
Green Council

SUCCESS STORIES

The Green Council was formed in 2008 to proactively develop and employ green transportation initiatives and to improve sustainability in infrastructure with sensible implementation policies.

The Green Council has achieved many successes but nothing is more telling than the stories of our member firms and what they have achieved.

INNOVATION

The Green Council strives to initiate and promote innovative ideas and solutions throughout the industry. Members are committed to advocate for acceptance of more sustainable technical and regulatory practices.

S.T.A.T.E. Testing LLC's President, Jay Behnke, knows road materials in Illinois. Since his time at IDOT District One's Bureau of Materials, Mr. Behnke has been committed to consistently improving our region's roadways and how they are constructed. The Green Council is an outlet to bring experts like Jay together into a forum where the benefits and restrictions of materials can be tested and debated. This is exactly the role this Green Council member played regarding the use of recycled asphalt shingles in our roadways.

A recent "green" project involved helping bring post-consumer (tear-off) recycled asphalt roofing shingles (RAS) into the Illinois asphalt pavement market. In 2009, RAS was being used in Wisconsin but it was not yet allowed in Illinois. This meant that all the tear-off shingles in Illinois were going to other states for recycling or being shipped to a landfill. Knowing Illinois contractors could do better and to fulfill the mission of the Green Council, Mr. Behnke worked closely with the Illinois Tollway and the Illinois Environmental Protection Agency (IEPA) to address their technical and environmental issues. With cooperation from several agencies, contractors and a Wisconsin RAS processor, they were able to produce the documentation to allay concerns. In February 2010, the IEPA released a Beneficial Use Determination (BUD). These guidelines effectively allow shingles to be recycled in Illinois for use in asphalt mixtures. The IEPA clearance opens the door for use by other public and private project owners. Subsequently, the Green Council partnered with the Illinois Department of Transportation; and, two projects will allow RAS in the 2010 construction season, IL Route 53 and IL Route 83.

Mr. Behnke, Green Council members and Chicago-area public agencies have taken a national leadership role in demonstrating the environmental and performance benefits of another recycled material, Ground Tire Rubber (GTR). GTR recycles used car tires into asphalt mixes. On average every mile of pavement contains at least **1000 used car tires**. Since Cook County instigated a demonstration project in 2006, GTR has become a popular product for the Illinois Tollway, Chicago Department of Transportation, and DuPage County. Most of the recently



completed work on the Jane Addams Tollway (I-90) contains GTR-modified asphalt. GTR is a proven product that benefits the agencies, the contractors and the environment. The Green Council believes this should be further piloted in additional Illinois roadways.

Responsible pilot programs are critical to providing evidence to the public agencies that they can wisely use tax payer dollars to build sustainable products while ensuring the highest quality product. The Green Council will continue to bring new, innovative, economical and environmentally friendly ideas to their partner agencies.

Curran Contracting has been working to promote green initiatives throughout northeast Illinois. They demonstrated their commitment to sustainability when they built their LEED certified headquarters and earned a Gold rating. “It’s the responsibility of the Green Council to demonstrate to the public agencies how we, as an industry, can strive to advance green technologies and practices while still providing an economic savings. In the past, sustainable infrastructure was limited to park districts and forest preserves, whose mission already has an environmental focus. Our real challenge is changing how we advance the available technologies and practices to provide a more sustainable infrastructure,” stated Rick Simon, Curran’s Executive Vice President.

Mr. Simon volunteers on the Technical & Regulatory Committee and is an integral part of the I- LAST Construction Task Force, the subcommittee responsible for developing the construction addendum to I-LAST. The Illinois – Livable and Sustainable Transportation Rating System and Guide, or I-LAST, is similar to the U.S. Green Building Council’s LEED rating, by applying the concept to the transportation industry. LEED currently has points for the transportation industry. Under the LEED system, asphalt pavement can potentially earn credits in three areas: Sustainable Sites, Materials and Resources, and Innovation and Design. For example, Curran placed porous pavement at its corporate headquarters, which is an environmentally friendly tool for storm water management. Mr. Simon noted, “It’s good for business and the environment.”



