

Biz NS

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Biz NS

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With a proud legacy, Juniata plays a key role in NS' future

If ever there was a place that could be called a railroad town, Altoona, Pa., is it. Generations of families, dating to the mid-1800s and days of steam on the old Pennsylvania Railroad, have made a good living building, repairing, and overhauling locomotives here in the foothills of the Allegheny Mountains.

■ Juniata craft workers assemble GenSet locomotives for R.J. Corman Railpower in the engine and machine shop's E bay.

Then and now, the nerve center is Juniata Locomotive Shop. These days, the shop – actually a complex of 16 shops – is the largest locomotive repair facility in North America and the only one of its kind among U.S. Class 1 railroads.

Opened in 1890, Juniata covers 70 acres on the outskirts of downtown Altoona, with 30 acres under roof. The 311,000-square-foot engine and machine shop, the largest, is bigger by half than a Super Walmart. With around 950 employees, Juniata accounts for roughly 15 percent of NS' mechanical department workforce of approximately 6,000. It's so big that the complex has its own coal-fired power plant, outfitted with environmentally friendly scrubbers, capable of providing one-third of its electricity needs and steam for processes and heating.



NS took ownership of the industrial complex through its partial acquisition of former Conrail assets in 1999. In the dozen years since then, Juniata has grown in importance to NS, developing cutting-edge locomotive technology and serving as the main shop for engine overhauls and midlife tuneups to keep NS' fleet in top shape.

In 2009, shop employees built the experimental NS 999, the first-of-its-kind battery-powered switch locomotive. They have put together an innovative locomotive rebuild program that began by converting 1970s engines into new yard and local units and evolved into transforming '80s-era engines into custom-built, like-new road units.

Through insourcing work secured by NS' Thoroughbred Mechanical Services, the shop assembles multiple-engine GenSet switcher units for customers of locomotive manufacturers and also overhauls locomotives for short line and commuter railroads, the only Class 1 railroad facility offering those services.

By early next year, the shop will begin operating its own indoor locomotive emissions-testing facility, an industry first. The facility should lower NS' costs of complying with federal emissions rules and provide a testing ground for developing more fuel-efficient, cleaner-burning engines.

Earlier this year, NS showcased Juniata's capabilities during the company's Investor and Financial Analyst Conference in Altoona, with the theme "Horsepower for America."

"When we acquired Juniata, we weren't quite sure what we were getting," CEO **Wick Moorman** told analysts at the June event. "It has turned out to be one of the crown jewels of the Conrail acquisition. Juniata is doing groundbreaking work that we think gives us a competitive advantage."

With a reputation for quality craftsmanship, Juniata's employees are carrying on a long tradition of excellence.

"We have many of the most talented locomotive crafts people in the world here," said **Don Faulkner**, Juniata's general superintendent. "We know how to build locomotives, and we watch how they perform after we build them. We have expertise that nobody else in the industry has because we pay attention to the mechanical and electrical systems and how they contribute to locomotive performance."



■ Far left: Tools and materials are arranged neatly in the shop area where locomotive alternators are overhauled.

■ Left: **Don Faulkner** is general superintendent at Juniata.

■ Below left: A turbocharger, which increases engine power and enhances fuel efficiency, is shown on the engine of an SD40E locomotive being rebuilt at Juniata.

■ Below, left to right: **Isaac Scott**, mechanical supervisor, **John Isenberg**, boilermaker, and **Corey Evans**, boilermaker, discuss placement of an air brake module being installed on a rebuilt SD60E road locomotive.

“We want to get a locomotive in and out as quickly as possible to reduce the amount of time it’s out of service. A locomotive makes NS money when it’s on the front end of a train, and that’s where we want it.”

– **Don Faulkner**, Juniata general superintendent

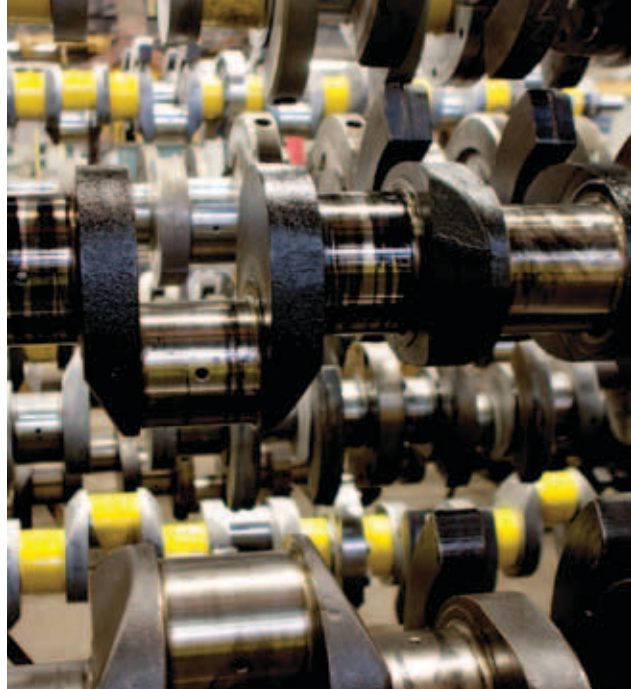


Giving new life to locomotives

Juniata’s rebuild program is generating multiple benefits for NS’ business. Faulkner describes it as “recycling at its greatest,” because the shop is adding 15 to 20 years of reliable service to old engines that might otherwise be scrapped. As part of the rebuild, the shop reconditions and reuses the steel platforms, wheel assemblies, traction motor frames, and engine blocks.

In addition to environmental benefits derived from reusing the old steel, the program is a money saver. The rebuilds cost NS about half as much as buying a new DC locomotive. The rebuilt engines feature enhancements that put them on par with new engines in terms of fuel efficiency and reduced emissions.

Perhaps the most ambitious of the rebuilds is the SD60E road locomotive, designed to pull double-stack intermodal trains. These units are reusing the frames of 1980s SD60 locomotives; the “E” designation stands for enhanced.



"Juniata is doing groundbreaking work that we think gives us a competitive advantage."

- CEO Wick Moorman

Two key improvements are the addition of electronic fuel-injection and a dual engine-cooling system developed at Juniata. This "split-cooling" system is unique, and NS applied for a patent to protect the railroad's rights to the invention. It was designed by Faulkner and **Bill Thompson**, a mechanical supervisor associated with emissions testing.

"The cooling system is breaking new ground," **Don Graab**, NS assistant vice president mechanical, told analysts at the investor day conference. "It gives us added fuel efficiency and reduces emissions."

To **Henry Burney**, a former mechanical supervisor at Juniata, the amazing thing is that craft employees and managers designed and engineered the locomotive from the ground up.

"We all put our heads together and said, 'This is what we want, and this is what we need to make it happen,' " said Burney, recently promoted to general foreman at NS' Macon, Ga., shop. "We wanted to set the standard and be the model for the industry with these units."

Juniata rolled out the first SD60E in 2010. Over the next decade, the shop could produce up to 240 of the 4,000-horsepower units. With the price of new locomotives escalating sharply the past few years, the SD60E rebuilds could result in cost savings of \$275 million over 10 years, Graab told analysts. The engine enhancements, he added, have improved fuel efficiency by approximately 7.5 percent over the old SD60 units, translating into diesel fuel savings of 15,000 to 20,000 gallons a year per locomotive.



Juniata is a leader of cutting-edge locomotive technology and serves as NS' main shop for engine overhauls and midlife tuneups to keep the locomotive fleet in top shape.

■ Far left top: Juniata operates its own coal-fired power plant, which has the capability to supply the shop's steam and one-third of its electricity needs.

■ Far left below: **Woody Claar**, sheet metal worker and pipefitter, designed a new air brake module, pictured behind him, as part of the SD40-2 cab replacement program.

■ Middle: The shop reconditions these EMD locomotive crankshafts.

