



Steel Span Weight Curves



**Smarter.
Stronger.
Steel.**

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by

American Institute of Steel Construction

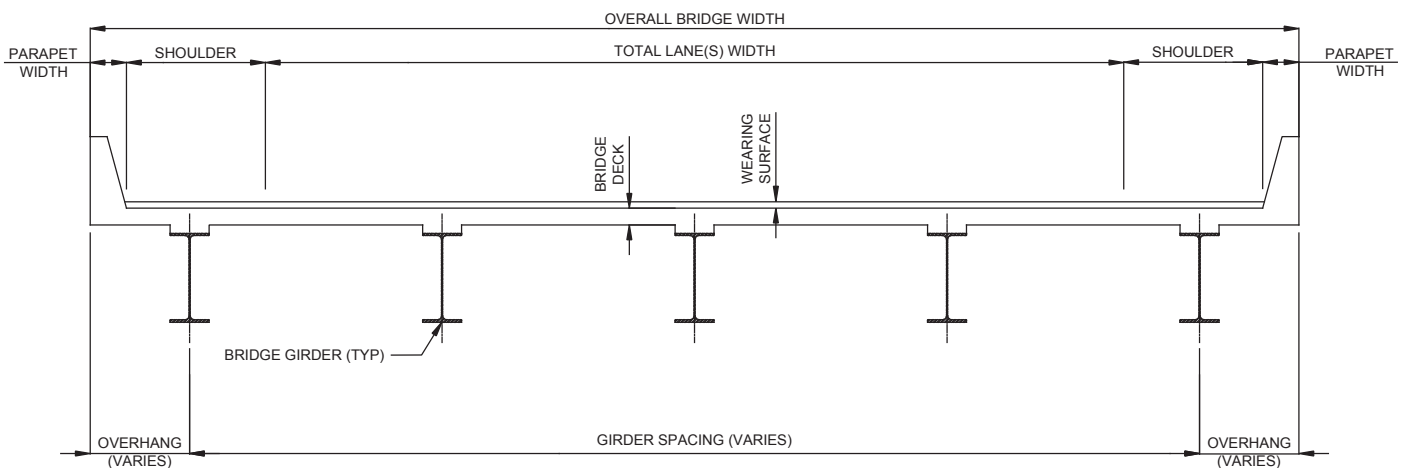
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These graphical design aids are intended to be used during the preliminary phases of design for evaluation of alternative structures to quickly determine the relative costs of various girder spacings and number of girder spans. The curves have been constructed from cost-effective conceptual solutions that NSBA has prepared. They represent the predicted pounds of steel per square foot for various span lengths and girder spacings for single spans, two spans, and three or more spans.



TYPICAL BRIDGE SECTION
N.T.S.

Design Parameters

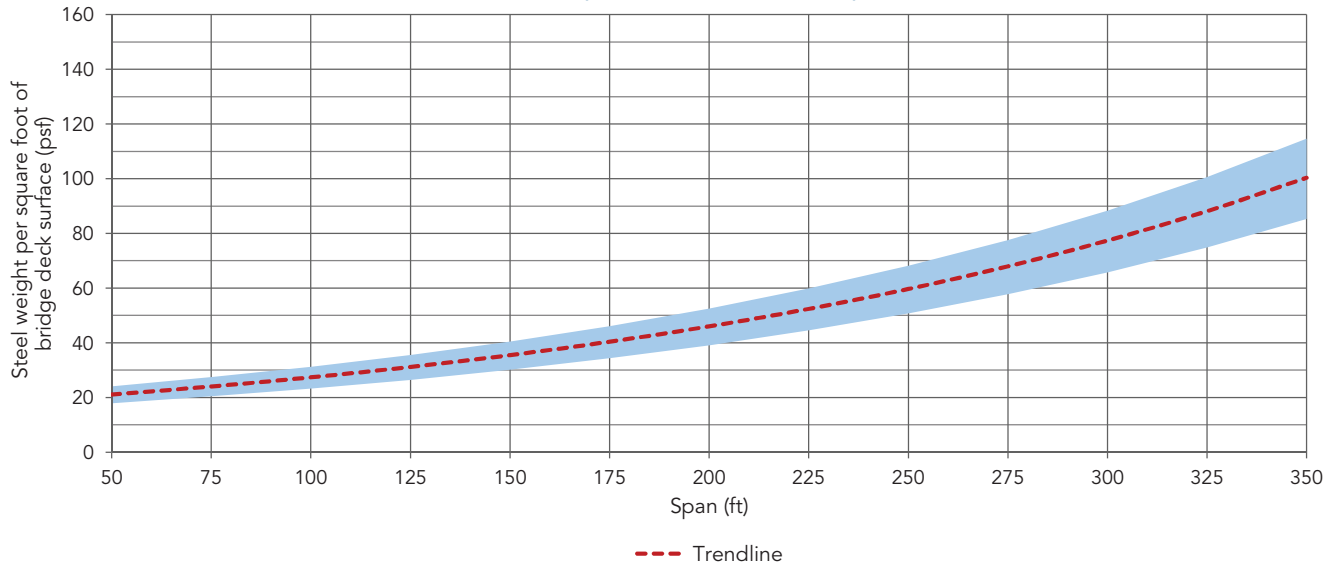
These curves represent predicted pounds of steel per square foot derived from data from more than 800 NSBA conceptual solutions optimized for economical bridge designs. Every bridge is unique and other factors can influence the design, resulting in values outside the ranges shown in these curves. Care should be taken to ensure that an appropriate analysis is conducted. The figure below represents a typical bridge section view.

