

ARIZONA MILEPOST

ARIZONA LTAP ELECTRONIC NEWSLETTER

Arizona Local Technical Assistance Program

Spring 2017 Vol. 1, No 8

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The AZ LTAP mission is to foster a safe, efficient and environmentally sound transportation system by improving skills and knowledge of the transportation provider through training, technical assistance and technology transfer. The AZ LTAP vision is to be recognized as a premier resource in developing and transferring innovative technologies, proven solutions and reliable services to successfully meet the evolving educational and training needs of the transportation community within Arizona. AZ LTAP will actualize its vision and accomplish its mission by paying personal attention to customer needs. All courses on the AZ LTAP training schedule have been requested by our customers. You may request training to be delivered at your location by completing an on demand request form, please visit: www.azltap.org.

CONTINUOUS **ADOT** IMPROVEMENT

5S-- 5 Steps WORKPLACE ORGANIZATION



- o A tool that creates and sustains visual management.
- o A systematic method that allows teams to organize the workplace in the safest, most effective manner.
- o 5S lays the foundation for new ways of thinking where we adhere to standards and use deviation occurrences to improve.

ADOT

National Work Zone Awareness Week 2017, April 3-7

"Work Zone Safety is in Your Hands"

National Work Zone Awareness Week 2017 is April 3-7. The event will be hosted by the State of Maryland. ATSSA members will be updated by The Flash newsletter and through their respective chapters with additional information.

ATSSA Goes Orange Day 2017, Wednesday, April 5

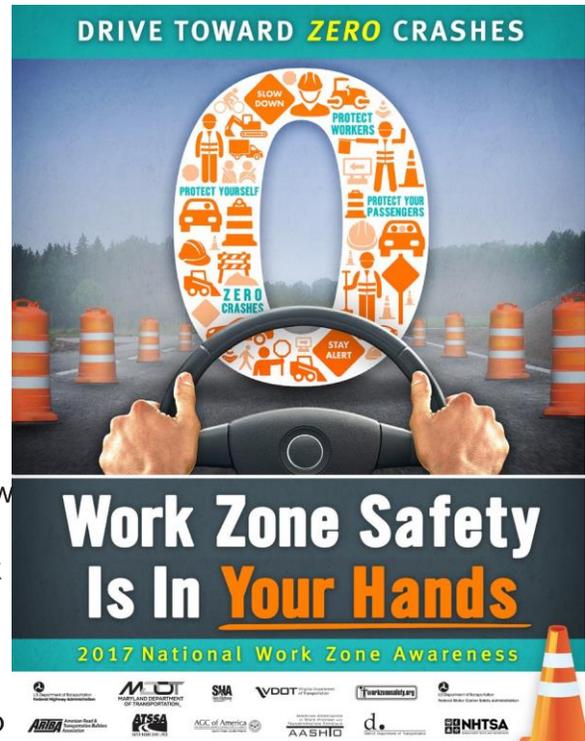
All roadway safety professionals across the country are encouraged to wear orange to proudly show their support of work zone safety.

Go Orange Day and NWZAW is an important time to show your support of the roadway safety industry, especially to the families of victims who have lost their lives in work zones.

This year for Go Orange Day, ATSSA is expanding our focus to not only photos, but also videos. ATSSA wants to see videos of you or a group wearing orange and telling us why you support Go Orange Day and NWZAW, doing something fun, safe and creative.

To show your support this year:

- o Script a great idea and produce a video (always remember: safety first), not to exceed 15 seconds
- o Post the video on Twitter and/or Facebook, tag ATSSA, and include the hashtag #Orangeforsafety
- o ATSSA may retweet/share your post
- o Also, retweet/share ATSSA's posts to keep the word about work zone safety going



Observed Across The Country

National Work Zone Awareness Week (NWZAW) is an annual spring campaign held at the start of construction season to encourage safe driving through highway work zones. The key message is for drivers to use extra caution in work zones.

Email Communications@atssa.com with questions regarding National Work Zone Awareness Week 2017.



How It All Began

- o The NWZAW Executive Committee originally consisted of the FHWA, ATSSA and AASHTO. Since 1999, the Federal Motor Carrier Safety Administration, ARTBA, AGC, VDOT, MDOT and DDOT have joined.
- o ATSSA President and CEO Roger Wentz, former FHWA Administrator Kenneth R. Wykle and former AASHTO President Thomas R. Warne met at U.S.-DOT headquarters on Dec. 15, 1999, to sign the historic "Memorandum of Agreement" between the three organizations to create National Work Zone Awareness Week. Since then, nearly every state across the nation has joined the cause

2016 Go Orange Day, Wednesday, April 13

"ATSSA Goes Orange for Work Zone Safety" - all roadway safety professionals across the country were encouraged to wear orange to proudly show their support of work zone safety.

