



# Kaskaskia Engineering Group, LLC

Where Ordinary People Accomplish Extraordinary Things

Volume 1 Issue 3

## The I-70 New Mississippi River Bridge Project

Engineering studies began in 1992 for a new Mississippi River crossing between Illinois and St. Louis, Missouri. The Illinois Department of Transportation (IDOT) and the Missouri Department of Transportation (MoDOT) are the sponsoring agencies for the New Mississippi River Bridge (MRB) project. The states received approval from the Federal Highway Administration (FHWA) for the Ultimate Project Concept in 2001.

The Ultimate Concept includes an 8-lane bridge located north of the current I-70 crossing. In July 2009, the Missouri and Illinois Departments of Transportation made a determination that the new bridge would be designed and constructed as a four-lane structure based on the combined value of funds available between both states to meet the Financial Plan requirements. The additional four lanes will be designed and constructed in the future when traffic volumes justify the additional lanes.

The MRB Design Team consists of oversight by MoDOT, IDOT, FHWA, and a team of engineers from many consulting firms including HNTB, Crawford, Murphy, & Tilly, Kaskaskia Engineering Group, along with others. KEG is part of the design team responsible for the structural design and plan preparation for the Illinois approach to the main river span of I-70 over the Mississippi River. KEG is also providing utility coordination for both the Missouri and Illinois approach spans. The Illinois Approach is a 2500-foot long viaduct carrying four lanes of traffic over railroad property owned by four different companies. The bridge superstructure consists of a cast-in-place concrete deck on stay-in-place precast deck forms supported by

112-inch deep hybrid plate girders. The superstructure is supported by concrete piers with 8-foot deep pier caps and 6-foot diameter columns on 6.5-foot diameter drilled shafts. The drilled shafts are designed to withstand liquefaction during a seismic event.

The structure was designed to be fully functional after a 975-year seismic event and repairable after a 2500-year seismic event. A site-specific analysis was performed to determine accurate soil-structure interaction for an economical substructure design.

The construction contracts for the new bridge and approaches will be awarded using the design-bid-build process. Contractors for the main span have been prequalified to assure that they have the technical expertise and resources to handle this project. The Alternate Technical Concept Process (ATC) is being utilized for this project. This process allows contractors to provide design and constructability input in early stages of design. The process saves money by taking risk away from the contractor, since their ideas can be analyzed and approved or rejected before bidding, allowing contractors to be innovative so that the best value can be achieved.



Rendering of the Bridge

### Inside This Issue:

TRAFFIC CIRCLES VS. ROUNDABOUTS 2

LARRY THOMASON RECEIVES DISTINGUISHED SERVICE AWARD 3

GEORGE JAMISON HONORED WITH ACEC-IL AWARD 3

MESSAGE FROM THE BOARD ROOM 4

COLLENA & CORI RECEIVE P.E. LICENSES 4

# Curb the Confusion

## Traffic Circles vs. Roundabouts

Intersections can be dangerous places. According to the Federal Highway Administration (FHWA), more than one-fifth of all traffic fatalities happen at intersections. The problem is not that there is a lack of signals - only 10% of all intersections have signals, but nearly 30% of intersection fatalities take place at signalized intersections.

Alternative intersection designs are being sought in order to increase roadway safety, with the most common being a roundabout. Kaskaskia Engineering Group is currently preparing plans for modern roundabouts at two locations on the approach to the New Mississippi River Bridge and modified Belleville's traffic circle to operate as a roundabout.

During the preparation of these plans, several people asked "What makes it a roundabout as opposed to a traffic circle?" Although both involve traffic moving around a circular island and both follow normal traffic laws, they work very differently.

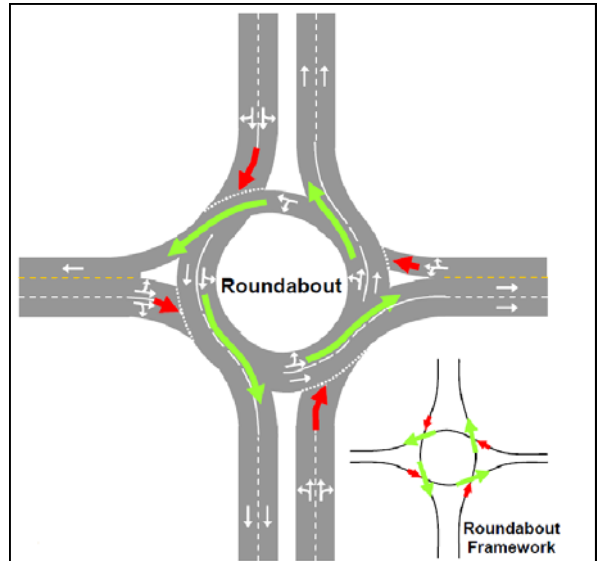
Traffic circles contain a series of "T intersections" that meet a circular road. Traffic entering the circles has the right-of-way, impeding circulating traffic's ability to leave the circle. During heavy traffic, traffic circles often result in gridlock.

