadway or structure to which it applies. A Weight Limit sign (R12-1) with advisory message plaque (“Ahead”) as shown below may be installed at an approach road intersection or another location where vehicles can turn around.

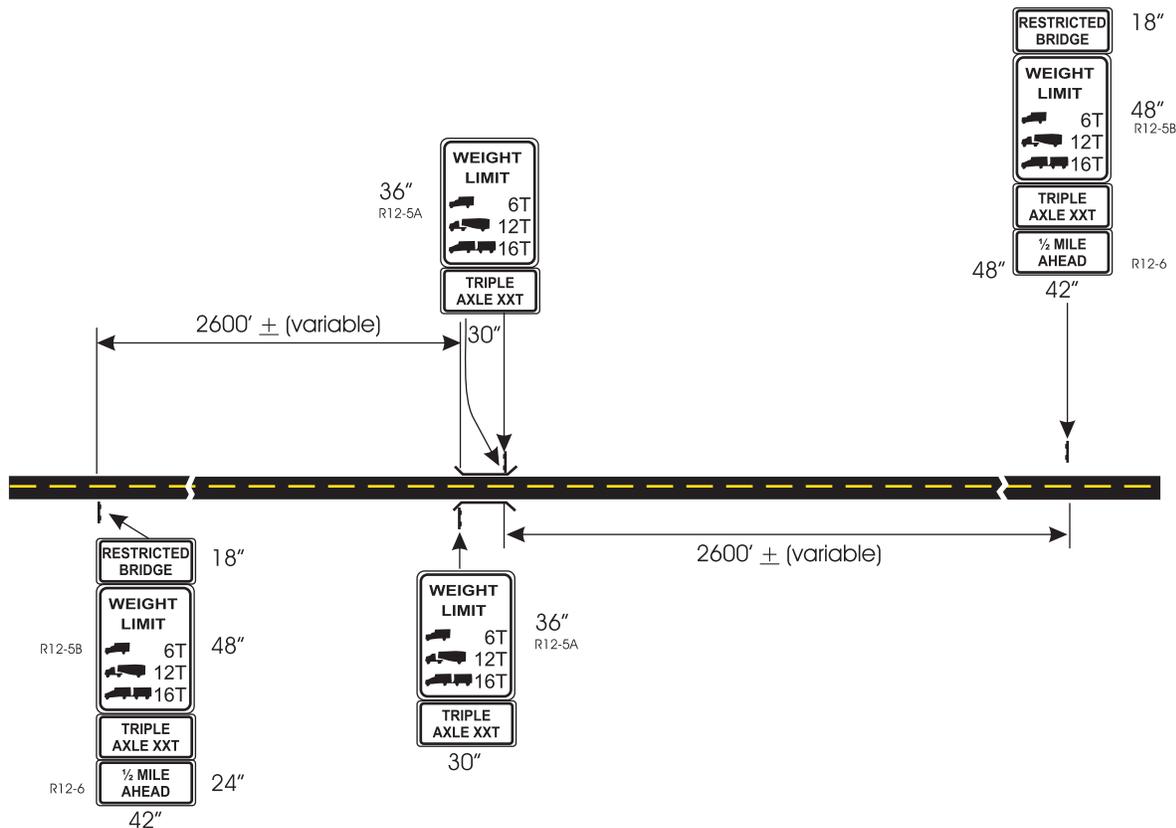
The standard and minimum regulatory sign size for most R12 series is 24 x 30 inches, but a

larger size may be advisable for major roads and streets or to maintain desirable lettering dimensions.