■ Left: **Bill Thompson**, mechanical supervisor, is assisting with the shop's new indoor emissions-testing facility, shown here.

Setting the standard for quality

All of the rebuild projects showcase the ingenuity of Juniata's workforce. In addition to the SD60E, the primary projects are enhanced SD40E units, SD40-2 cab replacements, and GP40-2 "mother-slug" conversions.

The SD40E units are rebuilds of early 1980s SD50 six-axle units. They are being used in yard and local service and as "helper" engines in mountainous terrain. The first SD40E went into service in fall 2008.

While the SD50 units were regarded as problem engines, the rebuilt 3,000-horsepower SD40E units, featuring a new microprocessor control system and reconditioned engine, are reliable workhorses. This year, the units ranked second on the company's locomotive fleet reliability index, based on locomotive engineer trouble reports.

The SD40-2 cab replacements sport a new cab, designed by Juniata and dubbed the "admirals cab." Unlike a traditional cab, the front windows slope inward from the top down, intended to cut glare, similar to windshields on Navy vessels. The design idea came from retired Adm. **Paul Reason**, who serves on NS' board of directors.

Faulkner figures that the admirals cab – a hefty 12,500 pounds vs. the 3,500-pound cab they are replacing – will add 20 years of life to the units.

The SD40-2 locomotives also are being outfitted with a new modular air brake rack designed by **Woody Claar**, a Juniata sheet metal worker and pipefitter. Claar was asked to come up with a solution to fit the rack under the cab floor to replace a much larger piping system.

"He ran with it," said **Josh Sams**, general foreman. "He condensed the piping, and everything is contained inside a box that is easy to install and troubleshoot."

Claar said he's surprised someone had not come up with a similar idea before now. "It just makes sense," he said. "We can put everything together on a bench and just drop it in. It takes a lot less piping and it's more convenient and safer, because now you don't have to crawl around on the floor to work on the unit."

As part of the GP40-2 "mother-slug" project, shop employees are upgrading 1970s and early '80s locomotives into "mother" units and are outfitting "slug" units with new cabs with creature comforts such as air-conditioning. Slugs are locomotives that have traction motors for pulling power but lack a diesel engine. They are paired with a "mother" unit, which supplies electricity through large power cables to operate the traction motors. NS is using the mother-slug combos primarily for yard switching operations. They have the pulling power of two four-axle diesel units at slow speeds and burn 40 to 45 percent less fuel than two GP38-2 locomotives.

A new indoor locomotive emissions-testing facility at Juniata should lower NS' costs on engine overhauls and provide a testing ground for developing more fuel-efficient, cleaner burning locomotives. It could contribute to the railroad's long-term corporate goal to reduce greenhouse gas emissions.

■ Right: **Rusty Wilkinson**, pipefitter, makes adjustments on the fuel system on an SD40E locomotive.

■ Far right: **Karen Conrad**, electrician, works on the wiring inside a Juniata-designed admirals cab.



Employees call the shop area for the GP40-2 upgrades the "Motherland." The work includes installing a reconditioned 3,000-horsepower engine.

Craft employees working on the rebuild projects said the results are good for the company and for Altoona.

"These are good projects for the tradespeople, because they create a lot of work for us," said **Ed Ayers**, a boilermaker. "We're increasing the life on these locomotives by 20 years and maybe more for NS, so the company doesn't have to buy new ones — that's a big plus."

"By taking on these projects, we're upgrading the fleet and bettering the company for hauling freight," said **Rod Hammel**, a pipefitter. "I did a lot of the layout work on the SD60E project, as far as figuring out how to get the components put on that unit. It was very challenging, but to see the finished product is very satisfying."

Scott Kustaborder, an electrician, said employees like having the opportunity to be innovative. He contributed ideas on how to configure the new control system cabinets on the GP40-2 mother-slug project.

"I enjoy the challenge of it," he said. "Not many shops do the extent of what we do here. We strip them down to the frame and rebuild them, and that really lets you learn a locomotive from inside out."

Revenue source benefits NS

The insourcing jobs brought in by Thoroughbred Mechanical Services are performed by shop employees. The revenue generated helps NS spread out overhead costs, said **Joe Richardella**, TMS system manager locomotive sales and marketing.

"It's a very competitive business, and there's no use taking on this work if we can't make money doing it," Richardella said. "One of the great advantages we have here is our one-stop shopping. From a generator change to a full-blown locomotive rebuild, we can do it all in one place."

When analysts toured the shop during investor day, TMS projects on the floor included a GenSet locomotive being assembled for CSX under a contract with locomotive builder R.J. Corman Railpower. The shop also was performing engine conversions on five SD90MAC locomotives for an export company that had sold the former UP units to an Australian railroad for use pulling iron ore trains.

This year, the shop has contracts with R.J. Corman to build GenSets for three Class 1 railroads, including CSX, UP, and NS. Much of the other insourcing work involves locomotive maintenance and overhauls for short line railroads, transit authorities, equipment manufacturers, leasing companies, and export outfits.



Several years ago, the shop assembled three locomotives with bulletproof windows and armor on the cab for a railroad in Colombia, South America.

A new capability coming on line

Investing in a locomotive emissions-testing facility at Juniata is expected to lower NS' costs on engine overhauls. Currently, to comply with U.S. Environmental Protection Agency rules, NS buys emissions kits from locomotive manufacturers, such as GE and EMD, and installs them during overhauls to meet the latest EPA emissions standards. The kits are one of the largest expenses of an overhaul.

With its own testing facility, NS can obtain an EPA certificate to develop its own emissions kits, using reconditioned parts.

"The test facility gives us a place where we can experiment and build our own style of engine that meets EPA criteria," Thompson said. "Being able to build engines our own way is going to be less costly than buying a kit from GE or EMD."

NS also might be able to generate revenue from the facility, he said.

"If another company wants us to test their fuel injector or catalytic converter to see if they are EPA compliant, we could do that," Thompson said.

NS has used portable emissions-testing equipment for years, but the tests must be done outdoors and are limited by weather. The two-story, climate-controlled facility at Juniata is large enough for two locomotives and can be used year-round.

Because locomotives account for about 86 percent of NS' total greenhouse gas emissions, the facility could contribute to the railroad's long-term corporate goal to reduce emissions.

"There are very few facilities like this one in the United States really," Thompson said. "It's going to support innovation at Juniata."

Bread-and-butter work

Juniata, which operates seven days a week, is one of two NS shops that perform heavy repairs on locomotives, and is the primary shop for engine overhauls. This year, Juniata will handle 83 percent of scheduled overhauls – nearly 300 engines – while Roanoke Locomotive Shop will do the rest.

Engine overhauls are run like an assembly line. "The concept is like a NASCAR pit stop," Faulkner said. "We want to get a locomotive in and out as quickly as possible to reduce the amount of time it's out of service. A locomotive makes NS money when it's on the front end of a train, and that's where we want it."



■ From left to right, **Tim Kephart**, lead machinist, **Joe Richardella**, system manager locomotive sales and marketing for NS' Thoroughbred Mechanical Services, and **Matt Saylor**, lead electrician, confer on a GenSet locomotive insourcing project.

As part of NS' Lean and Six Sigma initiatives, the shop regularly holds events to weed out inefficiencies and defective processes. Since 2009, the shop has wrung out potential savings of more than \$3.4 million, Faulkner said. In one noteworthy example, Juniata reduced engine overhaul time to less than a week from 10 days.

"We're increasing the life on these locomotives by 20 years and maybe more for NS, so the company doesn't have to buy new ones - that's a big plus."

- **Ed Ayers**, boilermaker

"We had our machinists, electricians, and sheet metal workers involved to come up with methods to improve processes across the line, such as having tools in the right place at the right time," said **Barry Wertz**, manager locomotive overhauls and tests.