Jay Behnke from S.T.A.T.E. testing demonstrates porous pavement to IDOT official at the Curran project

Mr. Simon commented on the many other innovative ideas the Green Council is pursuing, “We have to work with all levels on a project; the agency, designer and contractor. For example, an agency can direct a designer to provide a location to recycle or store materials on site. This helps the contractor to eliminate off site

trucking of the materials, which in turn reduces the carbon footprint of a project as well as providing economic savings. It's a simple concept but all parties need to be in sync."

The I-LAST manual, specifically the Construction Practices Addendum, not only supports experimental materials but promotes innovative practices. Points are given for using new and emerging technologies. Innovation is critical to the construction industry.

V3 Company is best known for their "green" ecological work, such as restorations or vegetation management. However it's their work on the Green Council's Technical and Regulatory Subcommittee that carries that environmentally-friendly mission even farther than just the natural resource projects they touch. V3 has carried its green vision throughout their companies by implementing sustainable practices in all of their regional office buildings and continuing that mission in their design and engineering of transportation projects. "We joined the Green Council because we know utilizing green techniques can enhance a project, no matter what kind of project. That is why V3 has 22 LEED accredited engineers on staff. We understand the benefits of being green," said Lou Gallucci, Principal.

Through firms like V3, the Green Council members focus on new design and construction techniques that are environmentally and economically beneficial. The members work to remove barriers to using recycled materials that still meet or exceed the quality standards their clients and the citizens deserve. "We can create partnerships and bring industries together to pursue smart regulations and legislation for sustainable transportation," Mr. Gallucci remarked. "For example, the Green Council helped to open the door to the use of recycled shingles in our asphalt in Illinois, eliminating the disposal of roof tear-offs into landfills. Now we can pursue the ability to include ground tire rubber, glass, fly ash and other waste products of commercial and residential uses." If Illinois can reduce the amount of materials that are being brought in from other countries, re-use materials from our region, while maintaining or improving the level of service the traveling public expects, being green is a win-win-win situation." The Green Council is committed to that goal.

Wight & Company has been promoting innovative infrastructure for decades. They have assisted the Illinois Tollway with recycling existing concrete pavement onsite for I-88, helped DuPage County use Ground Tire Rubber amended pavement in a pilot project which saved 4,000 tires from landfills, and have 30 LEED certified or registered buildings in their portfolio, including their headquarters in Darien, Ill. But what about the future...