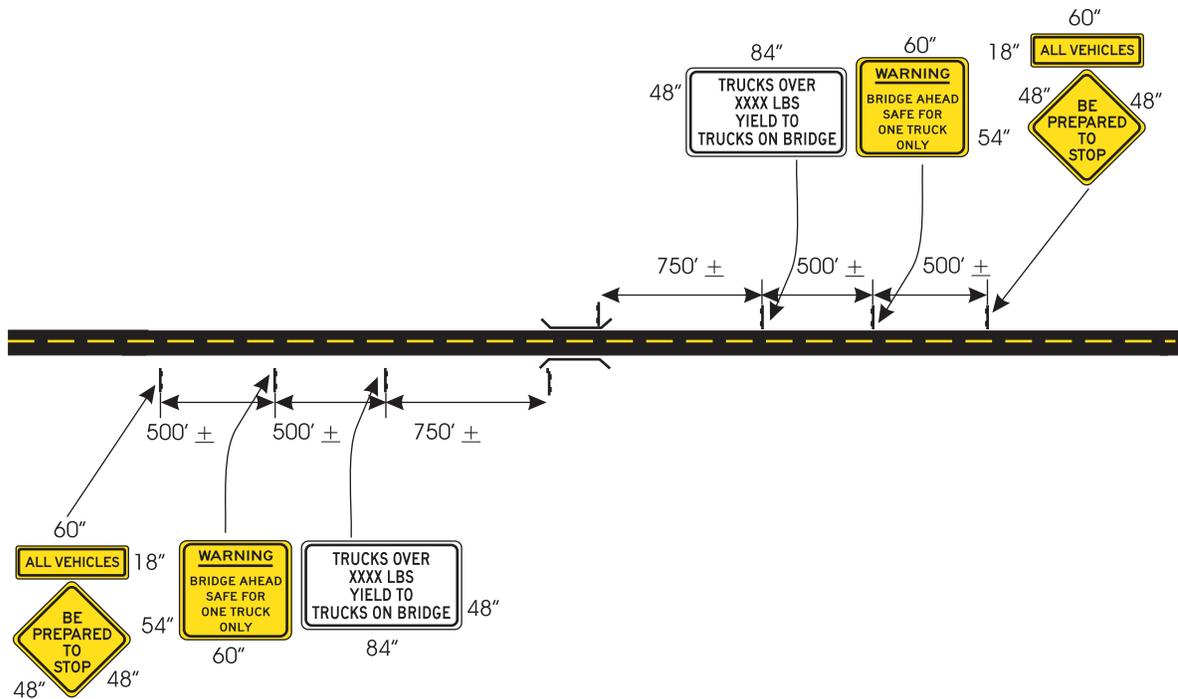
All regulatory signs described in this section (R designation) require official action, ordinance, or resolution to enforce.

When establishing any weight restriction, be sure to consider potential effects on delivery vehicles or school buses before implementation.

In some situations, use of special warning signs such as One Truck at a Time or others, as shown in the illustration “Suggested signing layout for alternating traffic control on restricted bridges” on the following page, may be appropriate. When using special warning signs, always be sure to increase sign size if needed to maintain minimum lettering size.



**Suggested signing layout for weight restricted bridges**



**Suggested signing layout for alternating traffic control on restricted bridges**

### All Vehicles Plaque

The supplemental All Vehicles plaque is used for defining load restrictions for nonstandard vehicles, implements of husbandry, and other legal or permitted trucks including equipment trailers, milk trucks, and special livestock truck-trailer combinations.

In 1998, legislation allowed new triple axle trailers that can legally weigh from 93,000 to 96,000 pounds when combined with an appropriate semitrailer tractor. Implements of husbandry can legally include from 24,000 to 28,000 pound axle loads, depending on the season of the year, with no restriction on total gross load.

These newly defined legal vehicles and implements of husbandry may not utilize standard truck configurations, are subject to different axle weight restrictions, and often exceed H-15, H-20, and HS-20 loads for which many bridges in Iowa were designed. Therefore, some bridges may not safely carry these new legal configurations and/or increased axle loads. The All Vehicles plaque allows cities and counties to apply necessary restrictions for these nonstand-

ard vehicles, which do not match standard axle configurations.

The All Vehicles plaque is a black on white regulatory sign, available in three sizes with a minimum size of 12 inches by 24 inches. The All Vehicles plaque can be used in conjunction with other weight limit signs, particularly the Weight Limit Symbol sign, R12-5, common on many weight restricted bridges in Iowa. The R12-5 sign defines weight limits for standard straight truck, semitrailer and tractor, and double-bottom trailer configurations.

The All Vehicle plaque should be posted beneath the R12-5 sign and combined with an R12-1 showing the weight restriction for nonstandard vehicles below the All Vehicle plate. A common configuration, shown on the following page, can be used in place of the sign combinations in the illustration “Suggested signing layout for weight restricted bridges” on page G10.2. Note that an Ahead plaque should be used with the configuration for the advance signing. The configuration immediately preceding the restricted bridge should consist of R12-5, the All Vehicles plaque, and R12-1.



**Sign configuration including All Vehicles plaque**

The weight limit posted in combination with the All Vehicle plaque should be determined based on the recommendation of a licensed professional engineer who has inspected and performed structural capacity calculations for the structure.

The R12-1 sign may also be used to restrict the use of bridges by overweight and nonstandard trucks, truck-trailer combinations, and implementations of husbandry that otherwise have no restrictions for standard legal truck weights and configurations. Since this sign applies to all traffic, use of an additional All Vehicles plaque may not be necessary.

The applied weight restriction allows all legal combination vehicles prior to the 1998 legislation but restricts the newer, heavier loads.

Sample embargo resolutions and overweight permits are included in the appendix.