Assumptions

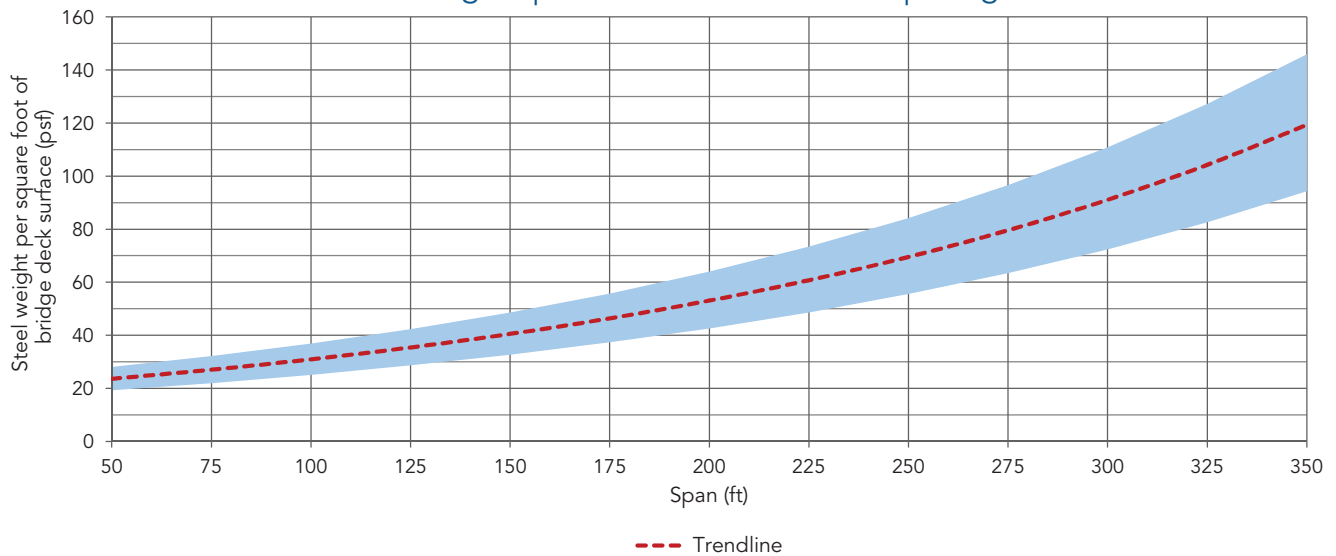
- Section is designed as composite.
- Girders are assumed continuous.
- Design considers fatigue loading.
- Span lengths are based upon the maximum span distance. Where more than one span exists, use the maximum span to determine span weight.
- Trend line value represents the line of best fit based upon the discrete values.
- Shaded area represents deck areas in which 68% of the sample bridges are located.
- Both curved and straight girders are included in the curves.