Roundabouts, on the other hand, involve a series of "crossing intersections," and entering traffic must yield to circulating traffic. These components allow traffic to move efficiently, even during peak hours.

Traffic circles are often very large and require drivers to make detours around a vast central area, usually with a monument or park in the center. The size of the traffic circle allows traffic to enter and circulate at higher speeds, sometimes leading to serious accidents.

Roundabouts are generally small and contain channelization islands on the approaches. Channelization decreases traffic speed without enforcement, increasing safety for vehicular traffic, as well as pedestrians and bicyclists.

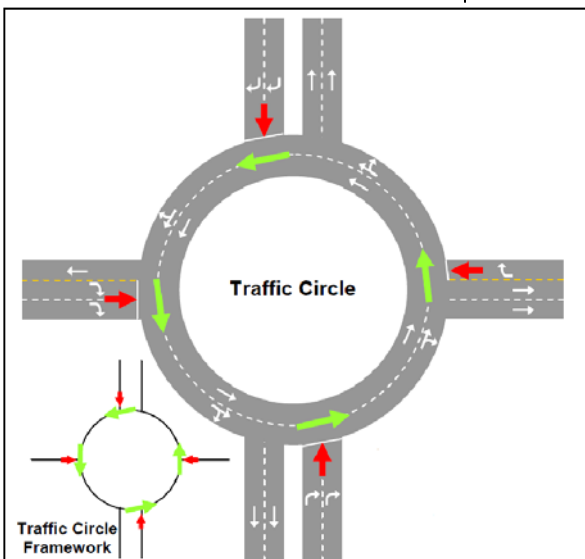
Due to their relatively small size, roundabouts can save communities money. They often require less pavement for construction and need less right-of-way than traditional intersections. They also have no signal equipment to install, power, and maintain.



Additionally, the design of roundabouts results in fewer stops, softer acceleration, and less time idling, reducing pollution and fuel use.

### Roundabout Facts:

1. Roundabout design decreases the number of places where one vehicle can strike another
2. The modern roundabout was pioneered in England in 1963 and arrived in the US in 1990
3. The US is home to about 2,000 modern roundabouts
4. The Australian cities of Griffith and Albany contain no traffic signals, only roundabouts.
5. The Arc de Triomphe in Paris is NOT a roundabout



# KEG in the Community



## Larry Thomason Receives the 2009 Richard B. Teitelman Distinguished Service Award

On June 4<sup>th</sup>, Kaskaskia Engineering Group team member Larry Thomason was honored with the Richard B. Teitelman Distinguished Service Award by Legal Services of Eastern Missouri (LSEM). Larry, along with other attorneys, was recognized at the 2009 "For the Common Good" awards celebration, which acknowledged the great work done by volunteer attorneys and law firms in the region.

Throughout 2008, Larry dedicated approximately 1,100 hours of pro bono legal services to low-income people throughout Missouri. He primarily provides legal representation in matters which help people retain decent housing, end domestic violence, and protecting children from abusive relationships.

Not many engineers are also licensed attorneys. However, Larry's dual degrees allow him to work 3 days a week as an engineer at KEG and serve as part of the Volunteer Lawyers Program at LSEM the other 2 days of the week.

LSEM is an independent, non-profit organization that provides high-quality civil legal assistance and equal access to justice for elderly and low-income people in 21 counties in Eastern Missouri. The organization focuses on cases that create stability within families and communities, specifically issues relating to housing, health, education, immigration, and family court projects. The main office is located in St. Louis, as well as branches in Hannibal and Union, Missouri.



Larry Thomason, second from the left, with other Legal Services Staff at the Award Ceremony

Larry has continued his amazing service to the community and has already devoted more than 600 hours of service in 2009 to under-represented members of society.