In another streamlining effort, the shop in 2010 combined two engine overhaul lines - one for GE units and another for EMD units - into a single line. The move improved productivity and freed up space for other work, including insourcing.

Juniata is the only NS shop with the capabilities to overhaul locomotive truck assemblies and will handle around 200 this year. The shop reconditions and assembles roughly 5,000 traction motor and wheel set combos a year, or about 20 a day, said **Eric Skrivseth**, manager locomotive running gear.

"By doing so much in-house, we keep our level of expertise high and can control our costs and quality on components," Skrivseth said. "We're able to keep our maintenance costs lower."

Other activities that contribute to Juniata's value are the welding, air compressor, electric, machine, engine, and paint shops, all overseen by **Russ Parks**, superintendent components. Those shops rebuild diesel engines, fabricate large steel parts, and recondition components, including air compressors, starters, water pumps, and electric motors. Many are shipped to NS' running repair shops for use.

Wertz, who has worked at Juniata for 36 years, marvels at the workmanship he sees every day.

"We have an excellent skill base here," he said. "They take pride in their work and that makes a big difference. When you're proud of something you do, you keep trying to do it better. I think that's what the employees do here." ■ BizNS

Roanoke shop a big player for NS

A proud locomotive shop in another renowned railroad town is teamed up with Juniata to give Norfolk Southern unrivaled industry expertise in locomotive technology.

The Roanoke Locomotive Shop was opened by NS predecessor Norfolk & Western Railway in 1883 to build and repair steam locomotives, and it has the distinction of building the last steam engine manufactured in the U.S. in 1953 – the S1a-class 244.

Juniata and the smaller Roanoke shop, with 212 employees, are NS' "backshop" team, sharing the fleet's heavy repair work. Roanoke employees specialize in GE locomotives with skills evolved locally. It is the only Class 1 railroad shop developing full repair capability for GE's new Evolution series, including designing a power assembly test device that NS deemed worthy of patent protection.

Next year, the Roanoke shop will perform 27 percent of NS' total engine overhauls and 42 percent of midlife tuneups.

"Our heritage at NS is that we continually maintain our power to ensure its reliability, and that has always been Roanoke's contribution," said **Chuck Sloan**, shop manager. "We have been a primary resource for maintenance of our locomotive fleet to ensure its longevity and its readiness as service requirements demand."

The Roanoke shop is involved in two substantial capital rebuild projects. On one, shop employees are rehabilitating the cabs on NS' fleet of 1970s-era GP38-2 locomotives. On the other, Roanoke is collaborating with Juniata on the MP15E project, a program to extend the life of MP15DC switch locomotives, purchased by NS between 1977 and 1982.

As part of the GP38-2 rehab, the Roanoke shop is stripping the cabs to the frame and installing new control stands, seats, flooring, lighting, toilet compartments, and air-conditioning.



"Basically, it's to give the train and engine crews a brand new cab that's more user friendly," said **Jeff Watkins**, senior general foreman at the Roanoke shop.

The shop also is reconditioning the locomotives' draft gear pockets, which house the shock absorbing draft gear and coupler on each end of the units.

"After thousands of couplings, these gears experience a lot of wear and tear," Watkins said

The main focus of the MP15E project is to increase tractive capability of the four-axle units. Under a unique collaboration, Juniata employees overhaul the engines, recondition the trucks, and install rebuilt traction motors. Roanoke employees install new AR10 alternators, effectively converting the units to AC power generation to increase reliability. More significantly, Roanoke is equipping them with a microprocessor control system. This computerized system boosts tractive effort and pulling power while managing multiple systems, from wheel slip to cooling.

The project showcases how the two shops can combine their talents to produce a superior product for railroad operations, Watkins said.

"The collective effort of the mechanical department really shines through," he said, "and we're proud of it." ■ BizNS

"Our heritage at NS is that we continually maintain our power to ensure its reliability, and that has always been Roanoke's contribution."

– **Chuck Sloan**, manager,
Roanoke Locomotive Shop

MISSION ~~IM~~POSSIBLE

NS locomotive shops step up performance



"We're moving into an era when growth and profitability in our industry are ever more influenced by service-sensitive traffic. We can't run the risk of damaging our relationship with a customer because a locomotive stops halfway to the destination."

– Don Graab, assistant vice president mechanical

■ Pictured above is **Don Graab**, avp mechanical, who developed the idea for the new mission-critical initiative.

A mechanical department initiative dubbed "mission critical" is boosting the success of Norfolk Southern's locomotive repair shops and improving the reliability of engines.

Launched in late 2009, the program focuses on preventing the five most common locomotive failures that literally can stop a train in its tracks. The goal is to improve customer service by reducing train delays caused by locomotive breakdowns.

"We're moving into an era when growth and profitability in our industry are ever more influenced by service-sensitive traffic," said **Don Graab**, assistant vice president mechanical. "We can't run the risk of damaging our relationship with a customer because a locomotive stops halfway to the destination."

Intermodal traffic on the Crescent and Heartland corridors will be a major source of future business for NS, Graab said, and that is "all about service-sensitive business. That means we've got to have reliable power."

Graab developed the idea for mission critical while researching locomotives that had experienced a malfunction known as kicking the ground relay, or KGR, that turns off power to the electric traction motors. He discovered that NS' six running repair shops had widely varying techniques for troubleshooting and repairing locomotives – not only for KGR but for other failures.

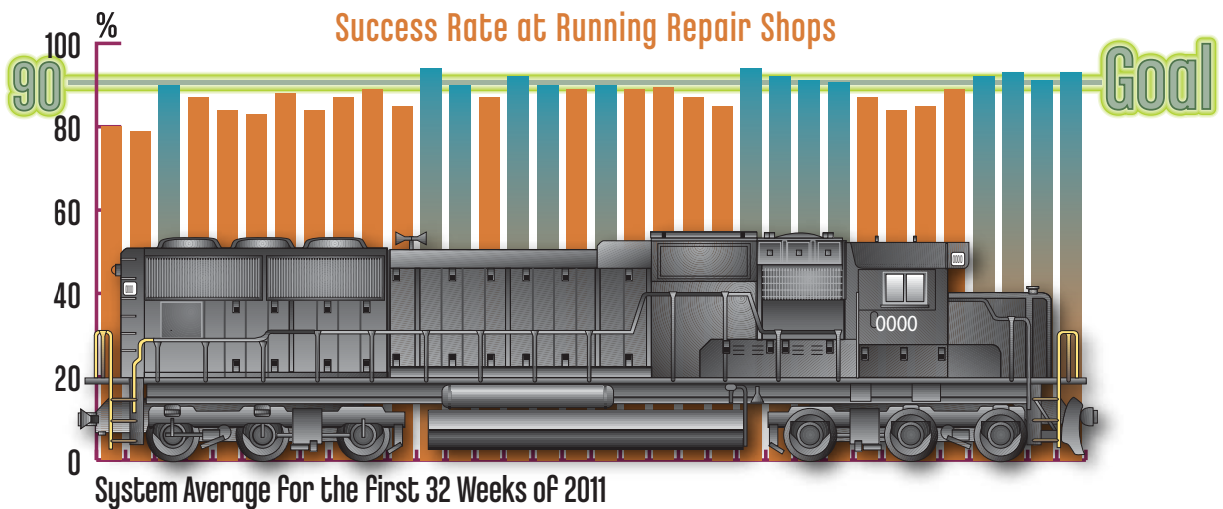
"I began to wonder who had the best track record," he said. "After we began analyzing the data, we saw quite a bit of disparity. Shops that claimed their techniques were better weren't necessarily the best performers. At that point, I began to think about this in a broader perspective and saw an opportunity to develop a meaningful metric to improve our performance on locomotive reliability."

During the past year, the department has held a series of weeklong Lean events to develop standardized troubleshooting and repair guides. The sessions have brought together shop supervisors, veteran craft employees, and system process engineers who review repair data, discuss approaches, and develop best practices.