single-span bridges

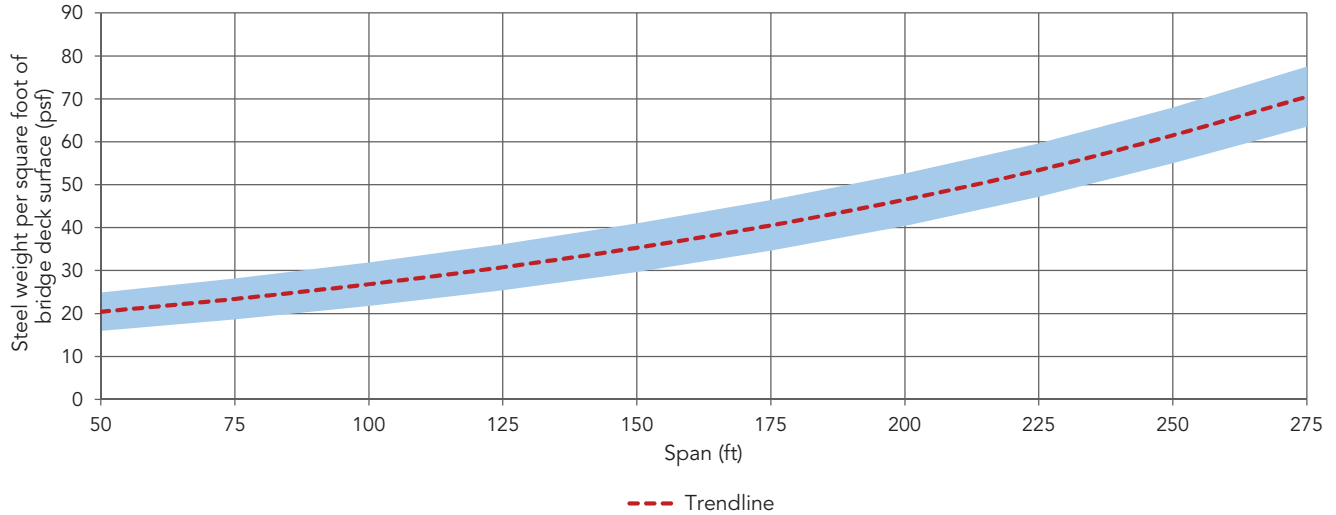
Single Span — All Girder Spacing



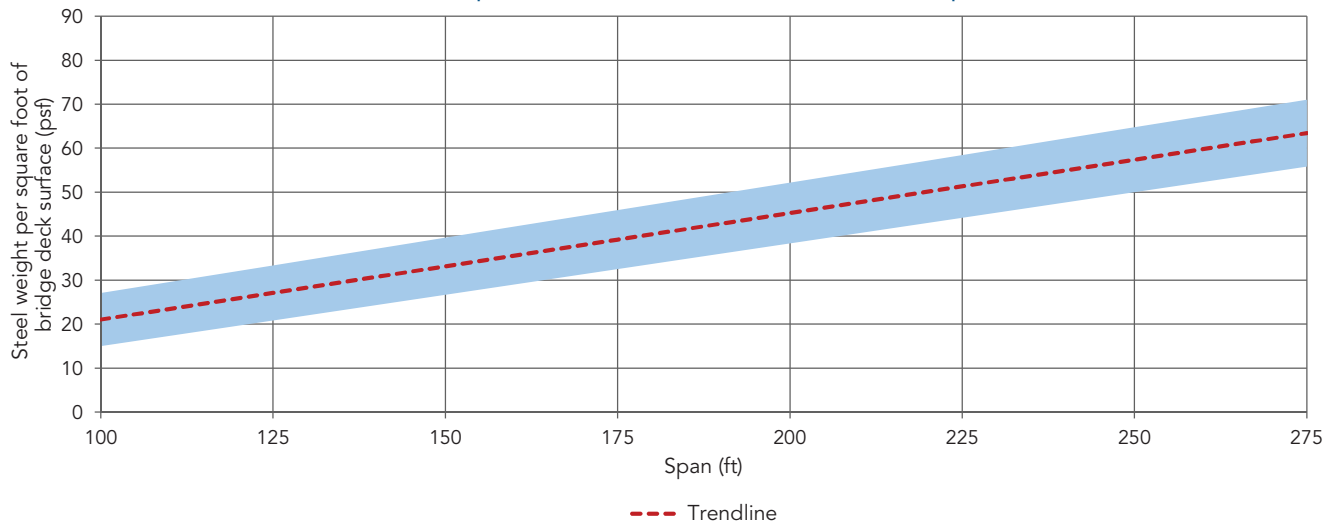
Single Span — 7 ft to 9 ft Girder Spacing



