Intelligent Transportation Systems

A bright road ahead.
IMAGINE OUR FUTURE...

More lives saved as vehicles communicate with other vehicles and road side devices to avoid crashes by automatically applying your brakes or warning you of a curve ahead, slippery road conditions, or a car running a red light.

Less time in congestion or unsafe conditions as your car automatically selects your best travel route based on real-time travel and road conditions.

Your daily commute can be stress free as the roadway automatically adapts to congestion conditions and opens additional lanes to accommodate traffic and keep speeds uniform.

Public safety response vehicles parked on the road side send signals to your vehicle in advance of an emergency scene so you know to slow down, move over, or take another route.

Continuous technological advances in Intelligent Transportation Systems (ITS) are brightening the future with safer travel and more efficient roadways. ITS integrates a range of communications-based and electronics technology into transportation infrastructure and vehicles. The “real-time” information gathered by ITS systems improves safety and increases mobility by allowing quicker incident response, informing commuters, and providing more efficient public transportation.

“Local officials and many transportation professionals use ITS as another set of tools in their tool box to help find solutions for tough congestion and safety problems,” Andy Terry, PE, ITS and Public Safety Services Leader, said. “Using advanced communications technologies to focus on congestion alone can improve traffic flow and decrease travel time, fuel usage, and even air pollution. However, ITS covers much more ground than just congestion.”

ITS can integrate fiber optic cable, sensors, and video equipment along roadways for transportation operation centers to monitor live traffic.

SEH partnered with Inrix, a provider of traffic flow information, to provide real-time traffic flow data for nearly 250 centerline miles of US 41, I-43, and WIS 172. The Wisconsin Department of Transportation will use the data to combat traffic and congestion problems.
conditions and provide up-to-date traffic messaging to travelers. It also can include small-scale intersection warning or detection devices. ITS systems provide a range of versatile features:

- Accurate real-time data about travel patterns, congestion conditions, and driver behaviors to plan for infrastructure improvements.
- Low-cost warning devices to improve safety in rural areas.
- Real-time roadway weather and traffic conditions to collect data by use of roadside devices connected to each other and network operation centers.
- Probe vehicles provide an accurate snapshot of roadway activity to help traffic management center operators manage congestion and dispatch roadway service patrols.

“ITS is responsive to changes in how we travel and the vehicles we use,” Terry said. “The auto industry has deployed a variety of in-vehicle navigation and warning technologies on which ITS can piggyback.”

Across the nation, many major metropolitan areas are undertaking multi-million dollar ITS deployments to improve freeway management.

“ITS can be deployed on smaller scales, as well. Many cities and counties have begun to improve intersection safety or monitor traffic conditions by using ITS for under $100,000,” Terry said. “ITS allows communities the technology they need to provide effective transportation management.”

For more information about Intelligent Transportation Systems, contact Andy Terry, PE, at 800.325.2055.
eighty years. our story.

When P.R. Banister opened his civil engineering business in North St. Paul, Minn., in 1927, he knew that high quality service equaled success. He probably didn’t know, however, that 80 years later, his one-person office would become a multidisciplined consulting services firm of 750 employees in nearly 30 offices across the nation, responsible for completing tens of thousands of projects for thousands of clients.

Through partnerships, shifts in leadership, office moves, and name changes, SEH’s commitment to service has remained unwavering. It was the idea of service that motivated SEH to open a second office. Under the name Banister, Short, Elliott, Hendrickson & Associates, the Chippewa Falls, Wis., office opened in 1973. From the beginning, SEH believed in the importance of having resources close to clients to provide onsite services for quick solutions and responsive communication. This mindset paved the way for opening future offices.

Nearly 20 years and 165 employees later after opening its second office, the name changed to Short Elliott Hendrickson Inc., and the idea of service evolved into a greater range of services and expertise to help better meet the challenges and opportunities facing clients. In 1992, SEH merged with architecture and engineering firm Pauly, Olsen, Bettendorf, Eastwood & Associates. With the success of the merger, leadership saw the opportunity for SEH to become a “one-stop” shop—a single-source service provider. Since then, SEH has expanded its service base through eight mergers and acquisitions.

As we wrap up our 80th year as a multidisciplined professional consulting services firm comprised of architects, engineers, scientists, and planners, we’re looking ahead to anticipate the challenges that our clients may face. Our experienced technical staff remains ready to provide trusted solutions. Like Banister, we know that we will maintain a tradition of high quality service, which will bring SEH and our clients 80 more years of success.
Every day, clients trust in our expertise and the solutions SEH provides. From those clients who have been with us since the beginning and those who recently placed trust in our services, we thank and appreciate each of you.