Altogether, 25 step-by-step guides are being developed that outline mission-critical repairs on each of the five major models of road locomotives used by NS, including EMD SD70 and SD60 units, and GE Dash 8, Dash 9, and Evolution series engines. Nearly 20 guides have been completed.

In addition to kicking ground relay, mission-critical repairs are leaking cooling systems, dynamic brake problems, not loading properly (a locomotive control and power generation problem), and failure to start or run.

The shops' 2011 goal is a "success rate" of at least 90 percent. Shops score a success when a locomotive repaired for a mission-critical problem operates for at least 30 days without being reshopped for the same problem.



“Everybody stands to gain by a great performance,” Graab said. “This effort is helping supervision as well as shop craft employees to be more disciplined and methodical about how they go about doing their work.”

Focusing on quality repairs

Mission critical is changing the way NS’ diesel shops approach their work, said **Tim Heilig**, vice president mechanical. The program now is being pushed out to division locomotive shops.

“It is driving the quality of the locomotive fleet in terms of routine and preventive maintenance,” Heilig said. “We are seeing a better quality locomotive delivered to the transportation folks in order to better serve our customers.”

Over a 25-week period earlier this year, the aggregate success rate on mission-critical repairs rose to nearly 92 percent from 79 percent. That has increased the number of locomotives available to transportation and reduced the frequency of unscheduled repairs.

Every Thursday, **Doug Corbin**, director locomotive maintenance, holds a conference call with shop supervisors and employees to review locomotive failures and how they might have been prevented.

“When we first started, we couldn’t have sat down in an hourlong conference call and covered all the failures, but now we can,” he said. “We let the shop supervisors and mechanics talk about the one they let get away. We think that’s brought more accountability.”

Electricians, machinists, pipefitters, and other craft employees attend two-day training sessions on how to use the troubleshooting guides. The guides are Web-based and can be printed out for easy reference.

“We’ve got some pretty sophisticated animation that shows, for instance, how a locomotive’s electrical circuit works and how the power flows when you throw a particular switch,” Corbin said.

The department has always worked to reduce train delays, but now has the technology to aid the effort.

“As our data systems have become more comprehensive, we have the ability to capture more information about locomotive failures and repairs,” Corbin said.

Devina Miller, NS systems engineer, has worked behind the scenes to help make the initiative a success. She combs through NS’ Locomotive Maintenance Information System database on Microsoft Access to gather data needed to analyze engine repairs and failures.

“I send out weekly reports to the shops that show how each performed – the number of units they attempted, and the number they resolved with success,” Miller said. “It’s a useful tool because it provides timely feedback. It gives us an opportunity to engage employees at every level, not just on the floor. We’re all looking for better resolutions, and continual improvement is what it boils down to.”



“The longer a locomotive is out there without having a breakdown or failure, the more our customers get satisfied, the more money Norfolk Southern makes, and we all keep a job.”

– **Mark Rotza**, machinist,
Elkhart Locomotive Shop

■ Above: **Calvin Swaine**, an electrician at Shaffers Crossing Locomotive Shop, said mission critical has improved training for younger employees and made everyone more thorough when reviewing locomotive repairs.

■ Right top and below: Pictured at the Shaffers Crossing shop are traction motor and wheel combo sets reconditioned at Juniata Locomotive Shop for use by NS' locomotive running repair shops; boilermaker **Ed White** works on a welding project.

Shops compete for bragging rights

The initiative has sparked friendly competition among the shops, said **Scottie Pittman**, electrician training gang leader at Chattanooga Locomotive Shop.

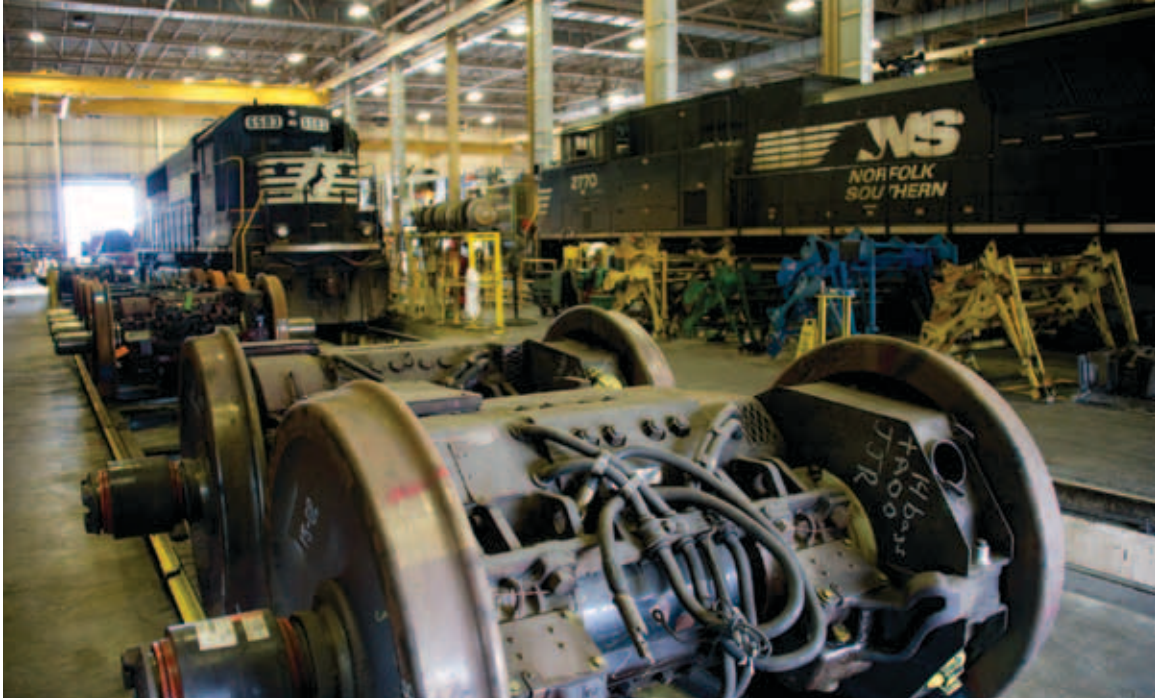
“Every week we compare our numbers to the other shops our size,” Pittman said. “At the end of the day, it’s a systemwide pride being able to say you have the best shop as far as reliability.”

In the past, running repair shops rarely monitored what happened to a locomotive after a repair. If it broke down a week later, it likely was somewhere else on the system and put in a different shop. Now, there’s incentive to track them, said **Chris Jenkins**, an electrician training gang leader at Bellevue Locomotive Shop.

“You don’t want to see your engine posted as a failure,” he said.

Jenkins said the weekly reports help employees identify strengths as well as problem areas. Past efforts to improve locomotive reliability, such as the “worst of the worst” and “repeater” initiatives, centered on locomotives, he said. Mission critical, by contrast, focuses on the shops.

“This is a more encompassing program, and it’s a lot more helpful for me in my job and my craft,” Jenkins said. “If we dropped the ball, I am able to track that engine and see who ended up fixing it right and what they did to fix it.”



Jenkins said he likes the initiative because it is more about quality than production.

“We have sometimes felt in the mechanical shops that all the pressure is on how many engines can we get out in a shift,” he said. “Mission critical puts more pressure on quality, which is helping balance things. A quality product that stays out there longer is going to reduce shop time over the long run.”

Employees like what they see

Those involved in implementing mission critical said employee buy-in has been impressive.

“You’ll see employees in our shop writing engine numbers in their hard hats to keep track of them,” said **Shunte’ McClellan**, an NS Lean production systems engineer at Enola Locomotive Shop. Lean refers to a process NS began introducing at locomotive repair shops in 2007 to weed out inefficiencies. “People have taken ownership and pride in their work and want to follow up. This dedication has resulted in a 94 percent success rate for Enola’s mission critical repairs.”

