SPECIAL SECTION:
SUSTAINABILITY REPORT OVERVIEW
page 13

Industrial Development
It’s about service and teamwork.
When construction crews began work in 2005 in Wytheville, Va., to build PepsiCo’s eighth Gatorade manufacturing and distribution facility, it was the culmination of years of effort by Norfolk Southern’s industrial development group and state and local economic development leaders to land the business. While the company considered sites in a number of states, Wythe County’s Progress Park emerged as the winner because of its excellent manufacturing climate and its access to reliable rail transportation.

Locating the Gatorade plant and earning the business took teamwork. To support the Wythe County Joint Industrial Development Authority’s recruitment efforts, NS’ industrial development team planned and designed rail service to the facility. Then, working with employees from transportation, engineering, marketing, and finance, NS created the right rail service package for Gatorade.

This partnership between NS and state and local economic development agencies resulted in construction of a 950,000 square-foot, $140 million facility that uses the world’s leading production equipment. The plant now employs nearly 300 people and has the potential to expand from four to eight production lines, with NS carloads of plastics, corn syrup, and sugar up 50 percent in 2008.

This is but one example of how NS’ industrial development group works to attract new business and create jobs.

With 13 offices across the system, the group works with businesses needing rail-served sites or buildings and with state and local economic development officials to attract new rail-served businesses.
“Our main goals are to locate rail-served industries along our lines by providing plant location services tailored to our customers’ needs, aid our existing industries in expansion efforts, and work to promote economic growth in the communities we serve,” said Newell Baker, assistant vice president industrial development. “We are trusted members of the economic development teams in the areas we serve.”

With three directors and 13 managers located geographically, and supported by a team of in-house engineers, the group can provide many services to communities and businesses, Baker said. Among them are project management, conceptual engineering plans, and site assistance. NS directors and managers work with locales on a geographic basis, helping to bring more business to those specific locations.

Baker said his team is attentive to information about potential business expansion or location, but most prospects are identified through state development agencies because they can provide businesses with incentives such as road construction, utilities, tax relief, and site preparation.

“Competition is fierce for new business, and states are quite willing to provide incentives because undeveloped land does not provide tax revenues or jobs,” Baker said. “It’s to their advantage to help in the most appropriate ways to increase their long-term tax base and create new jobs.”

Baker said joining state and local teams early in the development process is essential for overall success.

“We offer this service at no cost to the community. We are able to use our resources to help create jobs and grow business in many communities while we grow our revenues, and that’s good for all of us.” — Newell Baker, assistant vice president industrial development

“We’re able to answer their questions and address concerns as part of the early planning process, and that adds value to the process,” Baker said.

Jason Reiner, director of industrial development southern region, said the most attractive projects draw competition from states, cities, and other railroads.

“There are no free lunches when it comes to site location work,” he said. “You’ve got to have a team that not only can put a timely response together, but also put together some significant and creative incentive packages.”

Depending on a project’s size and potential for creating revenue for NS, the railroad may contribute incentives, such as reimbursing a company for the cost of constructing spur tracks, switches, and other infrastructure.

“These are capital investments and maintenance obligations the customer doesn’t have to take on,” Reiner said. “We comb through to understand the competitive reasons for us to participate, and we invest to make sure a project locates on our railroad instead of somebody else’s.”

The team’s technical services group, led by Mike Duff, director, has seven engineers who prepare and update information on available rail-served sites and produce conceptual plans for sites and industrial parks. NS was the first Class I railroad to include such a group as part of its industrial development efforts. The engineers are based in Roanoke, Atlanta, Harrisburg, Pa., and Indianapolis.

The group maintains a catalog of potential sites that are a mix of public, private, and NS-owned, with nearly...
3,000 sites listed, 2,000 of them are active sites with up-to-date information readily available. Baker said about 3 percent of the properties are owned by NS.

“Our job is to work to put the business on the railroad whether it’s our property or not—and this is very much a site-driven process,” Baker said. “Having good sites and making them work is key to our success.”

Requests for site location information can come from consultants working with a particular company or directly from a state economic development agency. Once a request is received, the team goes to work to identify sites that meet the criteria the company has set. When contacted directly by an industrial prospect or site location consultant, the team can provide a package of information covering a multistate area.

“We are able to provide high-quality information because we have good data on hand built on past efforts,” Baker said.

In many cases, NS can provide a local development agency, consultant, or prospect with a conceptual site plan within 24 to 48 hours. The detail shown on a site plan varies with the quality of information that can be obtained quickly, but in many cases, the plans show the proposed plant footprint, office facilities, employee and truck parking, and a conceptual rail track layout for the facility.

Because many communities do not have this capability, NS’ contribution to the overall success of a project is even more important, Baker said. “Time to market” in turning around such conceptual layouts has proven a key advantage for NS in working with communities and industrial development prospects.

“We offer this service at no cost to the community,” he said. “We are able to use our resources to help create jobs and grow business in many communities while we grow our revenues, and that’s good for all of us.”

Finding and developing good sites along NS’ rail network has become more of a challenge because many of the best sites already are developed, Duff said. Rail service can be the most restrictive part of selecting a site. The land’s topography, for example, must be at a certain grade to ensure efficient train operations, while sites too far from a main line may cost too much to develop with connecting rail spurs.

“You have to be more creative on how you find a site,” Duff said. “Years ago, a piece of property may have been too far from a main track, but now it may be viable for a large auto assembly plant, for example.”

* Left: Amcor, which makes bottles for Gatorade, operates an NS-served plant at Progress Park in Wythe County, Va.*
“We make every effort to be on top of any information that comes to us and start thinking about how best to use it to create jobs and more business for NS and the communities we serve.”

— Newell Baker, assistant vice president industrial development

In many cases, the work of Baker’s group goes well beyond transportation and logistics. A customer’s real estate, manufacturing, and human resources officials carry substantial weight when the company is deciding on the best location for a new manufacturing or distribution facility.

“We had an opportunity to compete for the Toyota assembly plant that ultimately chose a site in Tupelo, Miss., on another railroad instead of an NS-served site in Chattanooga, Tenn. The Chattanooga site had a definite advantage from a rail and truck transportation standpoint, but Toyota preferred certain work force characteristics in Tupelo, and they were strongly courted by Mississippi’s governor,” Baker said. “These were factors beyond our control.”

