Stretching the Limits II
Modern Timber Bridge Case Studies

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1980s - WWS supplied 13 bridges with clear spans longer than 30m (Longest span = 51m)

1990s – WWS supplied 19 bridges with clear spans longer than 30m (Longest span = 53m)

2000s – WWS supplied 39 bridges with clear spans longer than 30m (Longest span = 61m)

2010s – WWS has supplied 16 bridges with clear span longer than 30m (Longest span = 85m)
Increasing Bridge Loading

- **Old Loading Criteria**
  - HS20-44 Truck = 340kN (72,000 lbs.)
  - Pedestrian loading = 85 psf., reducible

- **New Loading Criteria**
  - HL93 Truck with MPF = 384 kN (86,400 lbs.)
  - Lane Load = 9.33 kN/m applied to 3.048m wide lane (640 plf applied to 10’-0” wide lane)
  - Pedestrian Loading = 90 psf. nonreducible
Lower Burnett Road Bridge – Buckley, Washington

- Bridge Statistics
  - 5.48m (18’-0”) wide three span Arch Bridge
  - 119.21m (391’-1½”) overall length
  - 198.12m (650’-0”) Horizontal Curvature
  - 1.22m (4’-0”) Elevation Difference
  - 4.07kPa (85psf) pedestrian live load
  - 134.44kN (30,000 lbs) maintenance vehicle load.
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Whistlestop Bridge – Portage, Alaska

Bridge Statistics:
Design Concept: Early 20th century railroad work camp.
Walkway Width: 1.83m (6’-0”)
Span: 85.34m (280’-0”)
Live Load: 4.31kPa (90psf)
Snow Load: 9.57kPa (200 psf) ground snow load
Wind Load: 52m/s (120mph), Exposure C
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