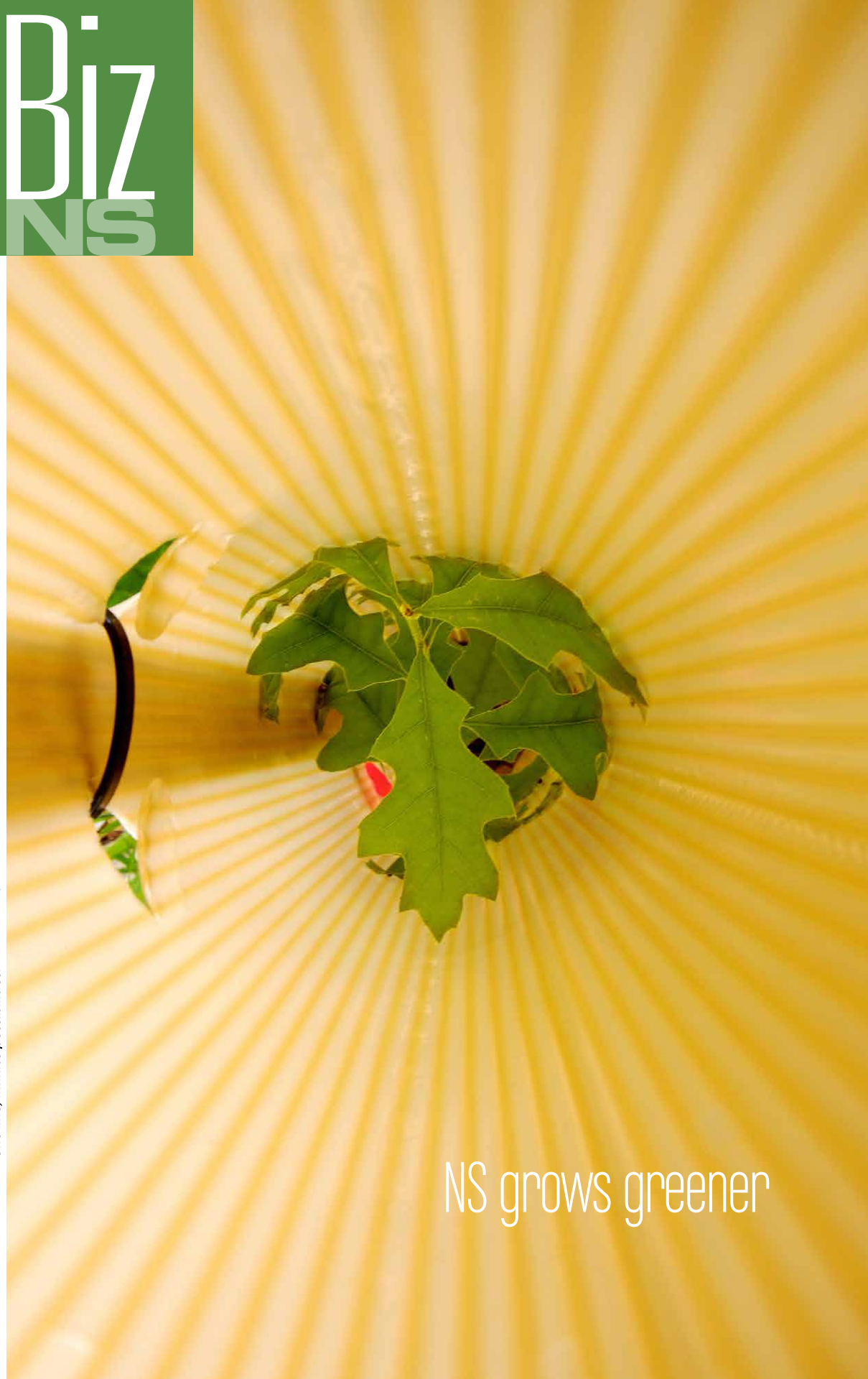


Biz NS



NS grows greener

Biz NS

Summer '13

TURNING GOALS INTO REALITY

NS' sustainability



1 NS' SUSTAINABILITY JOURNEY

3 PROGRESS ON GREENHOUSE GAS

4 FUEL EFFICIENCY

5 ULTIMATE IN RECYCLING

6 SUSTAINABILITY AT THE TOP

7 ROANOKE SUSTAINS

8 ANDY PAUL, NS ENERGY MAN

10-13 LIGHTING INITIATIVES AND ENERGY SUCCESSES

14 MOVEMENT PLANNER ON THE GO

17-19 WELLNS STEPS UP

20 RIDING THE RAILS FOR SAFETY

22-28 NS' CULTURE SHIFT

29 FROM THE NS ARCHIVES

BACK COVER HIRING HEROES

journey

In Norfolk Southern's first corporate sustainability report,

issued in 2008, CEO **Wick Moorman** outlined the railroad's aspirational goal: to achieve industry leadership in fuel conservation, emissions reduction, efficient energy use, recycling, use of renewable materials, and environmental partnerships.

