

AMERICAN SOCIETY OF HIGHWAY ENGINEERS

The Sonoran Bypass Newsletter

Mission Statement

"Provide a forum for members and partners of the highway industry to promote a safe, efficient and sustainable highway system through education, innovation and fellowship."

President's Message



Embarking into the winter season brings elements of hope and anxiety as we wind down 2011 and begin anew. It is apparent to me that the state of our economy and the decisions made in Washington has a distinct affect on the transportation industry. This holds especially true in Arizona. Yet, there seems to be a sense of some good things and exciting times poised out on the horizon.

Now is the time we want to be laying a foundation for smart transportation decisions and to establish critical relationships. Many very good transportation people are available and ready to work.

For all of us, now is a great time to reflect on the craziness of the past few years, and to sharpen our skills while expanding our contacts.

A great way to this is by keeping involved in groups like ASHE. Find a way to get involved, and join us at our monthly breakfast meetings. In reading the latest edition of the scanner, all of us are challenged by our national president, Calvin Leggit to be an ASHE ambassador. Tell your friends and meet new people in the transportation industry.

Our section has had some interesting and informative speakers providing great information to attendees. As the season progresses, we look forward to more great speakers and events. Be watching for our Bowling event in the early spring, and our golf event in late spring. These two events always prove to be fun. The golf event will raise scholarship money for transportation student recipients. This year we awarded our first scholarship to Breeann Sharma, a Civil Engineering major, will receive a \$1500 at our December 13th breakfast meeting thanks to those of you who support ASHE in our annual golf outing.

Your ASHE Board is also working on fostering a Student Chapter. Preliminary inquiries show a promising effort in bringing the younger members into the ASHE organization. A few other ASHE chapters have been successful in this effort. We envision our section involvement will bear fruit as well. Investing in student membership is a great way to invest in the future.

Continuing efforts of our membership base continue to enhance our industry and give back to our community and profession. I encourage everyone to step out in commitment and make a difference. This is the way we will get through uncertain times.

Jay Guertin, Section President.

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Calendar of Events

Event This Month

December Breakfast Meeting & Holiday Party

Tuesday, Dec 13, 2011

- 7:30 to 8:00 AM Registration and Breakfast
- 8:00 AM Presentation

Julio Alvarado, ADOT

\$20 for ASHE members

\$30 for Non-Members and Walk-Ins

Location: Hilton Garden Inn,
Phoenix Airport North,
3838 East Van Buren, Phoenix
(RSVP at www.ashephx.org)



**If you would like to help with
upcoming events or have a
program topic.....**

Please contact:

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Upcoming Events

DATE	EVENT and LOCATION	SPEAKERS and TOPIC
Dec 13 , 2011	Breakfast & Holiday Meeting Hilton Garden Inn, Phoenix Airport North 3838 East Van Buren	Julio Alvarado-ADOT Asst. State Engineer-CMAR
Jan 10, 2012	Breakfast Meeting Hilton Garden Inn, Phoenix Airport North 3838 East Van Buren	ADOT-Austin Bridge & Road- AZTEC Team SR303L (HVR to LPP)
Feb 14, 2012	Breakfast Meeting Hilton Garden Inn, Phoenix Airport North 3838 East Van Buren	TBD

New Members

We proudly welcome the following new members:

Michael Chase, Stanley Consultants
Jessica Kendrick, Parsons Brinckerhoff
Heather Beito-Undersma, Insearch Corporation
Steve Bruflat, Consultant Engineering
John Tuter, Wood, Patel, & Associates

Ted Smithwick, Ayres Associates
James Barr, TY Lin International
Alan Ferreira, Stanley Consultants
Bob Winrow, Parsons Brinckerhoff

Total Section
Members:

91

Please contact Yung Koprowski at ykoprowski@lee-eng.com if you have any questions, need additional membership information, update your contact information or need an application to join.

Summer Events

Sept 2011

Vincent Li, ADOT

Mr. Li gave an overview on the impact of federal funding on Statewide Project Management & program update



Oct 2011

Roger Herzog, MAG



Mr. Herzog gave an update on the Regional Transportation Highway and Arterial Program



Nov 2011

Robert Samour, ADOT

Mr. Robert Samour gave an update on ADOT Valley Transportation.