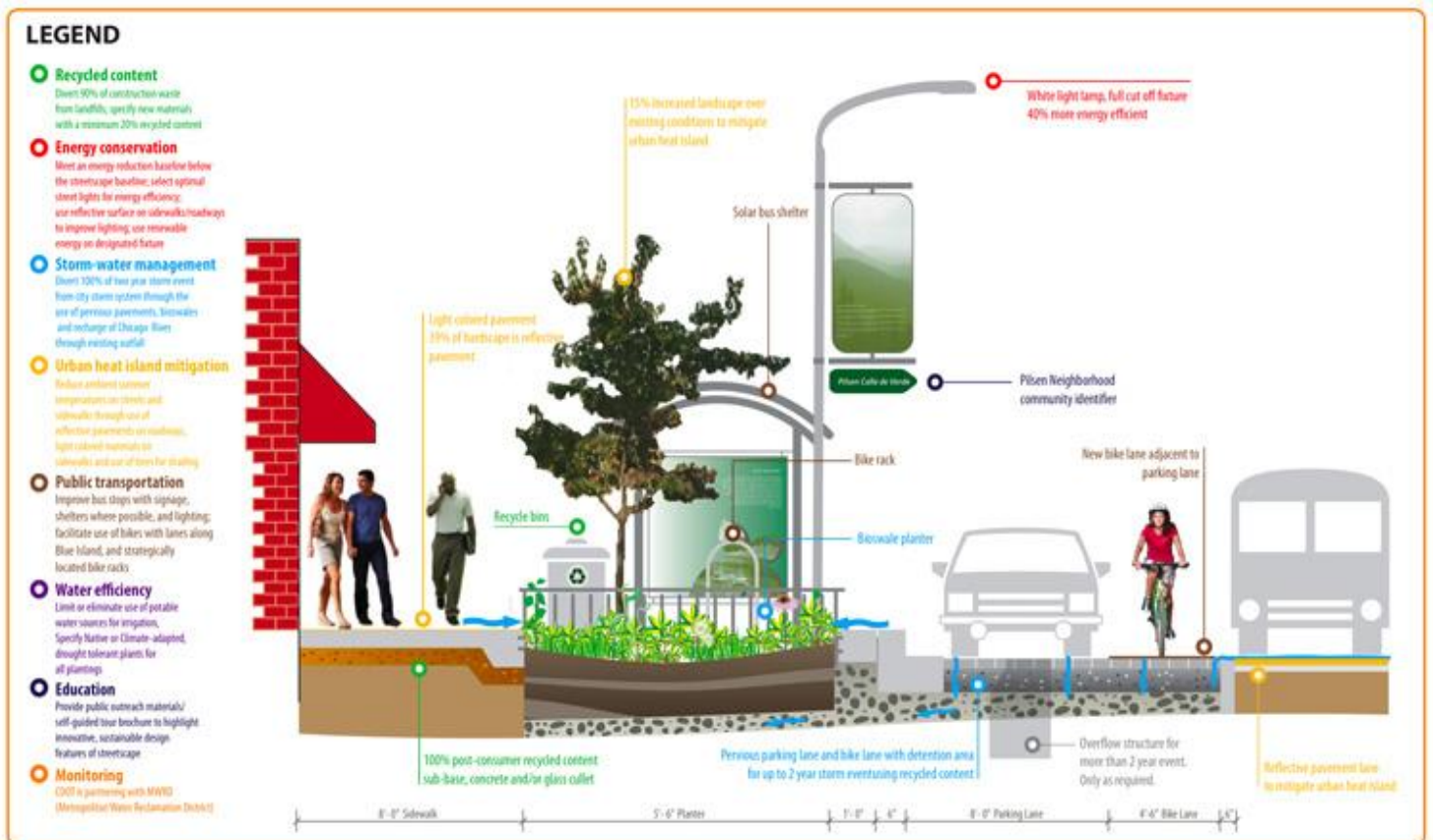
"Where's the next intersection for innovation and sustainability in our industry? Water management," stated



Pete Mesha, Group President - Engineering. "Stormwater management has always been an important issue for transportation engineers but the main goal was to remove the water from the pavement into storm sewers as quickly as possible while maintaining a high "scour velocity" in the sewers. This produces dirty, hot and fast flowing run-off which is hard on our ecosystems. We should be looking for incorporating new design solutions such as planting native prairie grasses, using permeable pavements for the roadway shoulders and using bioswales to improve the quality and to reduce the quantity of

stormwater run-off,” Mr. Mesha noted. Bioswales are engineered ditches designed to remove silt and pollutants from water. A common application is around parking lots and roadside ditches where the “first flush” off the pavement can be collected and treated.

Wight & Company worked with the Chicago Department of Transportation to design numerous sustainable elements into the innovative Cermak Road Streetscape Project in the Pilsen Neighborhood. Wight used bioswales, infiltration planters, and pervious pavers with photo-catalytic surfaces to maintain a reflective color among many other sustainable elements to demonstrate a very high level of “green design”. Wight & Company has incorporated a Green Roof and a Green Terrace at their office building which test eight (8) different types of systems, all of which reduce the volume of stormwater run-off.



Streetscape along Cermak Road

Critical components to the mission of the Green Council are innovation and partnerships. “The Green Council is very excited to be selected as a presenter at Greenbuild 2010 this fall. Our members’ success stories are compelling at project, program and regional levels. We intend to be leaders in the on-going dialogue about sustainable infrastructure,” Mesha stated. The Green Council is interested in bringing our long-standing agency partners and consultants as well as non-traditional partners into the sustainable infrastructure conversation.

PARTNERSHIPS

The Green Council prioritizes forming partnerships with public, private and educational organizations to further their mission. These partnerships allow members to communicate their objective of both building public awareness and promoting innovative ideas.

The Illinois Tollway worked closely with the Green Council in 2009 to launch their “Building Green” program. Thirty-eight signs placed along the Tollway demonstrated to motorists the dedication taken to reduce environmental impacts while employing beneficial practices. This included recycling concrete and asphalt, reusing materials and employing ultra low-sulfur diesel fuel. It was because of the close working relationship that the Green Council had established with this member agency that they were able to quickly conceptualize, create and post these educational signs throughout the Tollway system, which included the logos of both the Tollway and the Green Council.