- o ATSSA staff wore orange and posted photos on social media leading up to Go Orange Day and NWZAW to support work zone safety!
- o **THANK YOU to all who participated in ATSSA's "Go Orange" social media campaign to support increased awareness of NWZAW and using caution while driving through work zones! #OrangeforSafety #NWZAW**



The Local Transportation Agency's Hidden Treasure – Steel Buried Bridges

By Debbie Bennett, Steel Market Development Institute

According to the American Road & Transportation Builders Association (ARTBA) [2017 Bridge Report](#), there are more than 56,000 structurally deficient bridges in the United States. Many of those are short span bridges of 140 feet or less. Local transportation officials face the challenge of repairing or replacing these structures with limited funding and time constraints. Fortunately, a cost-effective and time-saving solution is available in the form of a steel buried bridge.



Buried bridges have been around for about 80 years, and have become a reliable and sustainable choice for hydraulic crossing and grade separation applications where low- to medium-span traditional bridges have typically been used. They are a viable design option in almost all cases where a traditional bridge is used and are particularly useful in the 25-foot to 80-foot span range. They have many benefits, among them design, cost and maintenance.



Design Advantages

Steel buried bridges are durable and resilient. They can handle the usual traffic demands as well as very heavy loads such as mining shovels and other equipment weighing over four million pounds, large off-road trucks weighing over one million pounds, and freight train loads. The secret to their success lies in taking advantage of the proven benefits of soil-structure interaction, where the backfill and structure work together to support the load. Because of this interaction, the bridge structure is typically lighter.



Buried bridges do not require abutments and do not typically require deep foundations. The design includes inputs for site soils and backfill. Locally available materials can often be used in construction, and the structure can be tailored to fit the needs of the site and the owner's requirements.

Lead times on the design and material acquisition for a buried bridge are usually much faster than a traditional bridge, as the structure is pretty much designed by the time the project is awarded. Approval drawings can be prepared very quickly, and in many cases it can take just weeks to go from a signed contract to having a product on site.



There are also sustainability benefits. Steel is the most recycled material on the planet, more than all other materials combined. Steel bridges can be continually recycled into other steel products without losing their strength.

Cost Advantages

Buried bridges take advantage of Accelerated Bridge Construction (ABC) techniques and can be built with local crews using their own equipment. Many buried bridges can be built in two days or less, excluding foundation work.

Steel structures are flexible, having a settlement tolerance of about five to six inches over 50 feet. As a result, they're able to accommodate higher differential settlement than rigid structures like precast concrete and most traditional bridges. Often, a buried bridge foundation design that accounts for two to three inches of settlement will allow for something on the order of double the bearing capacity, or sometimes more. As a result, spread footings can be smaller, and what started out as a deep foundation for a rigid structure can turn into traditional spread footings for a flexible steel structure. This will usually result in significant cost savings on the project.

In most cases, corrugated steel plate can be shipped to the project site on a single truck, saving shipping costs and reducing environmental impacts. Because they are compact, the structures can be shipped when ready and easily stored in the yard or at the site and built when the schedule

permits. At the site, individual plates can be handled with skid steer loaders, forklift trucks, backhoes, and other light equipment.

Maintenance Advantages

There is no bridge deck to maintain on a buried bridge, and there are no joints or bearings to repair and replace, resulting in low maintenance and inspection costs. Additionally, since there is little differential movement or settlement between the buried bridge and adjacent embankments, the “bump at the end of the bridge” which occurs with traditional bridges is eliminated. As a result, maintenance at the surface is essentially the same as it would be for any other section of the road.

No Experience – No Worries: A Case Study

Buchanan County (Iowa) Engineer Brian Keierleber, P.E., needed a quick and cost-effective solution to replace the 200th Street Bridge in Jesup, Iowa. The original 40-foot-long, two-span timber stringer bridge built in 1956 had rotting timbers, and Brian faced cost and time restrictions. He selected a steel buried bridge design. The four-man crew which worked on the project had no prior experience with this type of bridge, yet found it easy and manageable to construct using basic equipment.