The efforts in Chattanooga and with Tennessee officials were far from fruitless. The work led to a much sharper approach when Volkswagen came calling two years later and chose the Chattanooga site. The new assembly plant is now under construction, and Volkswagen is accelerating consideration of expansion, given current favorable cost components because of the slow economy, which is good for NS.

“The bottom line is to work from rumor to spotting the first car,” Baker said. “We make every effort to be on top of any information that comes to us and start thinking about how best to use it to create jobs and more business for NS and the communities we serve.”

Many companies are delaying development plans because of the sluggish economy, and NS is using the time to update its site inventory and prepare for future growth, Duff said.

“The economy will come back, and we want to be sure we are ready to move quickly,” he said. “You’ve got to be able to respond within a matter of days ordinarily to keep your sites in consideration.”
Industrial Development generates revenue for NS, helps communities grow

For the grand opening at Louis Dreyfus’ $150 million soybean processing and biodiesel plant in Claypool, Ind., the governor spoke and the local high school let students out early to attend, including the marching band and the Future Farmers of America.

Members of NS’ Industrial Development group, who were heavily involved in site design and marketing the rail-served project, also showed up to celebrate. For the community, the initiative projected 70 full-time jobs and $450 million in annual purchases of Indiana-grown soybeans. For NS, it meant another line of profitable business to the bottom line, with 11,600 carloads of soybeans, soybean oil and mead, and finished bio-diesel serving the plant in 2008.

“There’s a lot of personal satisfaction in helping do something to the benefit of a community or state, but the corporate part of it is growing the revenue on Norfolk Southern,” said Bob Bowling, director of industrial development central region, which includes Indiana.

“Industrial development is really the lifeblood of Norfolk Southern,” he added. “It’s important that we continually refresh our traffic base by bringing on new industry, and it’s our role to help facilitate that. There’s never a chance to rest; you’re never finished.”

NS in 2008 participated in the development of new plants or expansions by railroad customers representing investments of more than $2.2 billion and projected creation of 3,623 jobs. NS anticipates more than 136,000 carloads annually of new
Norfolk Southern’s industrial development folks were an important part of conceiving and evaluating the potential for rail service, including potential layouts and getting spurs into the park. They’re also important partners as we move forward in our marketing efforts of the park.”

— Alan Hawthorne, executive director of the Wythe County Joint Industrial Development Authority

rail traffic as a result.

Over the past decade, NS’ industrial development team has been involved with some of the largest economic development projects east of the Mississippi, participating in the location or expansion of 1,115 facilities representing an investment of $23.6 billion and creation of nearly 55,000 customer jobs. In recent years those projects included a ThyssenKrupp steel plant, a $4.2 billion project on 3,500 acres near Mobile, Ala., in the railroad’s southern region, and a nearly $1 billion VW plant outside Chattanooga, Tenn., in the central region.

Because moving goods by train is more fuel efficient and environmentally friendly than by truck, NS is getting more inquiries from companies interested in converting their freight from highway to rail, said Roger Bennett, director of industrial development mid-Atlantic region. That includes a new type of customer interested in locating a warehouse or distribution facility near an NS intermodal terminal.

“In the past, we’ve generally only worked with customers who are going to build a rail spur to their manufacturing facility or warehouse,” Bennett said. “Now we’re developing strategies to work with companies that may not have direct rail service, but have significant opportunity to generate rail traffic via our intermodal services.”

Currently, industrial development is assisting the railroad’s agriculture marketing group to expand NS’ reach into the food products market, said Jason Reiner, director industrial development southern region. Recent successes include selection.
by Golden State Foods of NS-served sites in North Carolina and South Carolina for cold-storage facilities. The railroad will haul such goods as frozen french fries, cheese, and other goods in refrigerated cars known as reefers.

Another promising industry segment for NS is the landfill business, including construction debris and municipal solid waste known as urban ore. Many landfills in the northeast are filling up, and opportunities exist for rail-served rural communities in the South and Mid-Atlantic to dispose of that waste. “These are good deals, not only for the jobs they bring but also for the per-ton tipping fees these communities get paid,” Reiner said. “It can add up to be a lot of money.”

Economic development officials in NS-served communities say the railroad has been a key partner to help attract new industry or accommodate the expansion of existing businesses. Often, it takes years of work for a project to bear fruit.

NS worked with officials in Wythe County, Va., for a decade to help them plan and market rail-served Progress Park. The 1,200-acre industrial site, located in NS’ mid-Atlantic region, now houses a $140 million Gatorade beverage plant that employs around 300. Amcor, which makes plastic bottles for Gatorade, and Lane Pipe, a producer of high-density polyethylene pipes, have recently added new rail-served facilities in the park.

“For all of those projects, if you couldn’t make the rail work, and work in a cost-effective manner, those companies would not be here,” said Alan Hawthorne, executive director of the Wythe County Joint Industrial Development Authority. “Norfolk Southern’s industrial development folks were an important part of conceiving and evaluating the potential for rail service, including potential layouts and getting spurs into the park. They’re also important partners as we move forward in our marketing efforts of the park.”

In Chattanooga, NS last year helped local officials land the VW auto plant, the largest economic development project in the community’s history, said Trevor Hamilton, vice president economic development for the Chattanooga Area Chamber of Commerce.

Besides working on site designs for the property, which once housed a World War II-era Army arsenal, NS brought another “value-add” with its knowledge of serving the auto industry, Hamilton said.

“NS stepped up as a team player and participated very directly in our involvement with VW and their consultant, and was a key part of our logistics team in helping us demonstrate the competitive advantages of our site,” Hamilton said. “We find that NS ‘gets it’ when it comes to economic development, and it’s very helpful to have partners that understand that process.”

Such success requires cooperation among many NS departments, Bowling said. “Economic development is a team sport,” he said, “and it takes everybody working together to pull off one of these projects.”