Rather than making a quick repair and sending a locomotive out the door, shop employees are paying closer attention to preventive measures.



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– **Scottie Pittman**, electrician training gang leader, Chattanooga Locomotive Shop



"Mission critical is driving the quality of the locomotive fleet in terms of routine and preventive maintenance. We are seeing a better quality locomotive delivered to the transportation folks in order to better serve our customer."

- Tim Heilig, vice president mechanical

■ **Top: Mya Montgomery**, a Lean production systems engineer at Shaffers Crossing Locomotive Shop, has helped organize weekly employee discussion sessions for craft workers on ways to improve performance. In photo above, Montgomery helps facilitate a recent discussion.

"We're getting into the practice of going step-by-step through the whole troubleshooting guide to make sure there aren't multiple issues," said **Jim Turko**, machinist training gang leader at Conway Locomotive Shop. "Basically, we're making sure it gets fixed right the first time."

Calvin Swaine, a veteran electrician at Shaffers Crossing, agreed that employees are being more thorough.

"We're training the newer guys better by showing them how to work the whole unit with these guides," Swaine said. "In the past, we'd look at the one traction motor that was bad, change it out, and let it go. Now we're looking at all six motors before we release it."

Shops are continually evaluating their work processes. For example, **Mya Montgomery**, NS Lean production systems engineer at Shaffers Crossing, has helped implement weekly discussion sessions for shop electricians and has organized monthly events for craft employees to analyze failures.

"It's like a knowledge transfer for them to talk about what could have been done better," Montgomery said. "It has a preventive side, too, because if we see another locomotive come in with the same symptoms, we know what didn't work in the past."

Good For job security

At Elkhart Locomotive Shop, where about a quarter of the workforce has less than two years on the job, mission critical has improved the learning curve, said **Mark Ratza**, a shop machinist.

"We've learned that sometimes it takes a little more digging and a little more patience and follow-through," Ratza said. "Your success rate does get better, and you find things that you may have overlooked otherwise."

Everybody recognizes the importance of improving shop performance, he said.

"The longer a locomotive is out there without having a breakdown or failure," Ratza said, "the more our customers get satisfied, the more money Norfolk Southern makes, and we all keep a job." ■ BizNS

For NS' ethanol business, going 'virtual' has generated real benefits



NS' new virtual ethanol inventory system, the first of its kind among Class 1 railroads, is reducing costs for customers and creating opportunities to expand NS' agriculture business.

■ Above: At NS' Thoroughbred Bulk Transfer facility in Doraville, near Atlanta, ethanol is pumped from a rail tank car into a tank truck.

A year ago, tank truck drivers arriving for a load of ethanol at the Thoroughbred Bulk Transfer facility in Pineville, N.C., routinely faced waits of more than an hour.

Now, thanks to a new "virtual" ethanol inventory system devised by Norfolk Southern's eCommerce Group and Distribution Services team, the wait has been

cut in half. The system has worked so well that the Pineville TBT facility has won back the business of a major customer.

In addition to reducing costs and making life easier for customers, the innovative online system is creating opportunities to expand NS' agriculture business.

The system is the first of its kind among Class 1 railroads. It combines ethanol shipments from multiple suppliers into a single inventory, allowing truck drivers to transload ethanol from any rail car

– rather than having to wait for tank cars owned by a specific company. The high-tech software program treats all supplier cars as one virtual rolling tank, electronically tracking the amount of ethanol pumped and shipped for each customer.

The Pineville facility, outside Charlotte, is one of four of the NS-owned bulk transfer facilities to implement the new inventory system after a successful launch at the Alexandria TBT in October 2010. The system also is in use at bulk transfer facilities in Atlanta and Petersburg, Va., and is slated to be implemented in Miami, Fla., Pottstown, Pa., and at new TBT facilities in Chattanooga, Tenn., and Roanoke, Va.



A win for everybody

Ethanol is a key component of NS' agriculture business. Presently, the railroad serves 22 ethanol production plants, last year moving 2.1 billion gallons – about 16 percent of total U.S. production – through a network of 75 terminals across NS' business territory.

NS moves ethanol from the production plants to the TBT facilities, where gas companies send trucks to have it pumped from rail cars. Before implementing the virtual inventory, tank trucks could pump ethanol only from rail cars shipped by their company.

“Norfolk Southern is very innovative and not scared to take on new challenges. Ultimately, we’re trying to drive new business to the facilities.”

– **Andrew Lynch**, NS marketing planning manager

“In a virtual environment, it doesn't matter whose rail car is on the track,” said **Blair Hanna**, manager eCommerce. “You can just drain a tank car until it's empty. It creates a fluid movement of drivers.”

The Alexandria TBT, for example, has spots for 19 rail cars. The ethanol inside the cars is the same, but prior to the new inventory system, which eCommerce refers to as “comingling,” drivers had to wait for a space to open next to their company's rail cars. Empty cars frequently were interspersed with full ones, forcing crews to pull out empties and spot load cars in their place, a process that could take up to 10 hours.

“You would give up capacity on a daily basis,” said **Andrew Lynch**, NS marketing planning manager who helped develop the new system. Comingling ensures that the pipeline flows without hindrance, increasing product availability and attracting more customers.

“Norfolk Southern is very innovative and not scared to take on new challenges,” Lynch said. “Ultimately, we're trying to drive new business to the facilities.”

With the consolidated inventory, truckers can pump ethanol from any available rail car, thereby accelerating the transload process. Terminals that implemented the system in 2010 saw their unloading capacity increase by 2,500 carloads annually.



The new system is a win for customers, drivers, the TBT facilities, and NS, said **Tom Landrum**, NS national account manager. Initially, some of NS' ethanol customers were skeptical. While they recognized the benefits of consolidating the supply, they preferred pumping their product exclusively, fearing that other producers' ethanol would not meet their standards. To alleviate those concerns, NS arranged for companies to receive a certificate of analysis verifying the quality of each shipment.

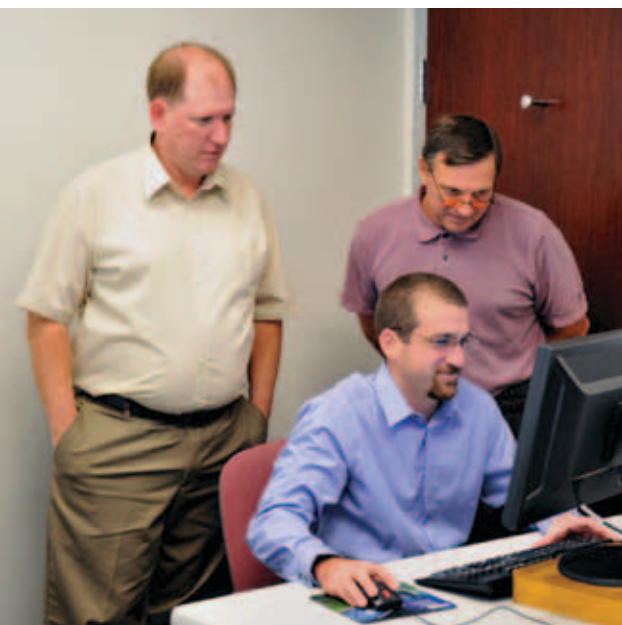
A program like no other

Customers can track their ethanol supply and other real-time shipment information through accessNS' Electronic Ethanol Dashboard. This unique software program was designed and developed by **Mark Wittl**, manager customer applications.

“My job is to take what I see in the real world and translate it to computer code,” said Wittl, who also designed accessNS, the portal for NS' e-commerce business.

Along with **Charlie Brenner**, assistant vice president industrial products, Hanna, and Lynch, Wittl visited the Alexandria TBT for a firsthand look at how ethanol is pumped from rail cars into tank trucks. After that, Wittl began work on the program code for the ethanol dashboard. Creating the intricate algorithms that make up the software program took three months to complete.

