

LUNCH&LEARN:

# I-70 EISENHOWER-JOHNSON MEMORIAL TUNNEL FIXED FIRE SUPPRESSION SYSTEM

## A Case History

The I-70 Eisenhower-Johnson Memorial Tunnel (EJMT) Fixed Fire Suppression System (FFSS) helps protect the traveling public as well as the tunnel. The EJMTs are a critical asset of the Colorado highway system located at the continental divide between Georgetown and Silverthorne. That project was part of an effort to avoid any closure or long-term damage to those tunnels due to a fire event.



Historically, the EJMT complex has experienced two to three fires a year.

While CDOT has firefighting capability at the EJMT complex, the FFSS will provide first responders the critical time needed to safely approach the scene and take action. It is a necessary tool in combating tunnel fires, keeping the public safe, protecting the tunnel structure and minimizing disruptions to traffic.

**This seminar provides a case history of the design and construction of the EJMT FFSS. Major project elements include:**

- Water-only deluge fire suppression system
- Fiber optic linear heat detection system
- New drainage system



**James Carroll** was the project manager and civil lead for on the I-70 Eisenhower-Johnson Memorial Tunnel Fixed Fire Suppression System, and he is the west coast engineering manager for ILF Consultants Inc. He graduated from the Colorado School of Mines with a BS in Engineering Mechanical Specialty in 2005. Since graduating, James has gained considerable experience in the tunneling industry. James's project experience includes tunnel rehabilitation, mechanized excavation design, ventilation & fire life safety analysis, and tunnel alignment selection for road, rail, and utility tunnels. He also has had project management roles for tunnel condition assessment projects and is a certified NHI Tunnel Inspector. He has contributed to both preliminary and detailed design of tunnels in rock and soft ground, both above and below the ground water table. This work has included the planning and implementation of geotechnical investigations to inform the selection of vertical and horizontal tunnel alignments and excavation means, including conventional drill and blast, mechanized excavation using a Tunnel Boring Machine (TBM), Micro Tunneling, and Sequential Excavation Method (SEM). Along with tunnel design, James is knowledgeable about the design and construction of deep shafts for construction/access, odor control, and drop structures.

**Wednesday, February 8**  
**12:00-1:00 p.m.\***  
**Berthoud Hall 243**

\*LUNCH WILL BE PROVIDED



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