- Top: Biodiesel is a growing commodity line for Norfolk Southern.
- Left: ThyssenKrupp is building a plant on 3,500 acres near Mobile, Ala., to manufacture steel products such as these.
In January 2008, Korean tire maker Kumho Tire announced plans for its first U.S. manufacturing plant, a $225 million project expected to create 450 high-paying jobs, on land Norfolk Southern had owned since the 1950s.

The groundwork for the deal, however, was laid seven years earlier inside a popular Macon, Ga., cafe. Over eggs and coffee, officials from NS’ Industrial Development group and local economic development agencies talked about how to make the land more marketable.

While it had great location close to downtown Macon, an interstate highway, and major rail connections to Florida and the port of Savannah, Ga., the site had a problem. The only access was through a residential neighborhood, which local officials knew would be a tough sell politically.

Out of that breakfast meeting came a solution: NS and local officials agreed to a plan to finance construction of a new access road. That cooperative relationship proved key to landing Kumho, said Pat Topping, senior vice president of the Macon Economic Development Commission. “The big thing was Norfolk Southern’s willingness to get creative with us, and figure out how we could do a joint venture on that,” Topping said. “That was a major advantage for us.”

NS’ involvement in negotiations with Kumho, Topping added, helped ensure that the company did not pick an alternative site served by a competing railroad in a neighboring state.

In March, the Macon Area Chamber of Commerce named NS as co-winner of its 2009 Award for Economic Development, recognizing the railroad’s teamwork to prepare and market the site. The Macon Water Authority and the Macon-Bibb County Industrial Authority shared the award.
“Success in this business is defined by how well the team works together,” said Jason Reiner, director industrial development of NS’ southern region.

Landing the international company is expected to serve as a catalyst for the 660-acre Macon tract, now called Sofkee Industrial Park. While Kumho has delayed construction on its 130-acre site because of the recession, the project is still planned, Topping said. It is expected to draw about five companies that will provide supplies to the plant, adding a couple hundred more jobs and millions more of investment.

When the tire plant begins operations, NS will transport materials used to make tires, including carbon black and extender oils, which Reiner described as a low-volume but high-value business.

Because the railroad owned the site, NS’ Real Estate Department worked closely on the Kumho deal. To enhance its marketability and prepare the site for an end user, the property had been farmed and timbered over the years, said Steve Portnell, director real estate.

Now, the value of the remaining acreage has risen substantially for NS, especially since utilities installed for Kumho can be used by future tenants, Reiner said. “We have a rail-served industrial park with several very good sites to attract new business, and that’s key to what we do,” he said. “The other key is enhancing the value of a company asset and bringing cash to the bottom line as we sell property. Our goal is not to do just one deal, but to leverage that into higher value. That way, it benefits not only the community, but NS as well.” — BizNS
Ryan Hegarty, a 2009 civil engineering graduate from Georgia Tech, declined job offers from two international design and engineering firms to join Norfolk Southern’s Industrial Development group in July.

At 23, the management trainee can see himself making a career at the railroad — and he’s off to a running start.

As a co-op with Industrial Development’s technical services team in Atlanta last year, Hegarty played a part in efforts that resulted in Volkswagen choosing an NS-served site in Chattanooga, Tenn., for a 2 million-square-foot auto plant.

Working under a five-week deadline, the department had to produce design plans for a dozen potential sites to show how rail would serve an auto plant, said Daniel Piotrowski, manager engineering development and one of Hegarty’s supervisors. He gave Hegarty the responsibility to develop computer-assisted conceptual designs for two of the sites. One, in Michigan, wound up on VW’s list of three finalists.

That’s an accomplishment unheard of for a co-op, Piotrowski said.

“I really never had an example where we would entrust a co-op with such a large project, but Ryan had proven himself,” he said. “Ryan had a fantastic work ethic and was such a fast learner that he was able to walk in and become a productive employee in a very short amount of time.”

Largely as a result of that project, Georgia Tech named Hegarty its 2008 Intern of the Year in April. “He academically excelled here at Georgia Tech, and he received such a stellar recommendation from Daniel that he really stood out,” said Ann Blasick, assistant director of the university’s intern and co-op program.

Growing up in Tampa, Fla., the son of a newspaper reporter and social worker, Hegarty said he had never considered working for a railroad. Until Piotrowski and Alan Sisk, system manager engineering services, sold him on doing a summer co-op, he never knew that NS had an industrial development department.

He was surprised at NS’ use of computer technology, such as MicroStation 3-D rendering software and Google SketchUp, allowing the department to overlay models of buildings and rail tracks on aerial photos.

He loved the work, which involves a mix of research, engineering, and marketing skills.

“You have to know about land topography, geometry, and physics to move trains, so we have to design a plan we know will work,” Hegarty said. “But our work doesn’t end with the design. We also have to sell that solution to the client.”

Hegarty is one of 144 management trainees NS has hired in 2009 through July. Working for Norfolk Southern, he said, gives him a great sense of worth.

“We help U.S. companies move goods from one place to another, and we have a sustainable business model, which is important to NS’ continued success. We help create jobs and boost local economies. I don’t know what’s not to like,” he said.

The camaraderie among NS technical services team members factored into Hegarty’s decision to accept the railroad’s job offer over two high-profile engineering firms. Shortly after becoming a co-op, he took up golf because his supervisors played, and he thought it could give him an edge in the corporate world. Asked about Hegarty’s golfing handicap, Piotrowski gave him a ribbing: “His swing,” he said.

Hegarty said the potential for career advancement at NS was another attraction, pointing out that CEO Wick Moorman is a Georgia Tech engineering grad. “He also worked as a co-op with the railroad,” Hegarty added, “so I think my career is off to an OK start.”
Norfolk Southern is committed to responsible economic, environmental, and social business practices. This four-page pullout section highlights the company's second annual sustainability report, now available on the Norfolk Southern Web site at www.nscorp.com/footprints. This section also is available as a handout available through the Corporate Communications Department.
When we issued Norfolk Southern’s first sustainability report last year, I wrote that in future reports, we would document continuous progress and improvement in our sustainability efforts. As the title of this report notes, we now take a closer look at our long-term commitment to responsible economic, environmental, and social business practices. We have made good progress. I’d like to mention a few highlights of what you’ll find in the pages that follow.