“From a mathematical perspective, it's the most complex program I've ever developed for accessNS,” Wittl said.



■ Far left: NS ethanol customers can track their ethanol inventory in real time online on accessNS' Electronic Ethanol Dashboard.

■ Left middle: **Blair Hanna**, manager eCommerce, left, **Mark Wittl**, manager customer applications, right, and **Seth Patriacca**, marketing systems analyst, seated, monitor recent ethanol distribution activity from the "ethanol lab" in Roanoke.

■ Left: Tank cars are lined up at NS' Doraville TBT facility.

The Web-based dashboard enables NS and customers to track the amount of ethanol each customer has purchased and used. Companies can monitor whether rail cars at a TBT facility are full or empty and the number of truck drivers waiting for ethanol. In addition, the software can be configured to show the business capacity of each TBT facility at any given hour. The Petersburg TBT, for example, might indicate that it can handle a 50 percent increase in business each day between 7 and 10 a.m.

Accessing real-time information simplifies record-keeping for oil companies and NS. "I can be anywhere in the world and tell you what the status is," Hanna noted. "I can tell how long it takes drivers to load their trucks, their destinations, the number of gallons in each truckload, and the amount left in inventory."

The new system also makes it easy for a customer to purchase ethanol from another customer that has excess capacity. "The sale is recorded in the database and can be validated," Hanna said. Before, it was a "bigger deal to change the ownership of rail cars, so it didn't get done very often."

For their innovation in designing and implementing the inventory system, Hanna, Wittl, and Lynch received a SPIRIT award for performance.

Nothing like a satisfied customer

Ethanol customers give the virtual inventory system high marks.

In 2010, OSAGE Inc., the largest independent distributor of motor-fuel grade ethanol in the Southeast, pulled out of the Pineville TBT because of difficulties in tracking the amount of ethanol pumped from rail cars and delays in transloading. After NS introduced the new system, OSAGE decided to return to the facility. Since then, the company has steadily increased its business there.

"The information got better overnight as soon as the system was implemented," said **Wes Spruill**, OSAGE's chief financial officer. "The simplicity with which we can access data anywhere with an Internet connection, without any phone calls, or time-of-day limitations is tremendous. The rail siding has become one of the simplest distribution points with which I work on a regular basis."

As the system enters its second year, NS plans to continue fine-tuning it, including introducing wireless communication at the TBT facilities.

"Currently, the carrier has to go inside the facility to check in and out," Lynch explained. "With wireless, the carrier wouldn't even have to get out of the truck. We can do little things like that to improve the system." ■ BizNS

2012 is the year For Synergy

After nearly two years of planning and preparation, Norfolk Southern is ready to go live with Synergy. On Jan. 1, NS will mark not only a new year but a completely new way of accessing and managing the company's information systems.

Synergy is replacing more than 40 computer-based applications within human resources, material management, finance, and accounting. The new software system, known as SAP on the commercial market, is an enterprise resource planning tool that will give NS a more efficient and timely tool for using and managing critical information processes and data.

The project, representing a \$100 million investment by NS, will create a platform for a centralized database that will operate across the company in real time. Currently, about 78 percent of FORTUNE 500 companies use SAP. With NS on board, every Class I railroad except CSX will have implemented the system.

"What we're building is a strategic, integrated platform that we can expand in the future to take advantage of other technology solutions that are appropriate for this environment," said **Ben Chapman**, assistant vice president SAP

integration. "There's a big advantage to operating in an integrated system. Right now, we are building the core system, and it will take a while to digest it and get it operating smoothly. After that, as we begin to understand the benefits of having true integration in a real-time system, we can look for more opportunities to optimize it."

All employees will be touched in some way by Synergy, including how they interact with the Employee Resource Center, which is undergoing a makeover.

"The ERC will have a fresher look," said **Mark Barrick**, manager SAP integration, organizational change management. Another change: "All employees will get a Microsoft Outlook email account, and the organizational chart will include all employees," Barrick said.

"The universal work list, which is a feature of the new ERC, will show SAP-related work items requiring your approval or additional attention."

Implementing Synergy has been a joint effort by NS' administration, finance, planning, and information technology departments. NS viewed the project as essential to replace aging information systems that were unable to meet future needs. The company also faced loss of business knowledge as key people who had maintained the earlier systems retired.

"A lot of these older systems are outdated and difficult to maintain," Chapman said. "We are using computer programs from the early 1970s where we have very few employees left who understand the computer language or the business logic used to develop these programs. Now is the time to get our house in order and put in a system that allows us to take advantage of newer technologies."



Work processes will change for some

Employees in NS' human resources, material management, finance, and accounting departments will be most directly affected by Synergy. Many of their basic work processes are changing. For example, the accounts payable department, instead of payroll, will handle travel expense reimbursements, which will no longer be included in paychecks.

"The impact to this group of employees is so broad because so much is being replaced at one time," said **Lynnanne Catron**, director SAP integration. "The tools they use today to process their daily activities are changing. They will have a completely new toolbox."

Synergy will have a significant impact on material management, which has a broad base of about 3,000 users.

"There's going to be some very big work behavior changes for us in the material purchasing area of our business," Chapman said. "For instance, now, purchase orders can be paid without receipts being submitted. With SAP, receipts must be properly recorded in the system before invoices can be processed for payment to our suppliers. It will be very important for users to enter their receipts in SAP when the material is received, ensuring that suppliers are paid on time and that they keep shipping the material we need to run the railroad."

Synergy also will change the procedures for employees who purchase shop and office supplies, plan budgets, manage employee benefits, and conduct performance reviews.

Key HR systems to be replaced by Synergy include eCareerTraining, Performance Track, CareerTrack, CareerStart, Tesseract, and TRACCS (Travel Reporting and Corporate Card Solutions). Employees also will have to re-enter self-reported resume information into the new system because only their NS work experience will be transferred to SAP.

Training and help are available

More than 200 employees have been designated as trainers or "change agents" to help co-workers understand the basics of the new centralized database system.

"Change is uncomfortable, and we are doing everything we can to help people prepare," Chapman said. "It's going to be different, but it's going to work. The basic business processes aren't changing; we're just changing out the toolset by which we run these processes."

About 125 employees representing departments most affected by Synergy have received in-depth training in SAP processes and will instruct co-workers in applications related to their specific departments.

"We look at them as a long-term asset for the program," Barrick said. "They're considered subject-matter experts."

Employees who want additional help can check out Synergy "mini-movie" videos produced especially for NS. "We chose some of the most complicated tasks people have and created mini-movies of how to do them," Barrick said. "You might call it a virtual assistant or virtual teacher to walk them through the tasks."

Every department has designated a change agent to communicate information from the Synergy team and to support employees during the transition. Although they will not deliver training, change agents will be the first line of contact for co-workers with questions.

Training that employees receive will be based on their roles at NS. For most employees, whose biggest change might be dealing with the new ERC, a basic online training course will be available.

"The ERC will be very easy to use," Barrick said.

Until Jan. 1, employees can keep up to date with Synergy's progress by going to the ERC and clicking on Synergy Project News. ■ BizNS

All employees will be touched in some way by Synergy, including how they interact with the Employee Resource Center, which is undergoing a makeover.



LEADERSHIP DEVELOPMENT

CrossTracks offers a broad view of NS

■ Members of NS' second CrossTracks group, above, pose for a photo on High Bridge over the Kentucky River during a field excursion. Pictured from front are **Dominik Browne**, general manager business units; **Krista McAninley**, senior general attorney compliance; **Shari Hulin**, manager recruiting; **Logan Moore**, director eCommerce and automation; **John Scheib**, general counsel; **David Gooden**, assistant division superintendent, Alabama; **Neville Wilson**, division superintendent, Piedmont; **Sean Woody**, manager track inspection and development; **Jake Bilthuis**, division manager mechanical operations, Virginia and Pocahontas; and **Shane Thomason**, process engineer track. In the crane bucket are **Jason Reiner**, director industrial development, at right, and **Jerry Patterson**, assistant bridges and building supervisor, operator of the bridge inspection truck.