Single Span — 9 ft to 11 ft Girder Spacing

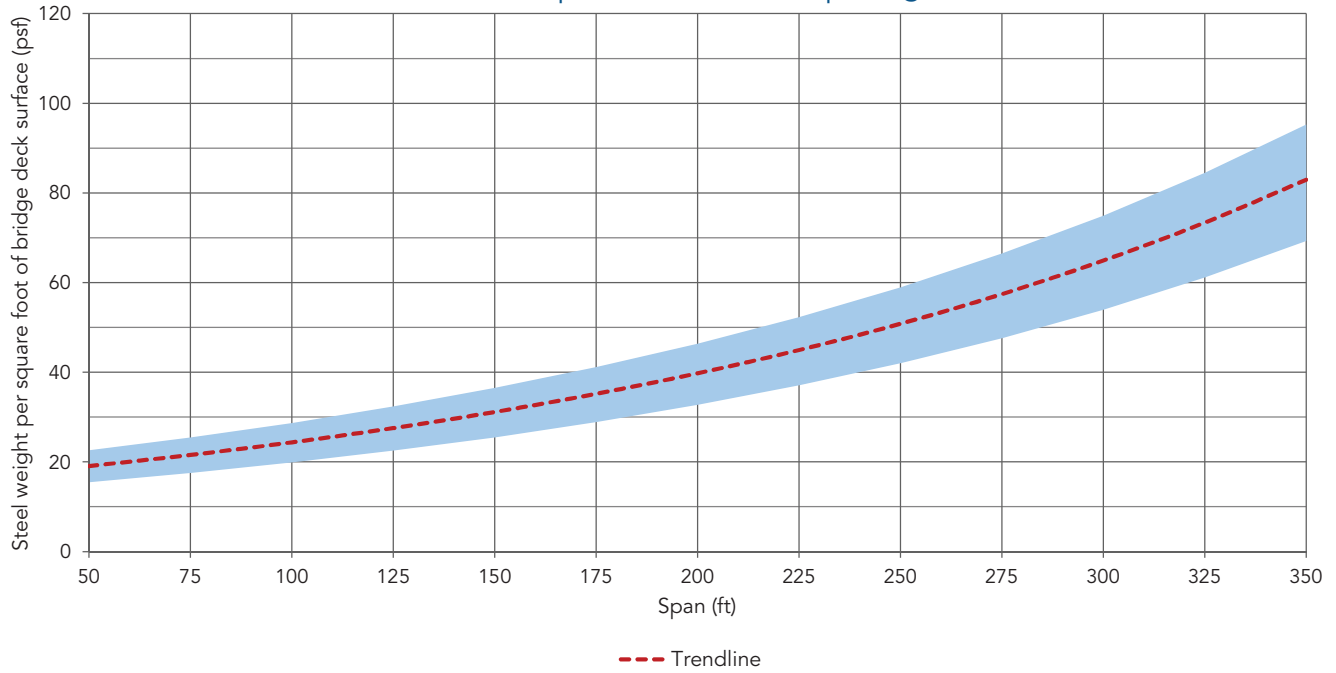


Single Span — 11 ft and Greater Girder Spacing

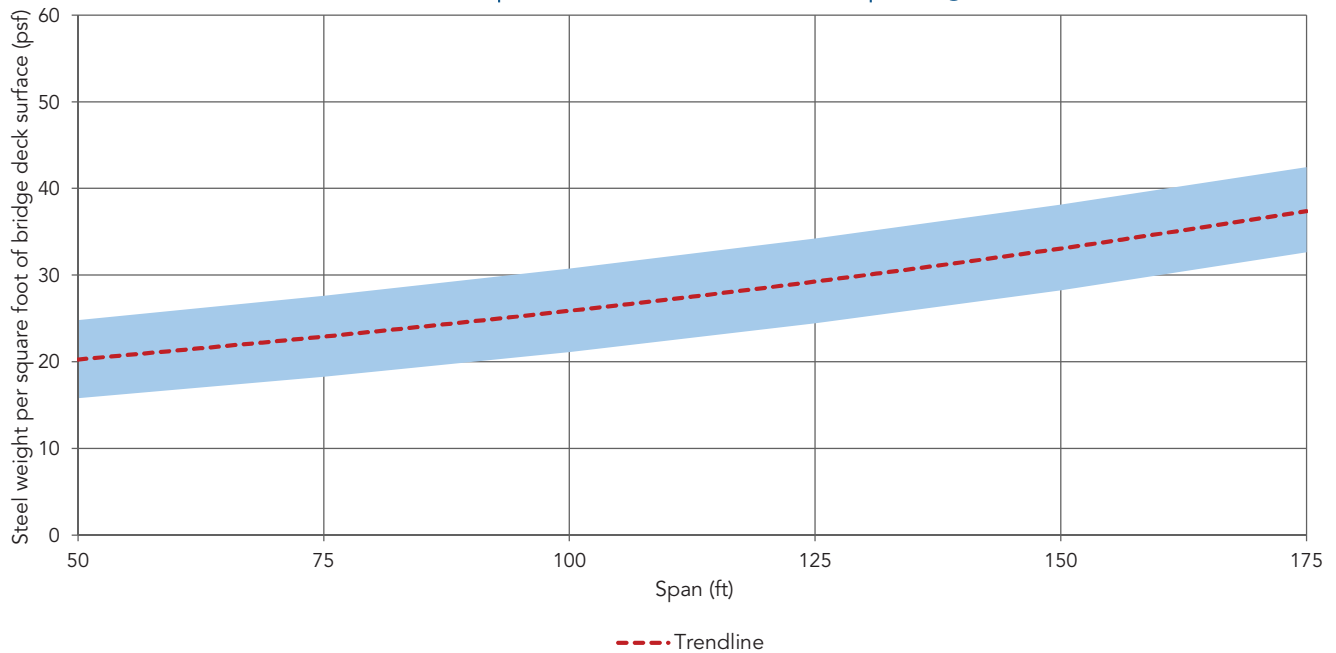