Key Accomplishments

For the first time in this report, we document the calculation of Norfolk Southern’s carbon footprint, which is a measurement of the greenhouse gas emissions generated by our business operations. This is an important indicator that establishes a baseline for future improvement. Disclosure also demonstrates to our customers, communities, employees, and investors the seriousness of our intent to be good environmental stewards. It signals our commitment to expand the measurement and reporting of our sustainability performance, based on the widely recognized guidelines of the Global Reporting Initiative.

Also since issuing our first report last year, we have continued efforts on several fronts to increase our fuel efficiency and reduce greenhouse emissions. Improved information systems are helping us enhance our systemwide operating plan for running trains even more reliably and consistently. Combined with leading-edge locomotive and idle reduction technologies, and other initiatives, these efforts have led to improvements in fuel economy of almost 3 percent over the last year, and 10 percent over the last decade.

Over the past year, we completed the first phase of our systemwide lighting improvement project covering 600 buildings and yard facilities at 300 locations. The upgrade is reducing energy consumption and our carbon footprint at those locations. We also increased research and development of alternative energy sources, installing a second wind turbine to power a wastewater treatment plant, and we are incorporating green building techniques in some new construction.

Underscoring our environmental stewardship was our donation of a conservation easement protecting more than 12,000 acres of forested land near Charleston, S.C. The property harbors endangered red-cockaded woodpeckers among one of the nation’s largest stands of longleaf pines. We’re delighted the land will be preserved for future generations.

Safety is Norfolk Southern’s first priority. Our employees have led the industry in safety for two decades, this year earning the company’s 20th consecutive E.H. Harriman Gold Medal in recognition of their tremendous achievement. The company this past year launched an employee wellness program that complements our safety focus. Raising awareness of health and wellness helps provide an attractive work environment for our people and for those who are looking for the best place to launch their careers.

Our people make this company successful – from safety to sustainability. This report describes some of the many ways they have embraced responsible business practices that will help ensure the ongoing strength of our company, the livability of their communities, and the quality of their lives.

The progress we have made is a beginning. As this report outlines, we and our partners in business and in the public sector are working on some far-reaching, long-term initiatives that will translate into big public benefits, including green jobs, further reductions in fuel consumption and emissions, and less highway congestion – thanks to the environmental and economic advantages of transportation by rail.

Wick Moorman
Chairman, President and Chief Executive Officer
Norfolk Southern Corporation
For the first time, taking a measure of our carbon footprint

In 2008, Norfolk Southern operations generated emissions of approximately 5.5 million metric tons of carbon dioxide equivalents.

➤ About 90 percent – 4.9 million metric tons – came from diesel-burning locomotives, the railroad’s workhorses.

➤ Around 6 percent – 333,760 metric tons – came from the power that utilities generated to supply NS-owned and leased facilities with electricity.

➤ The remainder came from gasoline and other fossil fuels burned by company vehicles, aircraft, and other incidental uses.

For comparison, total emissions of carbon dioxide equivalents in the United States in 2007, the latest year available, amounted to 19.9 million metric tons per day, or 7.2 billion metric tons for the year.

U.S. railroads offer shippers a quick and easy way to reduce their own carbon footprints. Locomotives emit around two-thirds less greenhouse gases than trucks. If 10 percent of long-distance freight now moving by truck were shifted to rail, U.S. greenhouse gas emissions would drop by more than 12 million tons annually – equal to taking 2 million vehicles off highways.

Snapshots of Norfolk Southern’s performance

➤ Transported a ton of freight an average of 405 miles on a gallon of diesel in 2008, a 3 percent improvement over the 2007 average of 394 ton-miles.

➤ Replaced 3 million crossties in 2008, up from 2.8 million in 2007, and used 1.4 million crossties for energy recovery, up from 1.1 million.

➤ Kept 566,920 pounds of lead out of landfills through recycling.

➤ Replaced 459 miles of rail in 2008, up from 401 miles.

➤ Launched WellNS in late 2008, a voluntary wellness program that helps employees maintain healthy lifestyles.

➤ Contributed $5.1 million to charitable community organizations, up 3.9 percent.

➤ Completed the first phase of a systemwide lighting upgrade, generating projected savings of $4.3 million, an internal rate of return of 56 percent, and an 87 million pound reduction in carbon-dioxide emissions.

Corridor projects offer a green transportation solution

Norfolk Southern continues to invest in its rail network, focusing on intermodal corridors that reduce traffic congestion and carbon emissions by taking trucks off the highways. In 2008 through August 2009, the railroad:

➤ Announced plans to construct intermodal terminals in Memphis, Tenn., McCalla, Ala., and Greencastle, Pa., to serve the Crescent Corridor, a 2,500-mile rail network designed to move freight faster and more reliably between the Southeast and Northeast.

➤ Opened the 275-acre Rickenbacker intermodal terminal in Columbus, Ohio, to speed traffic from Hampton Roads, Va., port terminals to the Midwest.

➤ Opened a new intermodal terminal in Titusville, Fla.

➤ Announced a partnership with Canadian National Railway Company to improve rail capacity and service for merchandise moving between the Midwest and Southeast.

➤ Entered a joint venture with Pan Am Railway to improve rail service in New England.

➤ Joined with 10 short line railroads to form the Empire Link, an initiative to convert short-haul truck movements to rail in New York, Pennsylvania, and New Jersey.

Taking the initiative on sustainability

➤ At its Sheffield Yard in Alabama, Norfolk Southern is constructing a wastewater treatment plant that is the railroad’s first building to incorporate green building techniques, including recycled materials and skylights to minimize electricity use. It serves as a demonstration project to encourage initiatives that make NS greener.

➤ Along with its coal and utility customers, NS is supporting efforts to reduce carbon emissions that rely on clean-coal technologies and incentives to shift more freight from highway to rail.

➤ In one of the largest land gifts in the Southeast, NS in 2008 donated a conservation easement to protect more than 12,000 acres of forest lands it owns in South Carolina’s rapidly developing coastal region. The donation protects one of the world’s largest colonies of endangered red-cockaded woodpeckers and a rare longleaf pine forest.
Norfolk Southern launched its sustainability efforts in December 2007, naming the rail industry’s first sustainability officer with the goal to lead the industry in fuel conservation, emissions reduction, efficient energy use, recycling, use of renewable materials, and environmental partnerships.