In nearly two decades with Norfolk Southern, **Todd Reynolds**, Alabama division superintendent, had attained a vast knowledge of transportation operations. There was much about the railroad, however, he didn't know: He never had checked out NS' tax department, worked with a dual rail gang, or visited the enterprise command center in Atlanta.

That changed, though, when Reynolds accepted an invitation to join the inaugural CrossTracks group.

Launched in 2009, the two-year program is designed for management employees to broaden their knowledge of NS operations and staff functions. Each CrossTracks group includes 11 to 14 managers, directors, and assistant vice presidents who have worked mainly in one department during their career.

Reynolds' group completed CrossTracks earlier this year, and two additional groups currently are going through their rotations. NS' Human Resources Department plans to launch a new group each year.

"It was such a great learning experience," Reynolds said. "Anyone who is given the opportunity to participate should absolutely jump on it."

HR works with department heads to recommend participants based on their experience and performance. Group members spend one week each quarter immersed in various company operations. Among their eight rotations, members may spend a week in Atlanta participating in customer service and IT functions, tour locomotive and car shops during a mechanical department rotation, and take part in signals inspections during an engineering department rotation.



The first group attended a congressional transportation committee hearing in Washington while learning about NS' government relations group. CrossTracks also exposes participants to operations training, marketing, transportation, finance, tax, and labor relations.

"During the rotation, the idea is you immerse yourself in whatever the topic is," says **Daniel L. MacKay**, manager agreement recruitment. "It's meant to be a hands-on, highly engaging experience."

CrossTracks is the latest addition to NS' growing list of career-development programs. It was formed in response to an upper-level management needs analysis in 2006, the same study that led to creation of Thoroughbred School.

"It's related to helping employees understand the business more and preparing individuals to potentially move on to higher positions in the organization," MacKay said.

Participants gain a better understanding of the challenges other departments face, as well as the importance they play in the company's operations. The experience highlights the many interdependencies between departments, helping break down barriers to efficiency. "It gives you more of a cross-functional viewpoint and forces you into an area where you're not just looking at your piece of the puzzle," Reynolds said.

Dominik Browne, general manager business units, has worked nine years with NS, but had little knowledge of how the government relations group operates until he joined the second CrossTracks group. Browne's group got a chance to interact with lawmakers and NS lobbyists during Railroad Day on Capitol Hill in July.

"It was eye-opening to walk in the shoes of the lobbyists," he said. "They're our voice in Washington, and you see the challenges they have of getting our message out."

Browne also has enjoyed seeing the business side of NS' intermodal department. "I've seen it from an operations standpoint but never from a marketing standpoint," he said. "We've toured the different Intermodal operations in Norfolk and have seen the strategy of partnering with trucking companies, as well as competing with them for freight."

Participants get to introduce fellow CrossTracks members to the inner workings of their own departments. As part of a look at NS' business units group, Browne arranged a trip on a track geometry car. "That's a piece of Norfolk Southern that most people don't know about," he said.

Kevin Krull, manager mechanical operations, Central Division, a member of the first CrossTracks group, said he now has a better understanding of how other departments function. "CrossTracks provided opportunities for the team to gain a greater appreciation for the contributions operating and non-operating departments put forth day in and day out to make Norfolk Southern a strong company," he said.

Krista McAninley, senior general attorney compliance, has enjoyed getting out of her Norfolk office to visit other locations as part of CrossTracks' second group. Her group's rotations have included working with rail and track and surfacing gangs on the Central Division, participating in Railroad Day, and touring IT in Atlanta and industrial development in Birmingham.

"Having the opportunity to get out on the railroad and see operations firsthand has been a very positive experience," she said. ■ BizNS

CrossTracks gives participants a better understanding of the interdependencies between the railroad's operating departments, helping break down barriers to efficiency.

NS convenes conversation on transportation needs



■ Above: NS had a booth at the infrastructure summit to highlight the railroad's transportation solutions, including public-private partnerships.

(Photos on pages 22 and 23 are by **Jeffrey Martin** courtesy of Washington Post Live.)

As one of the country's leading transportation companies, Norfolk Southern always has been willing to take a seat at the table to discuss ways to strengthen America's economy.

Now, NS is raising that leadership role to another level: It's starting to bring along the table – and it's a big one.

The railroad's efforts were on display in the nation's capital in October, as NS joined The Washington Post to convene a national summit on challenges and opportunities facing the country's aging and increasingly congested transportation infrastructure.

Among those participating were influential political figures such as U.S. Rep. **John Mica**, chairman of the House Transportation and Infrastructure Committee, and Transportation Secretary **Ray LaHood**, plus more than a dozen transportation experts representing government, business, the rail industry, commuter rail, and community development.

About 125 people attended the summit, and an online audience of more than 4,000 participated through a Washington Post Live webcast. Nearly a dozen media outlets and trade press groups covered the event, including the Associated Press, ABC News, USA Today, Bloomberg, and Reuters.

The conference theme was "Fixing America's Foundation: Rebuilding Transportation Infrastructure." While it focused largely on public infrastructure needs, such as highways, bridges, and commuter rail, CEO **Wick Moorman** said there was value to NS in facilitating a serious national conversation on an issue that threatens America's competitiveness.

"These are challenges that ultimately affect all of us, from freight railroads and our customers and our communities to commuters on the interstates," Moorman said. "I think it's good to have Norfolk Southern's name out there as a company trying to help find solutions. Obviously, these are tough issues that won't be solved overnight, but with the right ideas and partnerships there clearly are opportunities. Norfolk Southern wants to be a part of that."

In another effort to highlight freight rail's role in the U.S. economy, NS has run TV and online advertising spots to promote a CNBC special report airing in November called "Race To Rebuild: America's Infrastructure." The ads detail NS initiatives such as the Crescent Corridor public-private partnership to improve the efficiency and capacity of domestic intermodal freight.



■ Far left: About 175 people attended the Washington summit, including about a dozen media representatives.

■ Left: Summit panelist **Roy Kienitz**, at right, undersecretary for policy at the U.S. Transportation Department, talks with CEO **Wick Moorman** and **Darrell Wilson**, at far left, assistant vice president government relations. Looking on is **Todd Tranausky**, a reporter with Argus Media.

Along with transportation, NS has elevated its leadership profile on corporate environmental stewardship. In September, NS joined GE Transportation in New York to sponsor the first Railroad Sustainability Symposium. The event drew more than 50 U.S. and international rail industry leaders and sustainability experts to discuss ways to mitigate the effects of rail operations on the environment while increasing business efficiencies.

To promote the green benefits of shipping goods by rail, NS has placed spots in Wall Street Journal's digital media, including WSJ online, Barron's, and MarketWatch. The spots showcase the economic and environmental benefits of public-private partnerships and how new rail technology is improving locomotive fuel efficiency and reducing greenhouse gas emissions.

A transportation leader

NS has established itself as a leader in innovative transportation solutions. In an effort spearheaded by NS' government relations, business development, and intermodal departments, the company forged the rail industry's first multistate public-private partnership to clear the Heartland Corridor for double-stack trains. With public dollars funding a portion of the project, NS was able to accelerate improvements to the rail route in exchange for public benefits such as jobs, reduced congestion on interstate highways, and economic development opportunities across a three-state region.

The money NS has received for Crescent Corridor improvements through the federal Transportation Investment Generating Economic Recovery program, known as TIGER grants, will generate similar public benefits across the corridor's 13 states, from Louisiana to New Jersey.

At the summit, several speakers said these kind of cost-sharing agreements, which leverage tax dollars and private investment, are successful models for tackling large, expensive infrastructure projects that might not occur otherwise.