two-span bridges

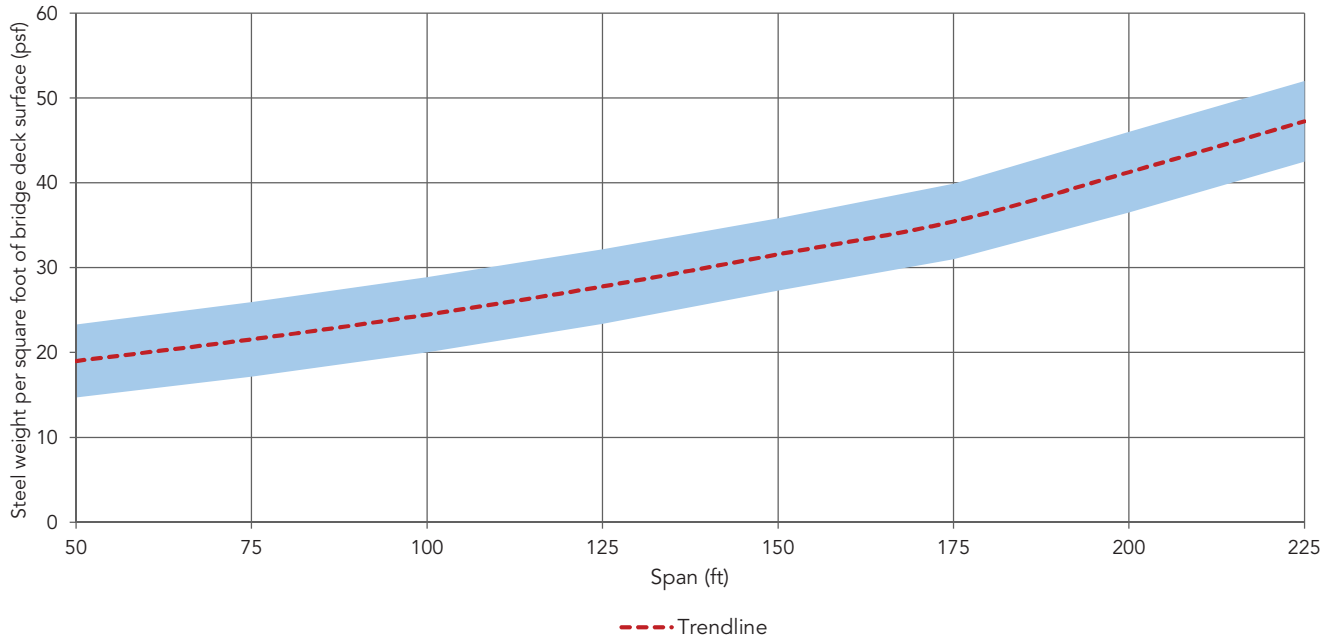
Two Span — All Girder Spacing



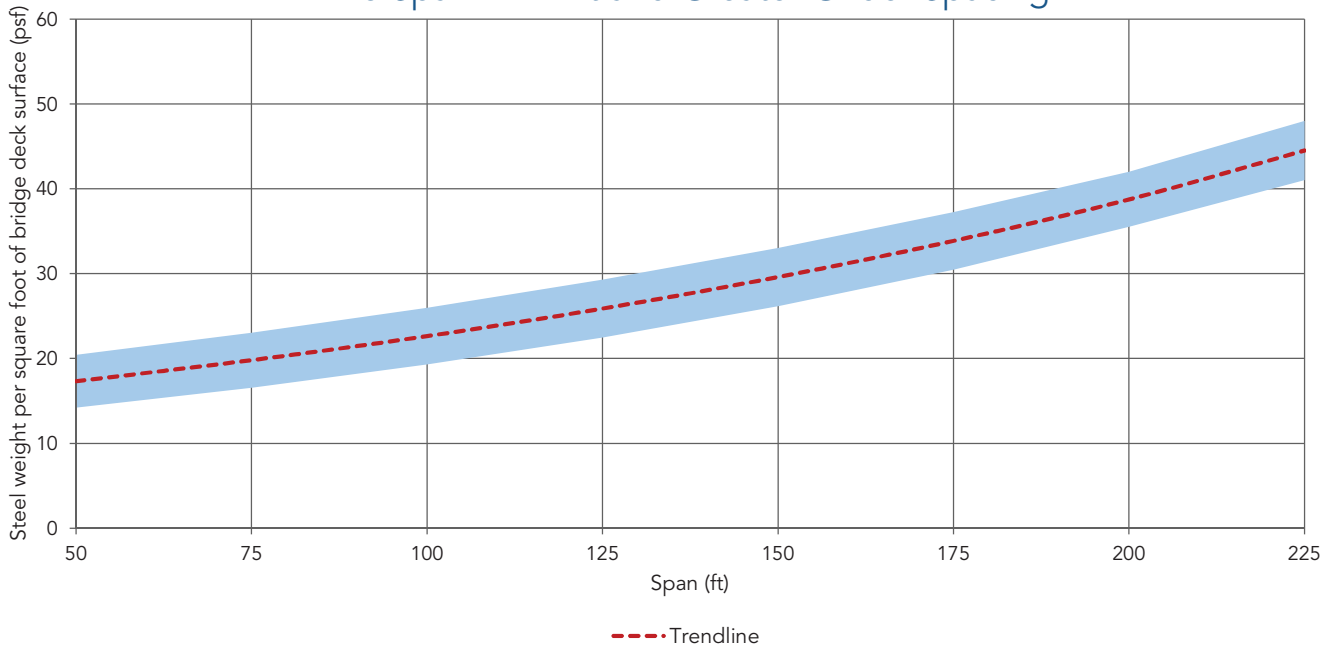
Two Span — 7 ft to 9 ft Girder Spacing