Blair Wimbush, vice president real estate and corporate sustainability officer, heads an NS Sustainability Task Force, comprising employees from legal, corporate communications, intermodal, market research and economics, environmental engineering and audits, and operations. The task force’s charge is to measure and manage NS’ environmental impacts and to strengthen relationships with employees and community, business, and environmental stakeholders.
Lean and Six Sigma –
Business processes worth getting to know:

NS is improving operations, saving big dollars

If you’re only vaguely familiar with Lean and Six Sigma, don’t dismiss them as arcane business concepts that apply only to manufacturing companies. Turns out, the tools are pretty good for running a railroad.

Since Norfolk Southern began using Six Sigma strategies in 2002, the company has completed 188 projects with estimated benefits, including cost savings, of more than $109 million. Since introducing Lean at five locomotive repair shops in mid-2007, NS has reduced the average dwell time for routine locomotive maintenance by 20 percent. Already, that’s saving NS more than $5.5 million a year.

Besides improving the bottom line, they have increased the railroad’s value to customers and opened doors to more business, said Terry Evans, vice president process engineering.

“Lean and Six Sigma now are part of the NS culture,” Evans said. “We have trained and continue to train our employees in these processes. They are making NS more efficient and effective, and are helping us control costs and improve customer service.”

In practice, Six Sigma is used to help fix problems or defects in a process. Lean weeds out waste or inefficiencies, regardless of whether a problem has been identified. NS is using both to achieve the same goal — to improve operations and better meet customer expectations.

“It starts with customer requirements and it ends with customer satisfaction,” said Mark Smyre, manager quality process improvement.

Lean began gaining currency with U.S. companies after Toyota’s success adapting it to auto plants. Motorola began developing Six Sigma in the late 1970s to improve its manufacturing processes, but it grew in popularity after General Electric in the mid-’90s made Six Sigma central to its quality management.

GE introduced Six Sigma to NS in 2001, offering training and assisting with a few demonstration projects, said Barry Gillespie, director quality management.
While starting in operations departments, NS is expanding Lean and Six Sigma throughout the system.

In March, NS filled 11 new full-time Six Sigma job positions, known as supervisor process improvement, for each of the railroad’s divisions. The initial projects these supervisors are overseeing should generate annual savings of around $11 million, Gillespie said.

One project, led by Bill Herald, supervisor process improvement Central Division, will streamline how NS delivers corn to a Tate & Lyle grain plant in Loudon, Tenn. The solution includes establishing a local train crew to run scheduled service between Knoxville and the plant, a 60-mile round-trip, instead of ferrying on-call road crews back and forth in taxis. NS projects saving $3.6 million annually.

“We’re going from an average turnaround time of 92 hours to 26 hours for these trains,” Herald said. “Besides saving on taxi and crew costs, the biggest savings are in better utilization of locomotives and rail cars.”

Tate & Lyle, which is expanding its biofuels business, will get more corn shipments without adding more rail cars and will be able to plan operations around reliable delivery times, Herald said.

On the Virginia Division, Susan Decker, supervisor process improvement, is leading a project to reduce delays and increase the number of coal cars dumped per shift at the Lamberts Point coal pier.

“If we’re dumping coal efficiently and hitting our goal each shift, we don’t have to call in an extra crew to dump cars left over from a previous shift,” Decker said.

Changes being made are expected to save $1.3 million a year in reduced crew costs alone. When the coal business recovers from the global recession, NS should see payoffs in better utilization of coal cars as well, Decker said.

On the other divisions, projects are under way to reduce the cycle time of trains serving coal mines, to lower road crew taxi costs, and to improve crew utilization by eliminating unnecessary car movements.

“New supervisors are spreading the savings

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NS rail shops and yards get Lean

With Lean, NS has focused on locomotive maintenance and rail yard operations.

“The locomotive routine maintenance lines are as close to a manufacturing process that we have,” said Doug Corbin, director locomotive maintenance. “The locomotives come in, they move down a process line to get specific work done, and at the end of the line they get washed and go back out to the railroad to pull freight.”

In yard operations, a key goal is to improve the on-time performance of freight deliveries by speeding the flow of rail cars in and out of hump yards.

NS launched Lean at the Shaffers Crossing, Conway, Juniata, Enola, and Chattanooga locomotive maintenance shops. They use a Lean approach called kaizen, a Japanese word that translates into continuous improvement. During kaizen events, shop management and agreement employees map out work processes using sticky notes, writing down and organizing tasks performed on maintenance lines to identify and eliminate bottlenecks.

“Our agreement employees are very much involved, and when they’re making improvements in what they do day to day, it gives them ownership,” Smyre said. “This also increases their safety awareness, because they are looking at a process from the beginning to the end.”

A key improvement has been better organized shops, with material and tools conveniently arranged and stored, Corbin said. Lean also has helped ensure that the shops’ work force – machinists, electricians, pipefitters, carmen, and laborers – are all positioned where they’re most needed as locomotives move down the routine maintenance line.

Locomotives now are spending less time in the shop and more time pulling freight. That’s a major cost savings because NS can run more trains without buying more locomotives.

Additionally, shop crews can focus more on preventive maintenance. Early efforts include studying breakdowns that occur within 10 days after a locomotive undergoes routine maintenance. “The shop craft employees are looking at what they can do during routine maintenance to identify probable failures, and what additional maintenance is needed to make corrections before we let a locomotive go,” Corbin said.

Some shops have seen dramatic drops in failures. Shaffers Crossing, for example, has reduced air brake failures in recently maintained locomotives by 86 percent. NS is constructing facilities at Shaffers Crossing and Conway designed to streamline required scheduled locomotive maintenance. “It’ll be the Jiffy Lube of locomotive maintenance,” Corbin said, adding that NS might build more if they’re as efficient as expected.

As Lean and Six Sigma spread, NS is seeing benefits well beyond savings and improved customer service.

“I think we have created a better workplace for our employees and created more knowledgeable employees in the process,” Corbin said, “and I think we’ve only scratched the surface.”
Norfolk Southern’s $2.5 billion Crescent Corridor initiative will increase rail capacity and speed delivery of domestic intermodal freight, but the public-private partnership also will create significant opportunities for economic growth.