With the release of its sixth sustainability report in July, NS is turning aspiration into reality. **Blair Wimbush**, who in 2007 became NS' and the rail industry's first appointed corporate sustainability officer, said he sees signs of that everywhere he looks.

"Sustainability has become a common thread throughout the organization when people start thinking about their goals," Wimbush said. "It's playing out in daily railroad life."

Across the system, employees are engaged in sustainability, whether it is recycling office or shop waste or doing things to conserve energy. Those individual efforts are aligning with corporate initiatives to embed sustainability practices into the fabric of railroad operations.

This year, for example, the Operations Division adopted a fuel-efficiency goal and has specific initiatives in place to achieve it, such as system wide implementation of the locomotive-based LEADER. One of the Safety and Environmental Department's five goals in 2013 is to support corporate sustainability, including green-building initiatives when economically justified, and to serve as a company resource in discussions on climate change, greenhouse gases, and recycling. The Mechanical Department, in addition to its work improving locomotive reliability and fuel-efficiency, is looking for ways to save on energy bills in shop facilities.

"Sustainability has become a common thread throughout the organization when people start thinking about their goals. It's playing out in daily railroad life."

– **Blair Wimbush**, vice president real estate and corporate sustainability officer

■ Norfolk Southern plans to create a living shoreline on the Elizabeth River in Norfolk at NS' Lamberts Point coal transload facility. In this May photo, employees, led by **Blair Wimbush**, vp real estate and corporate sustainability officer, meet at the site with consulting engineers and the Elizabeth River Project, a conservation group.



■ **TOP:** Plans are being drawn up for a living shoreline on a quarter-mile stretch of the Elizabeth River at NS' Lamberts Point coal transload facility. The shoreline has suffered erosion and growth of invasive weeds, and NS hopes to restore wetlands and native vegetation to support fish, shorebirds, and other wildlife.

■ **ABOVE:** Blair Wimbush, NS vice president real estate and corporate sustainability officer, stands on the shoreline at Lamberts Point.

At the same time, the company is aggressively pursuing capital projects to improve network efficiencies and customer service, from creating double-stack service on the Heartland Corridor to building regional terminals on the Crescent Corridor.

"There's a convergence now of all of our energy- and fuel-efficiency initiatives and the network efficiencies that drive improvements in operations and service," Wimbush said. "We deliver a transportation service, and we're getting to the point where we can optimize our capacity to efficiently deliver that service. From the big corporate perspective, that's what it's all about. That is the ultimate integration of sustainability into your operations."

Following is a look at some of the sustainability initiatives under way and an overview of progress made during calendar year 2012. ■ BizNS

➤ **TO LEARN MORE ABOUT NS' PROGRESS IN CORPORATE SUSTAINABILITY, GO TO WWW.NSSUSTAINABILITY.COM TO READ THE COMPANY'S 2013 REPORT.**

Progress on greenhouse gas

In 2010, Norfolk Southern established a five-year goal to reduce greenhouse gas emissions 10 percent per revenue ton-mile by 2014. Three years into the effort, NS has achieved nearly 69 percent of the goal.

The use of revenue ton-miles – the tonnage of paid freight multiplied by the number of miles it is transported – is an accepted metric in the transportation industry to measure business activity. Using this metric, NS can evaluate how well the railroad is controlling emissions as business activity declines or grows.

In 2012, the railroad reduced its absolute emissions of CO₂ equivalents – carbon dioxide, methane, and nitrous oxide – by 4 percent compared with 2011. The reduction can be attributed in part to a 3 percent decline in business volume, which resulted in a corresponding 3 percent decline in locomotive diesel fuel use. However, the reduction is above and beyond the drop in business volume and fuel use, indicating that NS' efforts to improve fuel and operating efficiencies played a role.

