

# THE BRIDGE JOURNAL



**A NEWSLETTER ISSUED BY THE SUSQUEHANNA CHAPTER OF ABCD**

**ABCD Susquehanna Chapter  
2008-2009 Board of Directors**

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High Steel Structures

**Scholarship: Dave Marchese, PE**  
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**Gary Graham, PE**  
PA Turnpike Commission



## President's Message

### ABCD Annual Report

As we wrap up 2007-2008, I would like to thank the ABCD Board of Directors, our dinner speakers, and our members for making it a memorable year. In this annual report, I will highlight the noteworthy events of last year and preview some of our plans for 2008-2009.

#### 2007-2008 Highlights

Our ABCD Board of Directors put together another fantastic year of events for the organization. The year kicked off with a new dinner meeting location. The Sheraton Harrisburg Hershey Hotel was a great venue for our meetings and we are looking forward to another great year at their facilities.

Our first dinner meeting featured a presentation on the 2006 detailed masonry inspection of the Brooklyn Bridge towers by Jonathan Schmidt of DMJM Harris. Jon discussed inspection challenges including performing the work without adding anchors to the towers, registration of inspection findings on a massive masonry structure in a repeatable format, and providing tactile inspection access in stone overhangs, beneath steel walkways and within recesses.

Our second meeting featured some of the unique challenges faced in the erection of the three-span 1085 foot long James Runsey Bridge by David Lattanzi with Gannett Fleming. The James Rumsey Bridge over the Potomac River is a horizontally curved steel plate bridge with a maximum span of 425 feet and a maximum web depth of 18 feet.

PennDOT Chief Bridge Engineer Tom Macioce presented his annual "State of the Union" address in March in which he went over the condition of PA's bridges, Bridge Inspection and Management, Bridge Project Delivery, and the outlook for the bridge construction program. Craig Biessel also presented an update on the Birmingham Bridge in Pittsburgh.

Our award banquet and silent auction were a big success this year. Hal Rogers gave special recognition to our past president Todd Smeltz for his dedication and service to the organization over the years. Dana Stamm was awarded our second annual ABCD scholarship.

#### The bridge award winners this year were:

Outstanding Rehabilitated Bridge – Hawk Falls Bridge – Rettew Associates

Outstanding New Short Span Bridge – Frew Mill Bridge – JMT

Outstanding New Multi-Span Bridge – Susan B. Anthony Bridge – High Steel

Outstanding CSS Bridge Design – Fredrick Douglas –

Susan B. Anthony Memorial Bridge – High Steel

All of the nominated projects were worthy of recognition and received Outstanding Achievement Awards.



## Association of Bridge Construction & Design – Harrisburg Chapter Treasurers Report – Fiscal Year: July 2007 to June 2008

### INCOME

50/50 Income	\$111.00
Award Income	\$200.00
Dinner Mtg. Income	\$5,700.00
Dues	\$5,750.00
Silent Auction	\$750.00

<b>TOTAL INCOME</b>	<b>\$12,511.00</b>
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### EXPENSES

Bridge Awards	\$200.00
CPEWC	\$125.00
Dinner Mtg. Expense	\$7,598.36
Donations	\$160.00
Engineering Ministries Inter.	\$40.00
Central Northside Neigh.	\$40.00
St. Jude Childrens Hosp.	\$80.00
Misc.	\$153.03
Name Badges	\$39.39
Plaque—Todd Smeltz	\$113.64
Scholarship	\$1500.00
Special Expense	\$115.50
Hershey Bears Hockey	\$115.50

<b>TOTAL EXPENSES</b>	<b>\$9,851.89</b>
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### BALANCE SUMMARY

Beginning Year Balance (July 1, 2007)	\$11,515.32
Total Income	+\$12,511.00
Total Expense	-\$9,851.89

<b>END OF YEAR BALANCE (JUNE 30, 2008)</b>	<b>\$14,174.43</b>
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I would like to thank Tom Wandilak for another great year of dinner meetings, Dave Marchese for leading the scholarship committee and Barry Epley for chairing the Awards Committee.

2008-2009 should be another eventful year for the ABCD Susquehanna Chapter. We are currently lining-up speakers for our dinner meetings and we look to continue our Scholarship and Bridge Awards programs. Volunteer opportunities continue to exist throughout the Chapter. Areas of particular interest include the Scholarship Committee, Awards Committee, Silent Auction, Events, and Educational Outreach.

Speaking of Educational Outreach, I would like to see our Chapter put a greater emphasis in this area. Our industry is entering a crisis mode when it comes to finding talented young engineers. The number of engineering college graduates is declining at a pace that will not keep up with the demands of our deteriorating and overburdened infrastructure. Engineers are not created overnight – students must have an interest in math and science at a very young age in order to develop ambitions toward engineering. Sparking an interest in engineering is a challenge in which our organization can assist. Daryl Jurkewicz will again be heading up our Educational Outreach efforts and we will keep the membership informed of opportunities to assist in this important aspect of ABCD.