For more information about LSEM, please visit: [www.lsem.org](http://www.lsem.org)

## George Jamison Honored with the 2009 Engineers' Community Leader Award



The American Council of Engineering Companies of Illinois (ACEC-IL) honored George Jamison, a Principal of Kaskaskia Engineering Group, with the 2009 Engineers' Community Leader Award. The Community Leader Award is the highest community service recognition given at ACEC-IL's annual meeting and awards program.

ACEC-IL is a statewide trade association of 210 engineering firms with approximately 10,000 engineers, architects, land surveyors, and support personnel. The organization strives to assist its members in achieving higher professional, business, and economic standards.

George has been active in serving his local community throughout his adult life. He has served on government boards and commissions, including the Rochester Village Board and the Roches-

ter Fire Protection District Board; as a Cub Scout leader, as a church deacon, building committee member, finance committee member, and as financial secretary; as a safety and marksmanship instructor for Young Hunter Safety Clinics, and as a volunteer for numerous professional and community organizations. He is a loyal alumnus of the University of Illinois at Champaign-Urbana and has served as a visiting lecturer on professional practice for the Civil Engineering Department.

George is also an active member of Engineers Without Borders and chairs their National Health & Safety Committee. By serving as a leader and through notable contributions and civic involvement, George has enhanced the quality of life in his community.

As the top award winner in Illinois, his nomination was submitted to the American Council of Engineering Companies (ACEC) Committee of Fellows for national recognition.

# Kaskaskia

## Engineering Group, LLC

Where Ordinary People Accomplish Extraordinary Things

### Message From the Board Room

Geri Boyer

On August 1, we celebrated our three year anniversary. As I reflect over the last 3 years, I am amazed how fast the time has gone and realize just how blessed we are to have such great clients, an excellent team of employees, and so many people who love and support us every day.

The "Kaskaskia Engineering Group dream" began over several cappuccinos at a local coffee shop. Anyone who knows Marsia and I can appreciate the irony of planning KEG while surrounded by strong coffee. In the frenzied

pace and long hours of our first years, coffee played almost as important a role in the success of our business as our many partnerships.

Partnership is one of our core values. In true partnerships, differences in gender, age, race, religion, and/or ethnicity are seen as positive. Our differences promote creativity, trust, empathy, mutual respect, and caring relations. During our first three years, we experienced this first hand working with other great engineering firms, utility companies, developers, our counties, the state, and

our local communities.

We are so grateful to all of you who have taught us to be better listeners, who have challenged us, believed in us, and given us the opportunity to work with so many smart and caring people.

As we begin our Fourth year, we will work to continue and strengthen relationships with our current partners and look forward to developing new ones. Happy Birthday, KEG!

### KEG Injury Report

We are saddened to report that our beloved keggerator was recently injured by Marsia in an unfortunate accident in which she broke one of its tappers off. Beer spewed all over the floor, reminiscent of the Lucy and Ethel scene at the candy factory. Although it is not back to 100%, we are happy to report that beer is once again flowing here at KEG.

### Belleville Office

23 Public Square  
Suite 404  
Belleville, IL 62220

Phone 618-233-5877  
Fax 618-233-5977

### Taylorville Office

913 West Spersser  
Taylorville, IL 62568

Phone 217-824-2264  
Fax 217-824-2273

### Peoria Office

456 Fulton Street  
Suite 265  
Peoria, IL 61602

Phone 309-999-4005

[www.kaskaskiaeng.com](http://www.kaskaskiaeng.com)

### Collena Ahrens & Cori Stanczyk Receive P.E. Licenses



licenses in the State of Illinois.

Collena attended SIUE, where she earned her Bachelor's degree in Civil Engineering in 2004. Last summer, she obtained her Master's of Business Administration from Lindenwood University.

Kaskaskia Engineering Group is pleased to announce that two employees, Collena Ahrens and Cori Stanczyk, have earned their professional engineering

Cori earned her Bachelor of Science in Civil Engineering from Tulane University in New Orleans in 1999 and in 2007 received her Master's of Fine Arts in Theater and Dance

Both ladies serve as staff engineers in the transportation and geotechnical departments. Their combined experience includes traffic studies, crash studies, roadway design, and geotechnical analyses and reports.

KEG places great emphasis

On employee development and the continuing professional progression of its staff. Cori and Collena are living the KEG values by striving for ultimate potential in their careers and forming a true partnership to better serve our clients.