We’ve asked three communities—two from Minnesota and one from Wisconsin to share what they believe has kept SEH successful for 80 years, and why they continue to secure our services. Here’s what they had to say:

**City of Gaylord, Minn.**

The City of Gaylord’s relationship with SEH began in 1955 when the city selected SEH to complete their Lincoln Avenue Storm Sewer Project. Fifty-two years later SEH continues to provide services to our city. Like any other successful business, it’s the people that are the greatest asset. With SEH’s office in Gaylord, many of the employees are members of our community, and the staff has always been conscientious of our city’s needs. They will research and provide several different options for a project, and if asked, they will go “back to the drawing board” and deliver more options. The SEH staff that we work with, on a regular basis, brings to the table a wealth of knowledge, many areas of expertise, premier customer service, and integrity. I want to say thank you for the time and effort you dedicate toward our city.

—Doug Quast, Mayor

**City of Glencoe, Minn.**

SEH has always been extremely responsive to our needs. They have provided great service for almost 50 years, completing their first project in 1957. And work continues today as SEH provided engineering and construction inspection on two projects for the City of Glencoe. Together, we completed a $1.2 million stormwater and street improvement project that was the culmination of a plan started in 1991 when RCM (RCM and SEH merged in 1999) conducted a stormwater management plan. We also completed a $1 million second addition to the Glencoe industrial park, which extended streets and utilities into a new 20-acre industrial park. I think the thing that has kept SEH present in the community is the stability of their workforce. I have worked with many of the same people for nearly 19 years. The diversity of SEH has been able to provide for almost all of our needs—from water towers and wastewater treatment facilities to airports, park design, and trail plans. In fact, to be closer to our projects, SEH has had an office in Glencoe for many years. If I need them, all I have to do is walk across the street.

—Mark Larson, City Administrator

**City of New Richmond, Wis.**

Some residents remember working with Roger Short back when the firm’s name was still Banister Engineering, more than 50 years ago. And, our relationship with SEH has continued to grow since then. Because of SEH’s diverse expertise, they’ve been involved in all aspects of our community’s development, seeing each project through from inception to completion. SEH’s success is not only due to their wide range of expertise, but it’s the people who work at SEH that make the difference. They are intelligent, hard working, and personable. We seek their input, not only in engineering services, but other matters that relate to city government. In short, SEH is an outstanding company with excellent staff, and the City of New Richmond will continue to utilize them.

—Dennis Horner, City Administrator and Utility Manager
SEH’s Expertise Extends Overseas

Dan Zienty never thought his expertise in coatings inspection would lead him to another part of the world, but that’s exactly what it did. Zienty recently traveled to Shanghai, China, to provide surface preparation and protective coating inspections for PaR/Ederer Nuclear, a division of Westinghouse. Westinghouse provides fuel, services, technology, plant design, and equipment to utility customers and others in the worldwide commercial nuclear power generation industry. PaR/Ederer partnered with a Chinese government-run company called the Shanghai Crane and Conveyer Works (SCCW), charged with manufacturing four 350-ton cranes to be shipped to South Korea for placement inside the nuclear reactor vessel at their facility.

PaR’s contract with South Korea required that the crane and assemblies undergo inspection by a National Association of Corrosion Engineers (NACE) and Electric Power Research Institute (EPRI) certified and trained inspector. However, PaR/Ederer doesn’t employ an in-house coatings inspector with the required qualifications, so the company turned to SEH to inspect the surface preparation and coating application for the crane and its subcomponents. Zienty is a NACE Certified Coatings Inspector, and received additional EPRI training for this project.

The project required oversight of all surface preparation and painting application operations in accordance with both the owner’s (South Korea) specifications and the coating supplier. This included maintaining tolerance for surface profile, mixing, dry film thickness, and ambient conditions.

Zienty worked with SCCW staff, and was under the direction of PaR/Ederer, during his two tours extending over nine-weeks.

For information about protective coatings inspections, contact Dan Zienty at 800.325.2055.

Winter Driving Quiz

Are you prepared for winter driving? Take this quiz, and find out. Whether you’re a pedestrian or a driver, knowing the do’s and don’ts of winter driving can make your winter season a safe one.

Visit www.sehinc.com for the answers. (Test is provided by Response Insurance.)