A five-minute video on the construction of the 200th Street Bridge is available at <https://www.youtube.com/watch?v=dIC-Ed5NP6Y>. It includes interviews with Buchanan County

Engineer Brian Keierleber, P.E.; Joel Hahm, P.E., Senior Engineer from Big R Bridge; and contractor Eric Zieser from Zieser Construction. A case study on the project is also available. [Read it here.](#)



One-Stop Design Solution

Local transportation officials can access steel buried bridge design ideas and companies through a free-to-use website tool known as eSPAN140. [Try it here.](#)

eSPAN140 also delivers free customized project solutions for rolled beam and plate girder designs, along with complimentary project assistance through the Short Span Steel Bridge Alliance’s [Bridge Technology Center](#). **Additional Information**

Want to learn more about steel buried bridges? Here are some resources located at the Short Span Steel Bridge Alliance website, <http://www.shortspansteelbridges.org/> [Video](#) (on home page)

- [200th Street Bridge Case Study](#) and [Steel buried bridge overview and interview with Joel Hahm, P.E., Big R Bridge](#)
- Contact Rich Tavoletti, Director of the Short Span Steel Bridge Alliance, at rtavoletti@steel.org
- Follow the Short Span Steel Bridge Alliance on Twitter [@ShortSpanSteel](#) and Facebook (<https://www.facebook.com/ShortSpanSteel/>).



Arizona Showcase Demonstrates Innovative Bridge Construction

A demonstration showcase on March 14 and 15 enabled 75 transportation professionals to observe the use of prefabricated bridge elements and systems on a project in Topock, AZ. The Arizona Department of Transportation and Mohave County are building a bridge on Oatman Highway over the Sacramento Wash to eliminate the need for road closures caused by flooding during storms. Mohave County received AID Demonstration funds to use innovation on the project, the first in Arizona to use prefabricated bridge elements to accelerate construction. The bridge elements were constructed offsite and transported to the project site for assembly during a 96-hour road closure. The showcase included a workshop on accelerated bridge construction.

See more information here:

<https://www.fhwa.dot.gov/innovation/everydaycounts/edc-2/pbes.cfm>

**SLEEP
DEPRIVED
IS NO WAY TO
DRIVE**

2017 Drowsy Driving Prevention Campaign

Drowsy driving is a dangerous behavior that can result in serious injury or death. But despite the risks, drowsy driving is far too prevalent.

Drowsy driving is estimated to contribute to as many as 1.2 million collisions, resulting in potentially 5,000 to 8,000 fatalities per year.

Take a Break. Drive Awake.

According to the AAA Foundation for Traffic Safety 2015 Traffic Safety Culture Index, 1 in 3 drivers (31.5%) admitted to driving within the prior 30 days when they were so tired that they had trouble keeping their eyes open.

Click [here](#) and get your campaign materials now.



Drink more coffee



Turn on the A/C at full blast



Turn up the radio volume

Calendar of Events

BWTC/Flagger	4/6/2017	4/6/2017	Kingman
ATSSA-Workzone Traffic Control Technician	4/6/2017	4/6/2017	Globe
Maintenance Math	4/13/2017	4/13/2017	Bisbee
ATSSA - Workzone Traffic Control Technician	4/19/2017	4/19/2017	Phoenix
Certified Payroll Workshop	4/20/2017	4/20/2017	Phoenix
ATSSA - Workzone Traffic Control Supervisor	4/20/2017	4/21/2017	Phoenix
ATSSA - Workzone Traffic Control Technician	5/3/2017	5/3/2017	Tucson
ATSSA - Workzone Traffic Control Supervisor	5/4/2017	5/5/2017	Tucson
Certified Payroll Workshop	5/17/2017	5/17/2017	Phoenix
ATSSA - Workzone Traffic Control Technician	6/21/2017	6/21/2017	Phoenix
Certified Payroll Workshop	6/22/2017	6/22/2017	Phoenix
ATSSA - Workzone Traffic Control Supervisor	6/22/2017	6/23/2017	Phoenix
Certified Payroll Workshop	7/13/2017	7/13/2017	Phoenix
ATSSA - Workzone Traffic Control Technician	7/26/2017	7/26/2017	Phoenix
ATSSA - Workzone Traffic Control Supervisor	7/27/2017	7/28/2017	Phoenix
Certified Payroll Workshop	8/10/2017	8/10/2017	Phoenix
ATSSA - Workzone Traffic Control Technician	8/23/2017	8/23/2017	Flagstaff
ATSSA - Workzone Traffic Control Supervisor	8/24/2017	8/25/2017	Flagstaff
Certified Payroll Workshop	9/14/2017	9/14/2017	Phoenix
Certified Payroll Workshop	10/12/2017	10/12/2017	Phoenix
Certified Payroll Workshop	11/9/2017	11/9/2017	Phoenix
Certified Payroll Workshop	12/14/2017	12/14/2017	Phoenix

AZ LTAP

Local Technical Assistance Program

Stay informed: Request to be added to the Email list for our weekly update

Tapping In!

(email request to ttraining@azdot.gov Please include Name, Agency, Location, Email Address)

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