Results of overstressed bridges.

Temporary closure to traffic.

Cracked timber stringers.

Concrete slab spalling.

Some facts about bridges in Iowa

Number of bridges on county roads .................. 20,387
Number of embargued bridges on county roads .... 6,933
Number of bridges in the state (total) ............. 25,188

Protecting our bridges for the future

For more information contact:
Iowa Department of Transportation
Office of Bridges and Structures
800 Lincoln Way
Ames, IA 50010
515-239-1564

October 1998
Single span bridge
Stress - standard 20-foot

Axle loads - thousands of pounds

May have serious safety implications!

The weight of commercial vehicles on the roadway caused by these heavy single axles and the spreading effect of the damage to the roadway, can cause serious safety issues. The cumulative visible and hidden damage to the roadway hindered the design of bridges that are

Protecting our bridges for the future

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Traffic. Because load carrying capacity of bridges is not the design factor of the bridge, they need to be designed to carry traffic. Many bridges in Iowa were built before 1970, and the design was based on the assumption that traffic would be less than today. Over 50 years later, traffic has increased, and the bridges are not designed to carry the current loads.

Many vehicles used in agriculture and forestry are exempt from the weight limits. These vehicles weigh over 23,000 pounds and do not have to soften the effects of the damage caused by these heavy single axles.

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Axle weight comparisons

10,000 lb. rear duals
70,000 lb. rear duals
2 dual axles

1,000 gal. L-shaped muncie tank

60,000 lb.
47.5 cu. ft.
32,000 lb., single axle

34,000 lb. duals; 17,000 lb. single axle
2 dual axles; single axle

7,500 lbs.
2 single axles; each axle

44,000 lb.
77.5 cu. ft.

34,000 lbs. front/17,000 lbs. rear
2 single axles

18,000 lbs.
77.5 cu. ft.

Large low crop tractor
2 single axles

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Traffic is an issue for today's bridge carrying capacity. Many bridges in Iowa are not designed to carry the current traffic. Over 50 years later, traffic has increased, and the bridges are not designed to carry the current loads.