Janet Kavinoky, a U.S. Chamber of Commerce executive director, said attention needs to be focused on projects that contribute to interstate commerce. As an example, she cited the CREATE public-private partnership in the Chicago region, which NS has helped fund, to improve the flow of transit and freight rail. She also cited efforts in Charlotte, N.C., to create a multi-modal transportation network. NS has plans to expand an intermodal facility at the Charlotte international airport as part of the Crescent Corridor project and is applying for TIGER money to accelerate the project's public benefits.

LaHood, who spoke of funding challenges to expand high-speed passenger rail, said the U.S. is the "envy of the world" when it comes to freight railroads.

Ed Hamberger, president and CEO of the Association of American Railroads, attributed that success to the Staggers Rail Act of 1980, which dramatically reduced federal regulation of the rail industry.

Since then, freight railroads have invested \$480 billion in rail infrastructure, including about \$13 billion this year, and are expected to hire 15,000 people in 2011, he said. ■ BizNS

The conference theme was "Fixing America's Foundation: Rebuilding Transportation Infrastructure."



Blue Ribbon Special

CELEBRATING EXCELLENCE
IN SAFETY AND CUSTOMER SERVICE



■ Above: The Blue Ribbon Special, pulled by NS' vintage F units, rolls through North Carolina as part of a three-day excursion to recognize employees.

■ Right: Harrisburg Division maintenance-of-way employees **Adam Fornwalt**, assistant foreman, **Jimmy Rauch**, vehicle operator, **Gary Murlatt**, bridges and building foreman, and **John Bogetti**, thermit welder, pose with a safety bell award on display at the division headquarters office.

Recognizing employees, building relationships

Norfolk Southern has created a novel way to recognize employees for their daily commitment to the company's SPIRIT values – a ride on the Blue Ribbon Special.

The excursion train, powered by vintage F units with a consist of 14 cars from NS' business car fleet, made its inaugural run in September. Altogether, more than 400 employees rode on segments of the three-day trip as the train traveled from Atlanta to Williamson, W.Va.

Supervisors selected employees whose work reflects the SPIRIT values of safety, performance, integrity, respect, innovation, and teamwork, inviting as many as the train could accommodate.

The purpose was to show appreciation for outstanding work and to foster an environment where employees

feel more involved in the business, said **Mark Manion**, NS executive vice president and chief operating officer. During the trip, senior management, including operating department vice presidents, provided overviews of their business areas and mingled with employees.

"We thought this would be a great venue for doing something our employees would enjoy," Manion said. "It creates an environment for more casual conversation and to hear what's on people's minds and things they're involved in. It was very positive."

Manion said the railroad plans to run more of the excursions. Employees on the first run, representing the Georgia, Piedmont, Virginia, and Pocahontas divisions, gave it a thumbs up.

"It was the first time I'd ever had the opportunity to do something like this," said **Charles Murray**, a machinist at Roanoke Locomotive Shop who is retiring in December after nearly 38 years with NS. "I look at it as a nice ending to a long career."

Lunch on the train and a tour of the business cars were highlights for **Lorrie Bailey**, a train dispatcher in Bluefield, W.Va. "It was impressive," she said.

Paul Seegars, foreman bridges and buildings in Greensboro, N.C., said the trip helped build camaraderie among operations employees and senior management.

"A lot of times when employees are out working in the field it kind of feels like it's 'us against them,'" said Seegars, who has 26 injury-free years at NS. "When the company does things like this, it shows that we are one big, happy family. It takes engineering, transportation, and mechanical working together." ■ BizNS

The Lawmen's new sound

During the past year, the Norfolk Southern Lawmen band has added two new members and a new sound to boot.

With roots in traditional country and bluegrass, the company band has spiced up its sound with edgy rock guitar and Top 40 country hooks on a new CD, "Winning Streak." The Lawmen's 11th album contains 13 original songs written by band members or musician friends.

"We've kind of developed our own sound compared with the cover material we've always done before," said **Stan West**, the band's manager. "The band pretty much did their own arrangements and created their own product. It gave them a chance to showcase their talents."

Rex Blancett, new guitarist and lead vocalist, authored three of the songs, including the title track and a toe-tapping tune about the 4501, a former Southern Railway steam locomotive being overhauled

for NS' new 21st Century Steam excursion program.

Freddie James, drummer and longest-serving member with 16 years, said the addition of Blancett and keyboardist **Dale Henson** contributed to the evolving sound. **Myron Smith**, electric pedal steel guitarist, and **Mark Crawford**, bassist, add their distinctive styles to the mix.

"I'm proud to be a part of it," James said.

"We've never attempted anything like this, and I hope people like it."

West said the new sound fits in better with the times.

"We've got younger audiences coming along in the company," West said. "My feeling is that we've got to stay current with what they're listening to if we're going to be effective ambassadors for the railroad."

The Lawmen will give out copies of the CD at company events, and it is available for purchase at www.norfolksouthernlawmen.com. ■ BizNS



A safety milestone in Harrisburg

Engineering employees had a record safety performance for NS operations in 2010, and the Harrisburg Division's forces are a stellar example of the continued focus on safety.

Earlier this year,

Harrisburg's approximately 355 maintenance-of-way workers and supervisors surpassed 1 million employee-hours of reportable injury-free service – for the second time. They are the first engineering group to achieve that safety feat, and only one other NS work group –

Virginia Division mechanical forces – is known to have reached 1 million injury-free hours twice.

The Harrisburg group includes track maintenance gangs, welders, machine operators, building and bridges crews, and track inspectors. The first time around, the employees reached 1.5 million hours over nearly two years. A reportable injury in early October broke the latest injury-free run, which dated from December 2009.

"The safety attitude is outstanding," said **Lee Swoap**, division engineer. "They look out for each other and accept safety as their personal responsibility. It's from the oldest employees and is contagious right down to the new guys." ■ BizNS





ON THE COVER:

Juniata Locomotive Shop produces many of the best locomotive craft workers in the world. One in the making is **Daniel Dively**, a student boilermaker, who uses a grinder to work on the front of a GP40-2 unit undergoing an upgrade.

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2012 calendar shows how NS moves America

Winners of the 2012 calendar contest present a remarkable portrait of the vital role Norfolk Southern plays in the U.S. economy in all kinds of weather and at all hours.



Pictured are trains hauling everything from grain, bulldozers, and international intermodal containers to mixed freight, coiled steel, and coal. Locomotives rumble through snow storms, pass under clear night skies, and roll by flowers and fields.

Congratulations go to these employee photographers: **Carmen Gray**, management trainee, customer service, Atlanta; **Thomas Eller**, section foreman, Ashtabula, Ohio; **William Gantz**, locomotive engineer, Powhatan Point, Ohio; **Jermaine Ashby**, assistant trainmaster, Cleveland (Ohio) District; **Don Brown**, special agent, Birmingham, Ala.; **Bruce Kerr**, locomotive engineer, Harrisburg, Pa.; **Mark Shull**, shop supervisor, Charlotte (N.C.) Roadway Shop; **Sam Wheland**, machinist, Juniata (Pa.) Locomotive Shop; **Rich Borkowski**, train dispatcher, Green Tree, Pa.; **Marc Hoecker**, director strategic planning, Norfolk; **Tim Calvin**, track foreman, maintenance of way, Kendalville, Ind.; **Donald Woods**, road foreman of engines, Altoona, Pa.; **Dave Ori**, yardmaster, Cleveland; **John Molesevich**, electrician, Enola (Pa.) Locomotive Shop; and **Mark Cain**, electrician, Enola.

For details on how to purchase the 2012 calendar, "One Line, Infinite Beauty," go to the NS website, www.nscorp.com, and select the "Community" tab. On the drop-down box select "NS Store, Calendar, and Photos" and then select "Wall Calendar." ■ BizNS

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