Two Span — 9 ft to 11 ft Girder Spacing

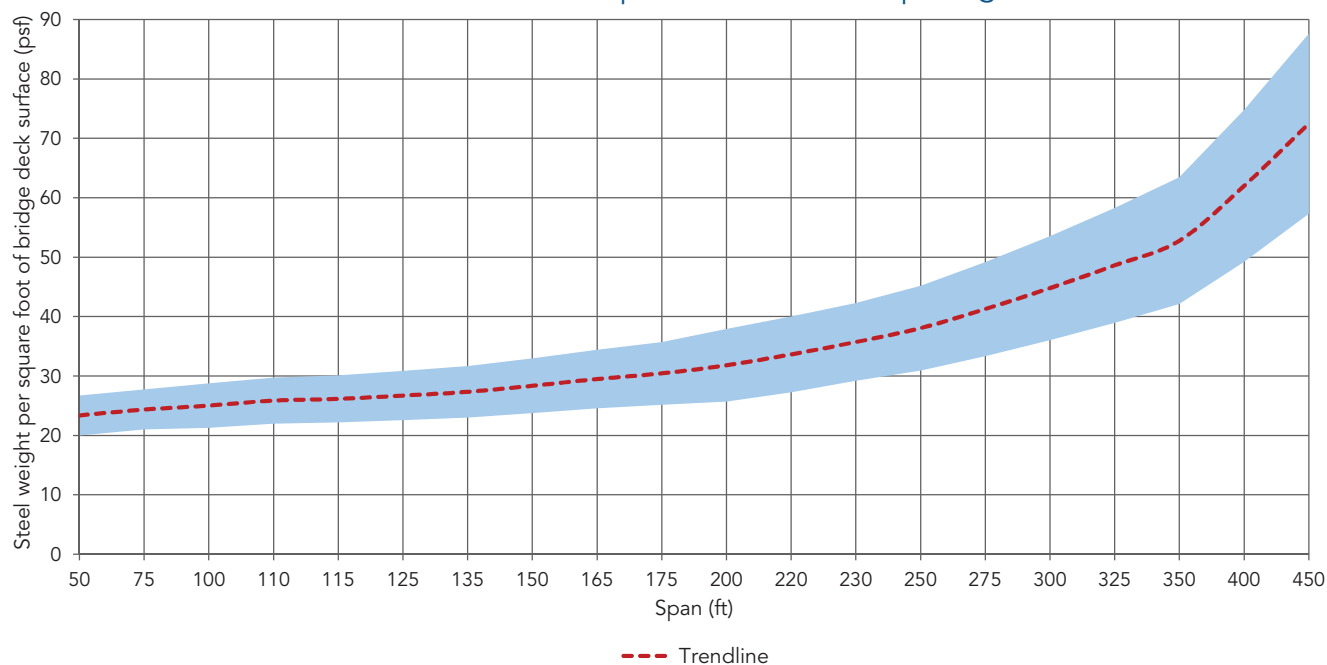


Two Span — 11 ft and Greater Girder Spacing

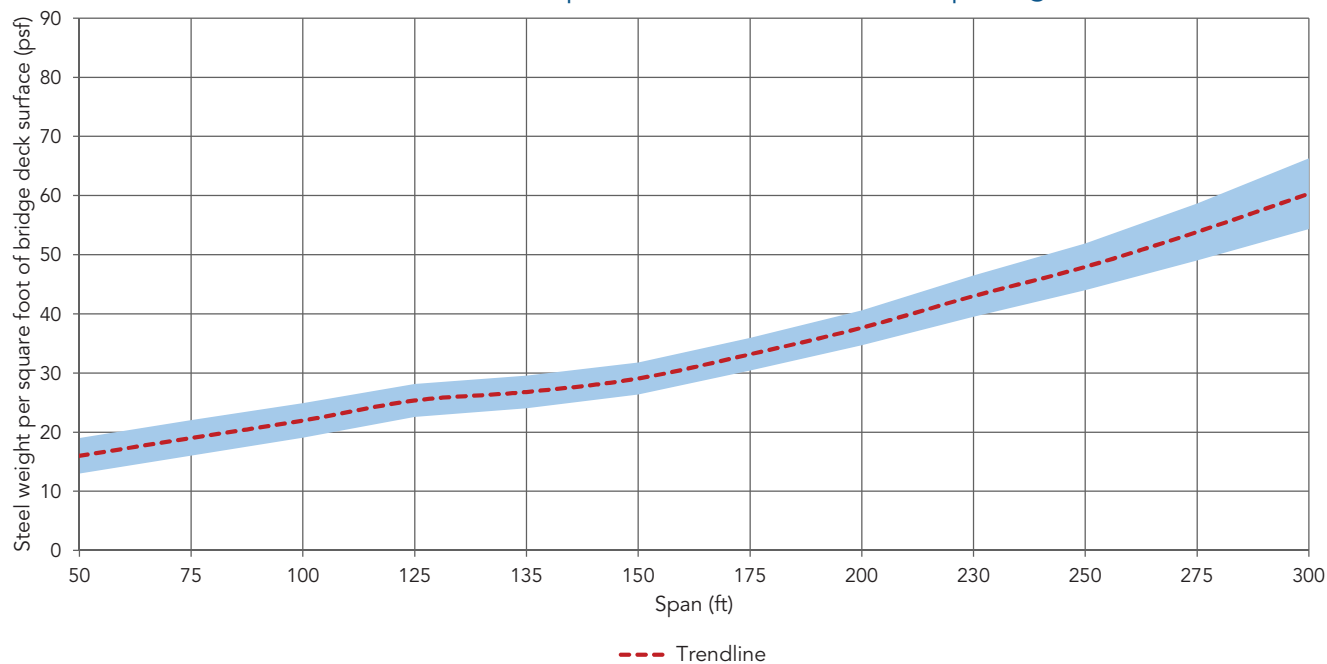


three-or-more-span bridges