1. Should you over-inflate or under-inflate your tires during cold winter months?
   a) Over-inflate, because tire pressure is lower in cold temperatures
   b) Under-inflate, because you need the added traction that comes from having more tire tread on the road
   c) Neither

2. If caught in a snow storm and you have to walk in the street, do you?
   a) Walk in the street in the same direction as the traffic
   b) Walk in the street facing oncoming traffic
   c) Neither

3. If your car is equipped with anti-lock brakes and you are skidding on snow or ice, do you?
   a) Pump the brakes repeatedly because it will keep you from going into a skid
   b) Pump the brakes repeatedly because that is how you engage the anti-lock feature
   c) Apply firm and continuous pressure to the brakes

4. The usefulness of daytime running lights has never been established as reducing the number of traffic accidents. True or False?

5. When heading down a snowy hill, should you?
   a) Come to a complete stop and then make your descent
   b) Shift into a lower gear and make a slow descent
   c) Make your decent using your brakes to slow you down

6. When sliding into a skid, is it best to?
   a) Turn the steering wheel in the direction of the skid
   b) Turn the steering wheel in the opposite direction of the skid.
   c) Turn the steering wheel straight ahead
What better time to get F.A.T. than during the holidays—
the SEH Financial Advisory Team, that is. With the start of
the legislative session just around the corner, pressure for
project funding looms on the horizon, especially when a lack
of local funding sources threaten necessary projects.

“Being aware of potential government funding sources and
understanding their complexities and requirements is half the battle
to securing necessary project funding,” Gary Lamppa, SEH’s gov-
ernment relations expert said. “Yet, many communities don’t
have the time or staff to research these programs, and as a result,
may leave eligible funding on the table.”

F.A.T., comprised of SEH community and economic development
experts, can work with you at the idea stage to help determine the avail-
ability of traditional and non-traditional funding sources, and help you
navigate the funding course. The team also can work with you once your
project is underway to determine if there are more funding options
and secure additional funding.

F.A.T. has helped numerous communities secure funding rang-
ing from $50,000 to $60 million. Currently, the F.A.T. is assisting
19 clients with projects requiring special legislative bonding in
2008. F.A.T. will accompany clients to meet with their area
legislators and assist clients through the appropriation
process throughout the legislative session.

SEH’s F.A.T. helped communities secure necessary funding:

- **FEMA U.S. Firefighter Grant** — $168,230 for training
  and equipment, St. Augusta, Minn., and $94,000 for new breakout and safety gear, Scanlon, Minn.
- **Special Federal Earmark Appropriation Water Resource Development Act** — $2.2 million, Tower, Minn.
- **A 230-acre mixed-use development** — $6.5 million in infrastructure funding, joint project of Hobart and
  Lake County, Ind., and a private developer.
- **Lake Front Park Development Project** — $6.7 million in funding, joint project of the National Park Service
  and Portage, Ind.

To learn more about funding opportunities, including project plan-
ing, project financing, regulatory requirements, tax increment financing,
and state and federal funding sources, contact
Gary Lamppa at 800.325.2055.
SEH News...

SEH Names New Firm Associates
Nine SEH employees reached the professional achievement of firm Associate. Annually, SEH selects individuals to receive this honor who demonstrate strong leadership skills, outstanding job performance, diverse expertise, and exceptional client service. New Associates include: 1–Tom Beattie, Denver, Colo.; 2–Matt Bolf, PE, Duluth, Minn.; 3–Damon Chmela, PE, Minnetonka, Minn.; 4–Randy Jenniges, PE, St. Cloud, Minn.; 5–Aaron Moniza, PE, St. Paul, Minn.; 6–Heidi Peper, St. Cloud, Minn.; 7–Randy Sanford, PE, Chippewa Falls, Wis.; 8–Jeff Saxby, PE, Appleton, Wis.; 9–Bradley Woznak, PE, CFM, St. Paul, Minn.

SEH Owners Elect Board Members
SEH, an employee-owned company, recently elected new and returning Board members. Scott Sannes, PE, will serve a three-year term on the Board of Directors. Sannes, located in Duluth, Minn., serves many roles: Arrowhead Sub-region Marketing Leader, Office Manager, and Project Manager and Client Service Manager for a wide range of federal, state, municipal, and tribal governments, as well as private and industrial clients.

CEO/President Michael Kraemer, PE, and outside Board Member Nick Muller were re-elected to each serve a three-year term on the Board. Steve Gausman, AIA, who leads the SEH Architectural Team, was appointed as Board Secretary.

Front cover photo provided by the Minnesota Department of Transportation.