The project is designed to attract freight from the highway to rail for goods moving between the Southeast and Northeast over the 2,500-mile corridor.

This summer, NS announced locations of new intermodal terminals in Alabama, Tennessee, and Pennsylvania. The potential benefits for the host communities and states are substantial.

“These new intermodal terminals will be large, capable state-of-the-art facilities designed to anchor logistics centers, and we expect them to be jobs magnets,” said Bill Schafer, director strategic planning. “Companies that operate manufacturing, distribution, and warehousing businesses will want to locate close to them, and there’s plenty of land around each of these terminals planned for these purposes. So they’re quite the growth engines.”

In Alabama, a $112 million terminal planned in McCalla, to serve the Birmingham region, is projected to create or benefit more than 8,000 jobs by 2020, with a cumulative economic benefit of more than $4 billion.
In Tennessee, a $129 million terminal in Rossville, to serve the Memphis region, is expected to create or benefit 6,200 jobs by 2020, with a cumulative economic impact of more than $2.7 billion.

In Pennsylvania, the rail corridor network is expected to create or benefit 26,000 jobs over 10 years, spurred by a $95 million intermodal terminal planned in Greencastle, Pa., and upgrades to existing intermodal terminals in Harrisburg, Philadelphia, and the Lehigh Valley.

Opening dates of the three new terminals are targeted for late 2011 in Pennsylvania and for 2012 in Alabama and Tennessee.

In addition to new terminals, other systemwide corridor improvements include straightening curves, adding passing tracks, and enhancing signal systems.

Intermodal freight refers to consumer goods shipped by at least two modes of transportation, including trains, trucks, and ships. The Crescent Corridor will give NS the capacity it needs to convert truck freight to rail for shipping distances of more than 500 miles between the Southeast and the Northeast.

With increased train speed and reliability, NS anticipates the Crescent Corridor will draw more than 1 million trucks annually off interstate highways along the corridor, including I-40, I-75, I-81, I-85, I-20, and I-59. That will reduce traffic congestion and improve the environment, because fuel-efficient trains burn less diesel per ton mile and emit up to two-thirds fewer greenhouse gases than trucks.

Trucking companies now rely heavily on rail intermodal services to reduce their own shipping costs, and the Crescent Corridor will give them more reasons to use rail, Schafer said.

“This isn’t a field of dreams,” he said. “We know the trucking companies will come when we build these facilities, because they’ve been asking us for years to add this kind of service between the Southeast and the Northeast.”

The new Birmingham terminal, Schafer said, will serve as an “anchor” for the corridor leg that comes down from Charlotte and Atlanta, while the Memphis terminal will anchor the leg that runs through Bristol and Knoxville. Currently, Memphis is served by an antiquated facility surrounded by residential neighborhoods, while a terminal in Birmingham is so tiny it almost doesn’t exist, he added.

“We can’t offer premium domestic intermodal service on the corridor until we have these terminals in place,” Schafer said. “Currently, we don’t have the capacity, the reliability, or the speed for running a premium service the truckers will buy.”

Through public-private partnerships with states along the route, NS is working to secure commitments for public financing of infrastructure improvements that directly benefit taxpayers, such as by creating jobs, easing traffic congestion, and reducing pollution and highway maintenance costs.

NS’ contribution to local and state economies already is substantial.

In Tennessee, NS employs about 1,800 and annually pays $24 million in local and state taxes. Over the past decade, NS has attracted $163 million in business investment, and recently helped state officials secure two $1 billion projects – a VW plant and a Wacker Chemie AG chemical facility.

In Alabama, NS employs 1,800 and annually pays $19.7 million in local and state taxes. In the past decade, NS attracted $3.65 billion in business investment, which created an estimated 10,600 jobs.

In late 2007, NS helped state officials recruit ThyssenKrupp Steel, a German-based steel maker that is building an estimated $4.2 billion plant, and recruited Stainless USA, LLC. ■ BizNS
NS teams with APM Terminals for military business, aims for intermodal growth at Virginia ports

At times, the U.S. military appears to have invaded Norfolk Southern’s terminal in Elkhart, Ind., with hundreds of armored Humvees lining the auto ramp.

Over four years, as the wars in Iraq and Afghanistan stoked demand from the Pentagon, the movement of these super-size military vehicles through Elkhart increased more than eighteenfold, from 179 rail carloads in 2004 to 3,254 carloads last year. Through June of this year, Elkhart has moved an additional 1,667 carloads – or around 8,330 vehicles.

A new line of business launched last fall has sent more than 370 carloads, or around 1,850 Humvees, to APM Terminals Virginia, a new intermodal port facility in Portsmouth, Va. From there, the Humvees have been shipped on freight vessels to Pakistan, and moved over road to Afghanistan.

NS transports those vehicles under contract with Maersk Line Ltd., a maritime shipper of military goods and sister company to APM Terminals. It’s not typical cargo for the APMT facility, which is designed to handle trailer-size intermodal containers rather than individual pieces of freight such as automobiles.

But NS’ Doug Thompson saw an opportunity. Working with Maersk, APMT, and Jeff Heller, NS’ group vice president international intermodal, Thompson put the product line together.

“It has worked very well and will probably help Maersk and Norfolk Southern build business for handling military cargo through the APM terminal,” said Thompson, senior account manager industrial products.

APMT has dedicated one of its six on-dock rail tracks to receive the Humvees, offloading them with forklifts onto flat metal racks and then hoisting them by crane onto ships.

“It’s way out of the box, and Norfolk Southern has been really open to those kinds of ideas,” said Gary Van Tassel, APMT’s rail operations manager.
When NS began moving Humvees through Elkhart in 2004, it hauled many under a Defense Department contract to a U.S. military port in Charleston, S.C., where they were shipped on government vessels to Iraq.

For Maersk, NS transports Humvees manufactured at an AM General Corp. assembly plant in Mishawaka, Ind. An NS contractor drives them a few miles from the auto factory to Elkhart.

