



Two-span Continuous Steel Plate Bridge Girder Design Workshop

Two-day virtual workshop: Tuesday, December 1, 2020 & Thursday, December 3, 2020
9:30 AM – 12:00 NOON

This workshop covers the fundamentals and background required for analysis and design of a steel plate girder for flexure, shear, and deflection under dead, live, and construction loads. This design meets the Michigan Department of Transportation (MDOT) policies documented in the *Bridge Design Manual*, *Bridge Design Guides*, and the *AASHTO LRFD Bridge Design Specifications* (8th Edition). Certain material and design parameters demonstrated in the workshop are selected to illustrate compliance with MDOT practice reflected in the Bridge Design System, the MDOT legacy software. In addition to the unique MDOT practices, typical practice by other agencies and consultants will be discussed. The workshop will also feature several interactive activities. This workshop is ideal for state and county bridge/structural engineers and consultants.

View [Agenda](#).

Back by popular demand!

Registration*

State/local agencies: no cost to attend | Other agencies/consultants: \$60

Register online at ctt.nonprofitsoapbox.com/2020steelgirderworkshop2 (MDOT employees: contact Melissa at kitchenbanghartm@michigan.gov to register)

Deadline: November 18. Class size is limited; register early to attend. Participants will be emailed before December 1 with webinar instructions; webinar will be held in Microsoft Teams. Participants will receive training handouts (including a manual with a detailed numerical example with step-by-step analysis and design guidelines) and a certificate.

Questions? E-mail ctt@mtu.edu

*Required for fulfillment of continuing education. Participants are eligible for 4 PDHs. The Center for Technology & Training's continuing education policy is available at ctt.mtu.edu/ContinuingEducation.

No-shows or cancellations within three business days of the session will be charged the full registration fee. Substitutions will be accepted.



Michigan's
Local Technical
Assistance Program



Photo: CTT Archive



Two-span Continuous Steel Plate Bridge Girder Design Workshop

Two-day virtual workshop: Tuesday, December 1, 2020 & Thursday, December 3, 2020
9:30 AM – 12:00 NOON

Agenda

TUESDAY, DECEMBER 1

- 8:30 Webinar opens
- 9:30 Welcome & Workshop Overview
- 9:50 Session I
 - Geometry
 - Material properties
 - Section properties
 - Interior girder
 - Exterior girder
 - Loads
 - Dead loads
 - Live loads
 - Support settlement
 - Load combinations and load factors
 - Live load distribution factors
 - Interior girder
- 10:40 Break
- 11:00 Session II
 - Live load distribution factors
 - Exterior girder
 - Moments and shear forces due to dead loads, support settlement, and construction loads

Session II, cont'd

- Moments and shear forces due to live loads
- Combined loads for service and strength limit states
- Optional live-load deflection
- 11:40 Discussion and Q&A
- Noon Adjourn

THURSDAY, DECEMBER 3

- 8:30 Webinar opens
- 9:30 Session III
 - Girder design
 - Section proportion limits
 - Strength limit state
 - Constructibility
- 10:20 Break
- 10:30 Session IV
 - Girder design
 - Service limit state
 - Fatigue limit state
 - Field splice design
- 11:20 Discussion, Q&A, and Evaluation
- Noon Adjourn

View [webinar overview](#).

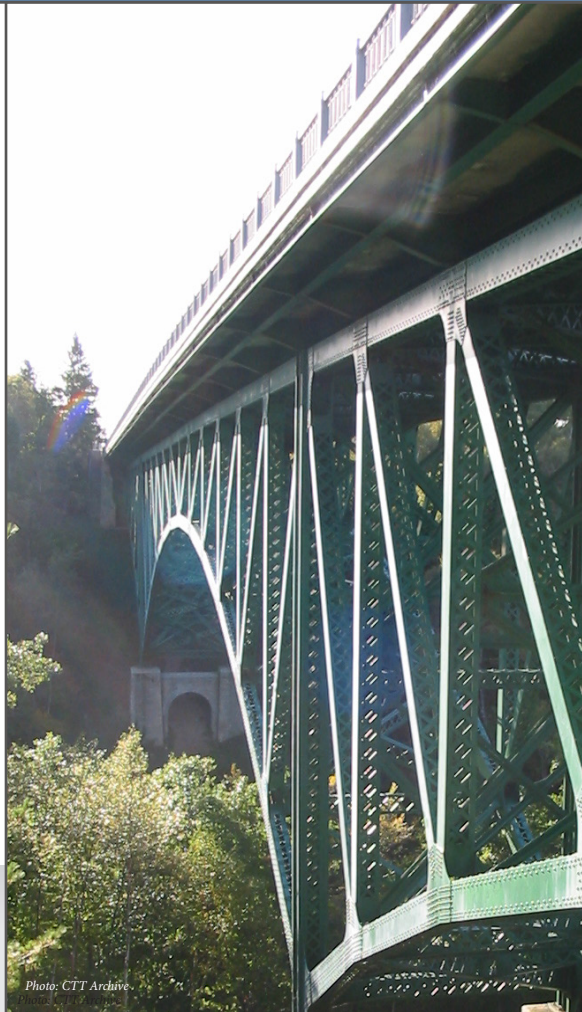


Photo: CTT Archive



Two-span Continuous Steel Plate Bridge Girder Design Workshop

Two-day virtual workshop: Tuesday, December 1, 2020 & Thursday, December 3, 2020
9:30 AM – 12:00 NOON

Presenter

Upul Attanayake, PhD, PE is an associate professor of Civil and Construction Engineering at Western Michigan University. Dr. Attanayake is the director of the Center for Structural Durability, MDOT Centers of Excellence, at Western Michigan University. He specializes in structural/bridge engineering and civil engineering materials. Dr. Attanayake has more than 18 year of experience on bridge project scoping, bridge structural analysis and design, construction, and maintenance related research. His work resulted in revisions to MDOT Bridge Design Manual and Guides. Also, he has developed revised specifications and design details for Wisconsin Department of Transportation manuals, guides, and specifications. His recent research involved accelerated bridge construction, fatigue monitoring of steel bridges, and assessment of deterioration mechanisms in prestressed concrete beams.

Dr. Attanayake's recent professional activities include membership on the Transportation Research Board (TRB) Committee on Durability of Concrete (2007-2015), TRB Committee on Concrete Bridges (2014-present), the American Society of Civil Engineers, and the Precast/Prestressed Concrete Institute. Dr. Attanayake has authored/co-authored more than 85 peer-reviewed papers and three dozens of technical reports. He has made more than 80 technical presentations at national and international conferences. Further, he has conducted several workshops for bridge engineers, fulfilling their continuing education requirements.

Dr. Attanayake received his PhD from Wayne State University in Detroit, Michigan. He regularly offers a graduate course on bridge engineering where the content includes designing and rating a bridge. Dr. Attanayake is a licensed professional engineer (PE) in the state of Michigan. For more information, please visit <http://homepages.wmich.edu/~uattanayake/index.html>.

View [webinar overview](#).

