
***Appendix C: Distribution of Live Load
per Lane for Shear in Interior Beams
(AASHTO Table 4.6.2.2.3a-1)***

Distribution of Live Load per Lane for Shear in Interior Beams				
Type of Superstructure	Applicable Cross Section from Table 4.6.2.2.1-1	One Design Lane Loaded	Two or More Design Lanes Loaded	Range of Applicability
Wood Deck on Wood or Steel Beams	a, 1	See Table 4.6.2.2.2a-1		
Concrete Deck on Wood Beams	1	Lever Rule	Lever Rule	N/A
Concrete Deck, Filled Grid, Partially Filled Grid, or Unfilled Grid Deck Composite with Reinforced Concrete Slab on Steel or Concrete Beams; Concrete T-Beams, T- and Double T-Sections	a, e, k, and also i, j if sufficiently connected to act as a unit	$0.36 + \frac{S}{25.0}$	$0.2 + \frac{S}{12} \left(\frac{S}{35} \right)^{2.0}$	$3.5 \leq S \leq 16.0$ $20 \leq L \leq 240$ $4.5 \leq t_s \leq 12.0$ $N_b \geq 4$
		Lever Rule	Lever Rule	$N_b = 3$
Cast-in-Place Concrete Multicell Box	d	$\left(\frac{S}{9.5} \right)^{0.6} \left(\frac{d}{12.0L} \right)^{0.1}$	$\left(\frac{S}{7.3} \right)^{0.9} \left(\frac{d}{12.0L} \right)^{0.1}$	$6.0 \leq S \leq 13.0$ $20 \leq L \leq 240$ $35 \leq d \leq 110$ $N_c \geq 3$
Concrete Deck on Concrete Spread Box Beams	b, c	$\left(\frac{S}{10} \right)^{0.6} \left(\frac{d}{12.0L} \right)^{0.1}$	$\left(\frac{S}{7.4} \right)^{0.8} \left(\frac{d}{12.0L} \right)^{0.1}$	$6.0 \leq S \leq 18.0$ $20 \leq L \leq 140$ $18 \leq d \leq 65$ $N_b \geq 3$
		Lever Rule	Lever Rule	$S > 18.0$

Concrete Box Beams Used in Multibeam Decks	f_c, g	$\left(\frac{b}{130L}\right)^{0.15} \left(\frac{I}{J}\right)^{0.05}$	$\left(\frac{b}{156}\right)^{0.4} \left(\frac{b}{12.0L}\right)^{0.1} \left(\frac{I}{J}\right)^{0.05} \left(\frac{b}{48}\right)$ $\frac{b}{48} \geq 1.0$	$35 \leq b \leq 60$ $20 \leq L \leq 120$ $5 \leq N_b \leq 20$ $25,000 \leq J \leq 610,000$ $40,000 \leq I \leq 610,000$
Concrete Beams Other Than Box Beams Used in Multibeam Decks	h			
	i, j if connected only enough to prevent relative vertical displacement at the interface	Lever Rule	Lever Rule	N/A
Open Steel Grid Deck on Steel Beams	a	Lever Rule	Lever Rule	N/A
Concrete Deck on Multiple Steel Box Beams	b, c	As specified in Table 4.6.2.2b-1		

Source: AASHTO Table 4.6.2.2.3a-1.