The Mishawaka plant turns out about 85 Humvees a day, and NS transports 85 percent of them by rail, said Paul Wheat, NS assistant manager customer service operations. The Elkhart terminal’s large parking lot is used to store the vehicles until delivery, providing a service for AM General and smoothing out the supply chain for both the manufacturer and NS customers such as Maersk, Wheat said.

The Humvees are shipped five to a rail car, with about 200 vehicles on trains traveling to the APM terminal. Nearly 100 trucks would be needed to move the same number of Humvees, a factor weighing in favor of rail.

“It would really be hard to even find that amount of trucking power to do it,” Van Tassel said. “Plus, from an operational standpoint, it’s easier with rail to manage how they get to the ship. It gets very difficult trying to track that many truckers.”

Besides military cargo, Heller said NS is bullish on growing its intermodal business in Hampton Roads at the APMT facility and at nearby state-run port terminals. To accommodate that, NS has invested heavily in infrastructure improvements, including a public-private partnership to expand capacity on the Heartland Corridor to speed service between the port and Midwest markets.

While international intermodal traffic is down this year due to the global recession, Heller said NS will be well-positioned when the economy recovers.

“With the new APMT facility and the state port terminals, we have significant marine infrastructure capacity. It ties directly into our strategy for East Coast growth and complements our additional rail capacity.”

– Jeff Heller, group vice president international intermodal

“NS serves APMT’s new terminal in Portsmouth, Va.
Giant brain bringing safety message invades Indiana

If people in Indiana thought they were seeing things when they saw a giant brain walking around, they were not mistaken. Norfolk Southern’s lovable but hapless lump of gray matter, Brainy, was making the rounds to remind people of the company’s “Train Your Brain” safety campaign.

Brainy does not have to say a word to remind people of the dangers of trespassing on railroad property or avoiding accidents at highway-rail grade crossings.

In the third year of NS’ unconventional safety campaign, Brainy seems to have reached new heights of popularity in northern Indiana, reaching tens of thousands of fans. Brainy has appeared at the Potato Creek Festival in North Liberty, the St. Joseph County 4-H Fair in South Bend, the 54th Annual Summer Festival Parade in Michigan City, the Elkhart 4-H County Fair in Goshen, the Delaware County Fair, and the World Pulse Festival in South Bend. Brainy also showed up for NS’ Operation Lifesaver train in Muncie.

Despite a busy schedule, Brainy even managed to leave Indiana for special appearances in Norfolk, Va., dropping in on a meeting of the NS Grade Crossing Oversight Committee and visiting a class of operations supervisor trainee employees, and at Harrisonburg, Va., spreading the safety message among students on the campus of James Madison University.

Brainy greeted David Julian, vice president safety and environmental, at the Grade Crossing Oversight Committee meeting.

“Brainy is a great new mascot gaining the attention of both the young and adults, reminding them to train their brain — pay attention, don’t get confused, and make the decision to wait until they can safely proceed once the way is clear,” Julian said. “Norfolk Southern, through the Safety and Environmental department and the Grade Crossing Oversight Committee, complements its decades-long support of highway-rail crossing safety with this novel ‘Train Your Brain’ safety campaign. We’re targeting high-incidence markets with heavy concentrations of young people, particularly college students — thus its unusual and nontraditional approach and use of new social media such as Facebook.”
Numerous scheduled appearances on the University of Notre Dame campus will no doubt have people clamoring for Brainy T-shirts and for photos with the cerebral, leotard-clad character. Those who miss Brainy in person can visit the Web site at www.brainysworld.com and Brainy’s Facebook page to check out Brainy’s life-saving safety tips.

Indiana was chosen as a target for the Train Your Brain campaign because it is a high-incidence state for train-vehicle crashes and trespass injuries. With many quiet zone areas – where trains do not sound warning horns at highway-rail grade crossings – advertising messages remind people to slow down, look, and always expect a train. The messages can be found on outdoor billboards, gas pump ads, convenience store outdoor ice chest wraps, radio announcements, movie theater pre-show slides, Facebook ads, Notre Dame and Ball State University campus signage, campus athletic Web sites, and in campus newspaper ads.

At Indiana events thus far, the campaign has been seen by tens of thousands of people, who received an array of safety materials, including brain-shaped stress balls, car decals, children’s puzzle sheets, and T-shirts featuring an image of Brainy, the Train Your Brain logo, and tag line, “Be smart at RR crossings.”

Norfolk Southern launched Train Your Brain in 2007 in Memphis, Tenn., and took the campaign to Raleigh, N.C., in 2008. The message is simple: Think smart at highway-rail grade crossings, and stay off railroad property and equipment. More information is available on the "brainysworld" Web site.

Brain-shaped stress-ball key chains are available for purchase at Norfolk Southern’s online company store at www.nscorp.com.

Norfolk Southern, along with other major railroad companies, also sponsors “Common Sense,” a safety campaign to reduce the number of pedestrians killed and injured when trespassing around tracks and trains. Common Sense was launched in June by Operation Lifesaver, Inc., a national nonprofit safety education group working to eliminate deaths and injuries at railroad crossings and along railroad rights of way.

“Operation Lifesaver is an extremely important grade crossing education and awareness campaign that has succeeded over many decades to help motorists and the general public understand the potential dangers and risk avoidance when crossing railroad tracks,” Julian said. “This training has saved thousands of lives from injury or death as evidenced by the reduction in such incidents. We owe much gratitude to the Operation Lifesaver national organization and those railroad employees and volunteers who have led this training process and achieved these positive results. Yet it is an ongoing process, important as new and experienced drivers along with pedestrians are exposed to safe conditions that can turn to tragic events through lack of attention or taking a chance to beat the train.”

“Brainy is a great new mascot gaining the attention of both the young and adults, reminding them to train their brain – pay attention, don’t get confused, and make the decision to wait until they may safely proceed once the way is clear.”

— David Julian, vice president safety and environmental

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Left: Brainy wows them at the Potato Creek Festival in North Liberty, Ind.

Brainy surprised David Julian, vp safety and environmental, at the Grade Crossing Oversight Committee meeting in Norfolk.