Featured Transportation Project

State Route 89 Widening in Chino Valley

Project Summary

Arizona has historically been a destination for many tourists and new residents with its cultural, historic and idyllic topographic setting. In recent years, a record breaking increase in the population dramatically impacted traffic volumes on the State Highway System. State Route 89 (SR 89) in north-central Arizona is no exception.

SR 89 is an important regional thoroughfare linking Interstate 40 and US Highway 93. Within the Town of Chino Valley, SR 89 was a two-lane rural highway with a continuous center turning lane providing access to local roads, private properties and businesses. In addition to regional through traffic, rapid growing residential and commercial developments along SR 89 contributed to high traffic volumes and congestion on the highway.



SR 89 Prior to Construction

In 2004, the Arizona Department of Transportation (ADOT) began studies to analyze traffic growth, access management, intersection control and future traffic demand. A 2005 Project Assessment (PA) recommended the design of an interim 4-lane divided highway with a raised-median and a new construction centerline offset from the existing SR-89 centerline.

Upon completion of the studies, ADOT initiated the *SR89, Center Street to Chino Valley Limits* project to address interim and future roadway widening, roadway reconstruction and intersection improvements. This was the first Construction Manager At-Risk (CMAR) project ever undertaken by ADOT. Stanley Consultants was selected as the prime design consultant for the project and Kiewit served as the CMAR.

Interim to Future - Innovative Design

The project presented several safety, access, and schedule challenges that would impact the community and traveling public. The PA recommended configuration would lead to costly construction with complex traffic maintenance and phasing for an ultimate 6-lane facility. These challenges ultimately created the opportunity to use innovative design and construction techniques.



SR 89 Post Construction-"Outside In" Concept

The project team held a formal Value Engineering (VE) workshop, in which they developed an 'outside-in' design approach. This innovative method consisted of constructing the outside curb and gutter at their ultimate location while widening symmetrically along the existing centerline. The roadway was constructed with two lanes in each direction and a center median wide enough to accommodate future widening to the ultimate 6-lane configuration. The median curbs would easily be removed and replaced with a third internal lane in each direction to accommodate future traffic demands.

Featured Transportation Project (continued)

The “outside-in” concept allowed for future expansion with minimal impact to the businesses fronting SR 89. During the ultimate construction process, traffic would continue undisturbed while construction would be confined to the median. Using the “outside-in” concept, roadway design established the ultimate right-of-way, ensuring that utilities were moved to their permanent locations for the future 6-lane condition.

At the SR 89/Road 4 South intersection, a two-lane roundabout design complemented the innovative widening concept with its ability to expand to three lanes, upon achieving projected future traffic demands and reconfiguration to the ultimate planned facility. With the help of Ourston Roundabout Engineering, the roundabout was designed to accommodate two AASHTO WB-67 semi trucks side-by-side through the intersection, within the circulatory roadway – a first of its kind in Arizona.

Another innovative design element included 36 longitudinal roadside retention basins linked together as a system with metered discharge to maximize the efficiency of each basin. This allowed the system to manage roadway drainage flows within the project’s right-of-way limits.

ADOT’s Communications and Community Partnerships (CCP) Office, along with its consultant, KDA Creative, educated the public about the roundabout beginning one year prior to the start of construction. These efforts achieved the goal of relieving public concerns about using roundabouts by demonstrating the efficiency and ease of their use.



Two Lane Roundabout at SR 89 & Road 4 South

Award Winning Project

The design was completed on schedule despite the complexity of challenges faced by the team. The new facility and roundabout were officially opened to the public in 2009. The final project resulted in a savings of approximately \$2 million under the original programmed amount. The overall success was attributed to team collaboration, timely submittals, and effective communication among team members, agencies, and the public.

The SR89, *Center Street to Chino Valley Limits* project has been recognized by the public, agencies, and engineering organizations and has received the following awards for its design innovation and success:

- **2010 Grand Award**
American Council of Engineering Companies of Arizona
- **2011 National Recognition Award**
American Council of Engineering Companies - National
- **2010 Project of the Year - Transportation Category (\$5 million , but less than \$25 million)**
American Public Works Association - Arizona Chapter

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← **US 191 Widening, Segment III, Graham County, AZ**
ADOT's 2009 Transportation Partnering Excellence Award.
2009 ACEC Engineering Excellence Honor Award

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