Three or More Spans — All Girder Spacing

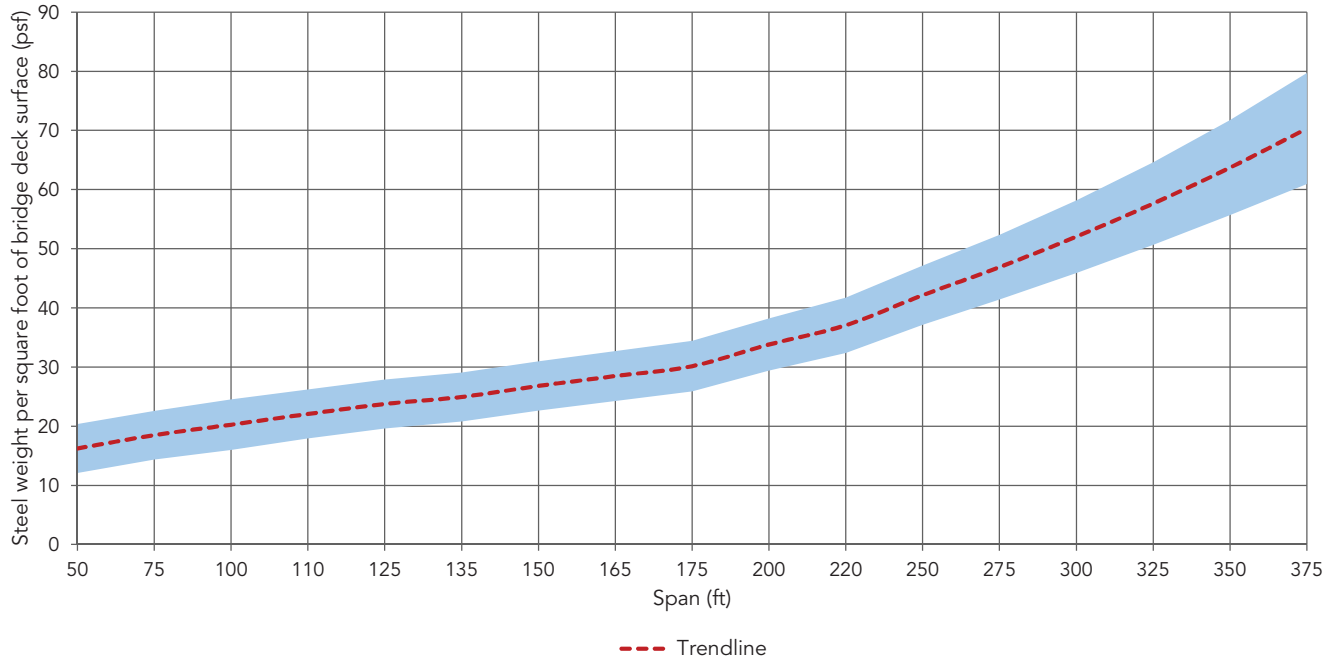


Three or More Spans — 7 ft to 9 ft Girder Spacing

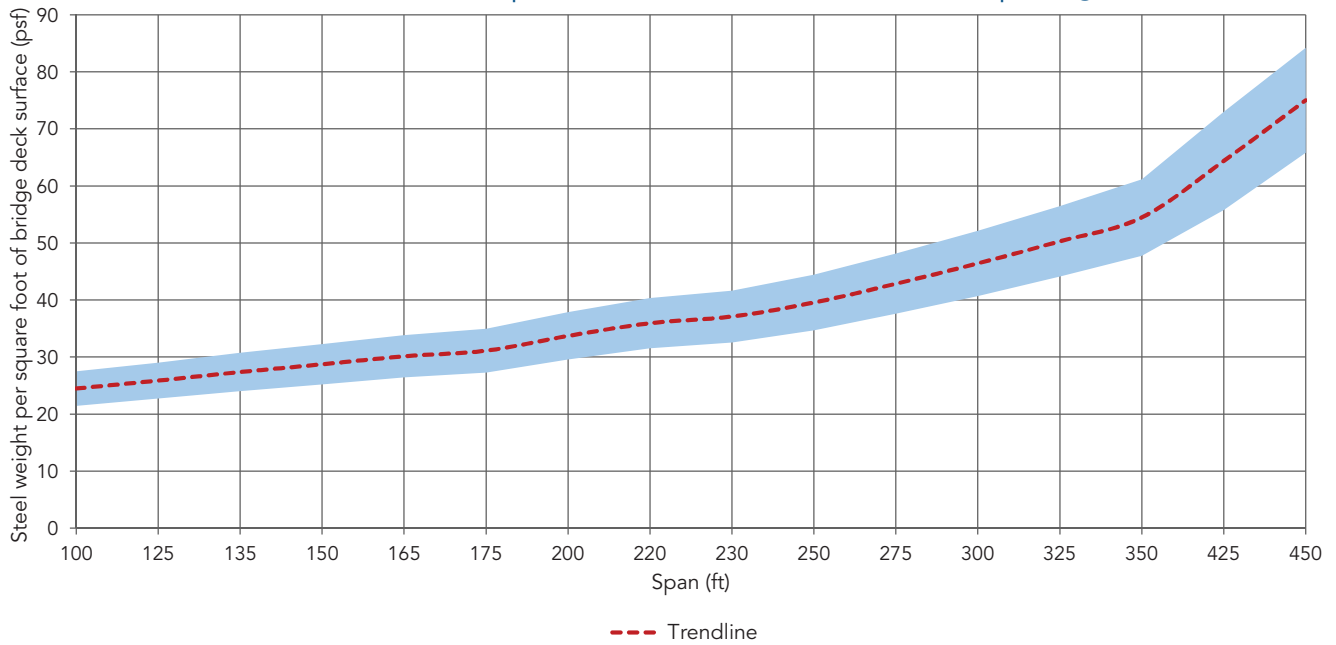


three-or-more-span bridges

Three or More Spans — 9 ft to 11 ft Girder Spacing



Three or More Spans — 11 ft and Greater Girder Spacing





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