Brainy brought his safety message to fans at the World Pulse Festival in South Bend, Ind.
Next-generation dispatching system will streamline operations

Norfolk Southern’s Unified Train Control System, the company’s next-generation dispatching system, will help to improve customer service and the use of NS resources and assets. It is currently in place on the Alabama, Georgia, and Piedmont divisions. UTCS replaces existing equipment with networked computer-aided dispatching work stations that, fed by current tactical NS systems, will provide a seamless transportation management system.

“There is little integration among systems such as Thoroughbred Yard Enterprise System, the Crew Management system, the Train Service Register and the dispatching system, making it more difficult to efficiently move our trains,” said Dan Plonk, director transportation planning. “Working with systems that don’t share information wastes time and impedes our ability to better serve our customers.”

Plonk said the older dispatching system has several sub-systems – signaled and non-signaled area control, train detail such as tonnage, and crew information, as well as bulletin items such as slow orders – making the dispatcher’s job that much more difficult.

“For example, when a track supervisor calls in a slow order, the dispatcher has to write it down, figure out which trains need but don’t have the item yet, and manually track the timely delivery of the speed restriction,” Plonk said. “In UTCS, bulletins are input as they are received from maintenance of way personnel, and the system tracks which trains still need the information. UTCS will not allow a signal to clear on the speed-restricted track until the bulletin has been delivered. This keeps the dispatcher focused on planning and execution.”

Plonk said UTCS also provides superior disaster recoverability. “With the old system, if a division dispatching office is unable to operate due to a catastrophic event, our ability to move trains would be impaired,” he said. “UTCS is a wide area network application having centrally located servers, making dispatching possible from anywhere on NS. The hardware also has built-in redundancy to improve operability should components fail.”

Future features of UTCS include a movement planner that will develop an eight-hour, train movement plan from a network perspective rather than at the division level. This plan will be based on information such as grade, train tonnage and length, consist horsepower, and crew hours of service limits. The movement planner will use that information to develop a plan that focuses on getting trains to the next crew change location on schedule.

“Improving integration and implementing a movement planner will allow the dispatcher to focus on the exceptions such as train stoppages and work activity management,” Plonk said. “We also have developed measures from the information in the system to improve resource productivity both in and out of the dispatch office. For example, maintenance of way has an exact view of the track bulletin items, such as speed restrictions, that it manages. Ultimately, these features help us provide better service to our customers.”

NS is implementing UTCS as part of its Track 2012 process. Track 2012 is a five-year plan to significantly improve all aspects of the company’s business. Plonk expects to implement UTCS on the Central division by the end of the year.
Interested in an NS scholarship? Read on

It’s time for high school juniors who are children of Norfolk Southern employees to start thinking about applying for one of the four-year NS scholarships to be awarded in 2011.

National Merit Scholarship Corporation, an independent, nonprofit organization, administers the scholarship program.

For detailed descriptions of these scholarships, go to the NMSC Web site at www.nationalmerit.org. Competition for these scholarships is open to children of active, retired or deceased employees of NS and its participating affiliates. Applicants must be in their junior year of high school and plan to enter college in 2011.

To compete for a scholarship, a student must have taken the Preliminary SAT/National Merit Scholarship Qualifying Test on Oct. 14 or Oct. 17, 2009.

Students also must complete and submit the 2011 Norfolk Southern Scholarship Program Entry Form by Feb. 28, 2010. The application process uses a Web-based brochure and entry form created by NMSC.

Follow these three easy steps to enter your child into the program.

- Go to https://programentry.nationalmerit.org/FDRNCMJN.
- Read the scholarship program brochure in its entirety and confirm your child meets the requirements for the competition.
- Complete, review, submit and print the entry form, retaining a copy for your records.

The program outline for the 2011 NS scholarship program and the entry form link are also on the Employee Resource Center under Other Programs. Questions can be addressed to Norfolk Southern Corporation, Scholarship Program Coordinator, Three Commercial Place, Norfolk, Va., 23510, or to the Human Resources Help Desk at 1-800-267-3313, or send an e-mail to nseducation@nscorp.com, or by MEMO to NSEDUCAT.

Winners will be selected on a competitive basis according to merit and without regard to financial need. NMSC will choose the winners by evaluating academic records through high school, demonstrated leadership and extracurricular accomplishments, the school’s recommendation, the student’s self description and test scores. In most cases, winners will be notified in March 2011.

The amount of each NS scholarship is determined individually and can range from $1,000 to a maximum of $4,000 a year for up to four years of college study, or until baccalaureate degree requirements are completed, whichever comes first. The amount is determined by NMSC.

The winners must enter college as full-time students in the fall term following their selection, and they are responsible for making administrative arrangements and fulfilling all requirements of their chosen college. The college must be in the U.S. and hold accredited status with a regional accrediting commission on higher education. ■ BizNS
Remarkable photos!  
Great prizes! A cute kid!  
Even a steam locomotive!

Thoroughbred photographers sought out new locations, different perspectives, and challenging weather conditions to produce yet another round of stellar photographs in the 2010 NS Wall Calendar Contest. The 2010 winners are:

- **Mike Crawford**, locomotive engineer, Portsmouth, Ohio.
- **Mike Luebbe**, locomotive engineer, Middleton, Ohio.
- **Donna Dykes-Taylor**, training specialist, Norfolk.
- **Bob Bahrs**, conductor, Secaucus, N.J.
- **Dan Cupper**, conductor, Harrisburg, Pa.
- **Sam Wheland**, machinist, Altoona.
- **Casey Thomason**, locomotive engineer, Columbus, Ga.
- **Daniel Peters**, locomotive engineer, Jackson, Mich.
- **Eric Johnson**, yardmaster, Shire Oaks Yard.
- **Eddie Brouse**, yardmaster, Lewisburg, Pa.
- **Roger Durfee**, conductor, Cuyahoga Falls, Ohio.
- **Lisa Hollandsworth**, director internal audit, Roanoke.

Norfolk Southern 2010 calendars can be purchased for $11.95 (including tax, postage and shipping). For international shipments add $12 for shipping costs. To order by credit card, call toll-free 1-800-264-4394 between 8:30 a.m. and 5:00 p.m. E.S.T. Or send a check or money order to:

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801 Cromwell Park Drive, Suite 100, Glen Burnie, Md. 21061

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