Anne Bigane Wilson, **Bigane Paving**, knows that recycling is not new to the paving industry but senses it may be news to the traveling public. Bigane Paving, with 18 full time staff and anywhere from 70-100 seasonal employees, has been providing their services to the City of Chicago and the region for four generations. Ms. Wilson states “we’ve been using recycled asphalt for decades.” The paving industry, according to the National Asphalt Pavement Association (NAPA) is the largest recycler in the nation. Over 80% of these materials are recycled back into future mixes.



Courtesy of S.T.A.T.E. Testing, www.statetestingllc.com

Bigane Paving partnered with the **Chicago Department of Transportation (CDOT)** to experiment with porous pavement and recycled construction materials in their Green Alleys program. As described in CDOT’s Green Alley Handbook, permeable pavement reduces the rate and quantity of stormwater runoff, reduces stress on the sewer system, recharges ground water, and filters. They note the benefits of recycled construction materials as, reducing waste hauled to landfills, reducing the need to extract virgin natural resources and developing new technologies that save money.

Bigane Paving is proactive in working with their partner agencies to work with many different materials that they are interested in exploring. They have looked at using warm mix asphalt, shingles, and ground tire rubber. Warm mix asphalt reduces the energy needed to heat the asphalt. Warm mix has increased the window of opportunity to use the asphalt in the region’s varying temperatures and climate. Ground Tire Rubber recycles a product that would otherwise pollute our landfills. Approximately, one tire is used per ton of asphalt. That means on an alley requiring 400 tons of asphalt, a landfill was spared 400 tires!

The Green Council provides a forum for industries like Bigane Paving to partner with agencies and other member businesses to seek product innovation while educating the public and other transportation agencies about the materials that are being used to improve the roadways for our residents.

PUBLIC AWARENESS AND EDUCATION

Green Council members know that public awareness and education is critical to compelling others to be green too. That's why these companies are doing what's right for our communities AND their businesses.

Ken Aldridge, CEO, **Aldridge Electric**, decided to take his family owned business in a new direction. This 400+ employee company is famous for the wind turbine they erected at their headquarters in Libertyville, IL. It generates enough to power five households. "Being more environmentally-friendly is a moral imperative and it's a business imperative." said Alex Aldridge, Project Manager – Power Division. Aldridge Electric's headquarters alone has recycled 40,000 lbs of office paper every year. They have 8 hybrid vehicles which have reduced 35 tons of CO2 to date and have seen earnings of \$25,000/year on recycled materials.

But they haven't stopped just at their front door. As an active member of the Green Council, Aldridge Electric has been able to inspire and educate others about how being environmentally proactive can be good for them as well. The website they sponsor, www.prairie-wind.org, is a resource to students of all ages to learn about renewable energy sources. Mr. Aldridge noted, "Whether it is through the Green Council or Prairie Wind, we are committed to making the public aware of how they too can be green and energy efficient."

The Will Group, on behalf of their member companies including **Lighting Solutions**, is a member of the Green Council. Michael Gold, Outside Sales Representative and Co-Chair of the Green Council's Public Awareness Committee knows that it is not just the materials on the road that can be green. The Will Group offers sustainable products used for road, site and infrastructure projects that have environmental benefits as well. Particular lighting fixtures can definitely add to a road's sustainability, measured in energy and financial savings.

In order to best articulate to their clients the benefits energy efficient lighting can give to a project, Lighting Solutions maintains a facility that they affectionately refer to as the Pole Garden. "We routinely demonstrate to clients such as municipalities, transportation agencies, engineers and even private companies firsthand the types of fixtures they can use to employ sustainable technologies in a project," explained Mr. Gold.

As an early example of sustainable roadway lighting, the **Village of Wheeling, Illinois** chose to replace almost 250 conventional fixtures throughout select residential areas with energy efficient, **Light Emitting Diode (LED)** lighting fixtures from Lighting Solutions.