We have added a new face to our Board of directors for the 08-09 season. Tom Porter from McCormick Taylor was appointed by the Board to be the Public Affairs Chairman. Tom's responsibilities will include making website updates and creating the chapter newsletter. Tom's position was formerly held by myself, and I know he will do a great job. While not a new face to the Board, I am very appreciative of the opportunity to serve as our chapter's president. I have been involved with ABCD since 2002 when our Chapter's founding fathers were still writing the bylaws and they needed a young guy to start creating a website. I am very proud of our Chapter and the work we do, and I hope that my addition as president brings new opportunity for our profession. One of my recent interests has been Act 44 and the shortfalls of funding for bridge improvements. Having inspected hundreds of bridges myself, I have seen the problems first hand, but unfortunately, the solution is not based in physics, but finance; not in material science, but political science. We as a society need to find a solution to these issues that plague our infrastructure. Doing nothing is no longer an option.

Again – I want to thank the Board of Directors and the membership for making this past year a successful year for the ABCD Susquehanna Chapter and I look forward to seeing all of you in near future.

- David Hoglund



## Orthotropic Decks

At our September dinner meeting a presentation titled "Orthotropic Deck Panel Design & Application" was given by Mr. Camo, PE of Weidlinger Associates, Inc. The topic dealt with the role that orthotropic deck can play in present and future bridge deck structures. The presentation focused on areas of applicability, loadings, resistance, structural behavior, methods of stress calculations ( by Finite Element ) such as extrapolation and BSS, and construction details.

Mr. Camo has been responsible for the design of a wide range of civil engineering projects, including bridges, tunnels and mass transits systems, for over 35 years. In recent years he has specialized in the investigation of orthotropic deck fatigue problems and in design of new orthotropic decks.



## Metal Truss Bridges: Part of Pennsylvania's Heritage

Recently PennDOT has declared 25,000 bridges structurally deficient and has scheduled them for replacement. A large number of these bridges are historic, and losing them would be a great loss to Pennsylvania's heritage. The historic bridges that are most threatened are metal truss bridges. The metal truss bridge is the descendant of the wooden covered bridges. Both kinds of bridges connect components in a series of triangles. However, metal truss bridges do not require protective roofing, as metal is more impervious to the elements.

Most of the metal bridges built during the nineteenth and early twentieth centuries were metal truss bridges. During the post Civil War years the American railroads grew rapidly, and they required bridges which could accommodate heavier and faster trains. Metal truss bridges were the favored design due to their ease of construction and versatility. The bridge's truss members became standardized, making them easy to ship. Plans became standardized as well, allowing customers to order bridges directly from catalogues.

This proved to be a critical period in the history of bridge engineering, as the occupation of civil engineering began to be professionalized. These new truss bridges were built according to proven scientific theory, not the guess and test methods of their predecessors. The theories of bridge building were developed and codified.

Metal truss bridges became an integral part of America's burgeoning industrial economy, allowing for the easy transport of goods. Pennsylvania was the cradle of the Industrial Age, and the metal truss bridges still standing today are artifacts of this dynamic period in American history.

Many of these bridges were manufactured by Pennsylvania industrial giants, such as Carnegie Steel's Keystone Bridge Works and the Phoenix Iron and Steel Company's subsidiary bridge company. While these companies may have closed their doors, their bridges remain as examples of Pennsylvania's manufacturing heritage.

While many of these bridges may be unable to handle modern traffic needs, every effort should be made to restore, rehabilitate, and search for adaptive re-uses for these structures. They serve as excellent pedestrian bridges for college campuses, parks, trails, and golf courses. Metal truss bridges are a vital part both of Pennsylvania and of civil engineering history, and must be treated as such.

- Mary Cameron, State Historical Preservation Office



**Walnut Street Bridge**

**Location:** Walnut Street over the Susquehanna River, Harrisburg, Dauphin County

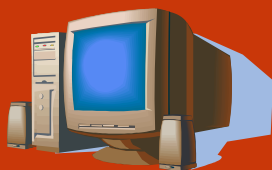
**Year Built:** 1890

**Type/Length:** Baltimore, multiple-span/ 2,850 feet



### Talented Young Engineers needed in the near future. .

Help spark a student's interest in Engineering through our Educational Outreach Program, for information contact: Daryl Jurkewicz, PE



### Susquehanna Chapter Website

Where can you get the most up-to-date information regarding your local ABCD chapter? Check out the Chapter website! New information on chapter happenings is posted regularly so visit the website now and add it to your favorite lists.  
[www.abcd-susquehanna.org](http://www.abcd-susquehanna.org)



### From the Editor

Comments? Suggestions?  
Interesting articles?  
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