The Village of Wheeling will reduce electrical power by a projected **213,761 kilowatt hours (kWh)** which also equates to a savings of **\$ 12,826.00**. Additionally, the Village eliminates the cost and disruptions of changing lamps (bulbs), igniters and ballasts at least 3 times during the lifetime of a the newly-installed LED fixtures.

Mr. Gold noted, "These types of progressive investments by municipalities make measurable differences for conserving energy and reducing operating expenses." Using a federal Energy Efficiency and Conservation Block Grant (EECBG) and



energy savings for this project, Wheeling was able to accomplish the additional goals of lower their CO2 footprint, reducing mercury emissions and achieving compliance with the Dark Skies initiatives by addressing the effect of light pollution. Village President Abruscato stated “Wheeling will use this opportunity to educate others with feedback from our program and then in turn incentivize other municipal and corporate entities to systematically reduce energy and costs plus, be Dark Skies friendly as well.” These accomplishments made by the Village of Wheeling are but a single success story that Lighting Solutions has also made incorporating sustainable lighting technology.

Lighting Solutions was also pleased to represent the Green Council in reviewing and advising on the I-LAST design manual. Mr. Gold noted, “By incorporating lighting into the design manual it provides another component to ensure that a project is reaching its full energy efficiency potential.” Lighting Solutions continues to look for ways to promote sustainability and marketing opportunities through the Green Council.

Is it time to take your business in a more environmentally-friendly direction?

Does your agency want to make a commitment to building sustainable projects and needs the expertise to know what techniques and practices to employ?

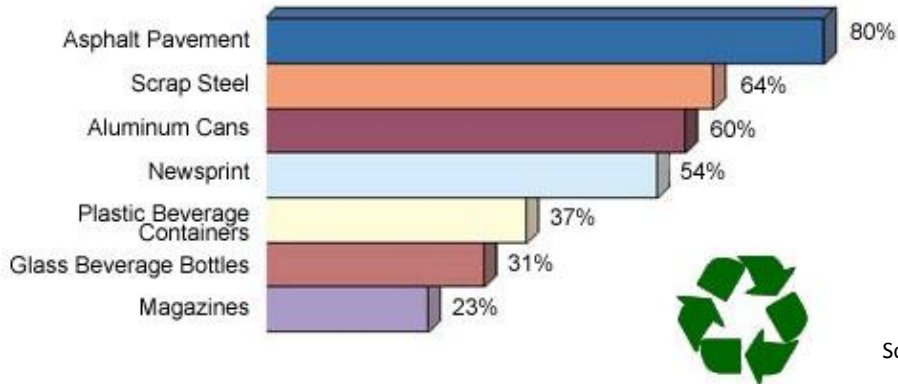
Are you a Green Council member who wants to share your story with others?

Then, contact Liz Hutnik at liz@irtba.org.

DID YOU KNOW?

Did you know the construction industry is the largest recycler in the country?

How much is recycled?



Source: EPA/Curran Contracting

Did you know

Materials experts in Illinois are experimenting with the use of recycled glass, tires, shingles, and more in the asphalt/concrete.

Did you know

Using shingles in asphalt can save \$3-\$5 per ton of asphalt.

Did you know

Recycling shingles can save the demolition contractor up to \$40 per ton of landfill fees. Recycling demolition waste decreases landfill use.

Did you know

We reuse at least 1000 tires in one mile of laid asphalt.

Did you know

That the Illinois Tollway recycles more than 5 million tons of pavement, 3.2 million tons of concrete and nearly 1.8 million tons of asphalt – enough to fill Soldier Field nearly three times. In addition, about 230,000 recycled scrap tires were used in materials for new roadway shoulders and pavement, and contractors recycled 100% of existing pavement into construction projects across 120 miles of roadway systemwide.

Did you know

That by the Illinois Tollway requiring contractors to use recycled pavement mixes and reduce the amount of virgin materials used, they were able to save nearly 4 million barrels of petroleum-based liquid asphalt. For cleaner air, the Tollway requires all contractors to use ultra-low sulfur diesel fuel on construction equipment over 50 horsepower. The use of on-site mobile crushers results in fewer trucks transporting materials in and out of construction zones, which increases safety for drivers and workers and helps improve air quality through reduced emissions.