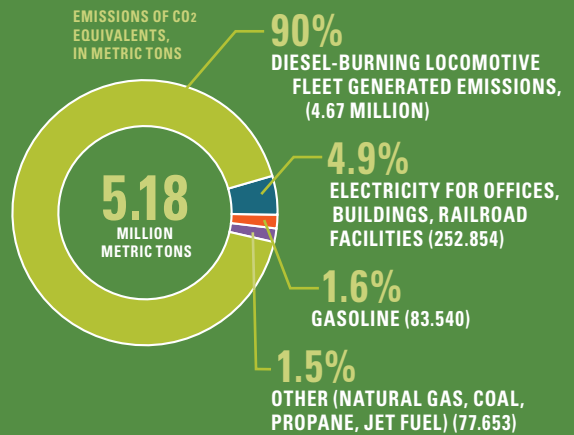
NS calculates progress on emissions reduction using 2009 as a baseline. That year, NS transported 158.5 billion revenue ton-miles of freight and produced emissions of 30 grams of carbon dioxide equivalents per revenue ton-mile. NS must reduce emissions to 27 grams per revenue ton-mile to reach the 10 percent reduction goal.

In 2012, NS generated 27.89 grams of CO₂ equivalent emissions per revenue ton-mile, while delivering more than 185 billion revenue ton-miles of freight.



GREEN FACT: In 2011, the latest year data is available, the U.S. Freight rail industry emitted 42 million metric tons of greenhouse gases.

The trucking industry generated 401 million metric tons, accounting for 22 percent of U.S. transportation sector emissions, according to the U.S. Environmental Protection Agency.



NS' 2012 CARBON FOOTPRINT

In 2012, Norfolk Southern's business activities generated 5.18 million metric tons of CO₂ equivalent emissions, down from 5.4 million in 2011.

The railroad's diesel-burning locomotive fleet generated 90 percent of the emissions, or 4.67 million metric tons.

Electricity usage at company-owned facilities accounted for the second-largest source, at 4.9 percent, or 252,854 metric tons of CO₂ equivalents.

The third-largest single contributor was NS' on-road gasoline company vehicle fleet, which produced 69,098 metric tons of CO₂ equivalents, or 1.3 percent of total emissions.

The remaining nearly 4 percent of emissions is attributed to a combination of other fossil fuels. In order of magnitude, they were fuel oil, non-locomotive diesel, natural gas, coal, non-vehicle gasoline, propane, jet fuel, and kerosene.

For the first time in 2012, NS estimated emissions resulting from employee commercial air business travel and employee business travel in personal vehicles. For the second year, NS calculated estimated emissions resulting from purchased electricity consumed at facilities leased by Norfolk Southern.



AT AROUND \$1 BILLION A YEAR, LOCOMOTIVE DIESEL FUEL IS ONE OF THE RAILROAD'S SINGLE LARGEST OPERATING EXPENSES AND ITS LARGEST SOURCE OF CARBON EMISSIONS.

■ **Brett Potter**, an NS fireman-oiler, fuels the Nickel Plate heritage locomotive during a stop in Enola, Pa.

Improving fuel efficiency is key to NS sustainability

Norfolk Southern has significant economic and environmental interests in improving locomotive fuel efficiency. At around \$1 billion a year, locomotive diesel fuel is one of the railroad's single largest operating expenses in addition to being its largest source of carbon emissions.

NS has led the industry in developing technologies to improve fuel efficiency and is reaping benefits as they mature and are deployed across the network.

One is Locomotive Engineer Assist Display Event Recorder, or LEADER. **Deb Butler**, executive vice president planning and chief information officer, describes the technology as NS' flagship fuel-efficiency initiative. Placed in locomotive cabs, the GPS-based computer system prompts engineers on the optimum train speed to achieve maximum fuel efficiency. The system makes the calculation based on conditions such as track topography, the train's length and weight, and locomotive horsepower.

By the end of 2012, NS had installed LEADER on 1,160 road locomotives, nearly half of the long-haul road fleet, said **Coleman Lawrence**, director operations and locomotive. Now, LEADER-assisted trains are running on some of the busiest lines on all three of NS' regions. Operating results indicate

the technology is generating an average 5 percent fuel-efficiency advantage.

NS plans to outfit all road locomotives with LEADER. When fully implemented, NS expects LEADER to generate average fuel savings of slightly more than 6 percent.

In addition to LEADER, NS is expanding efforts to reduce unnecessary idling of locomotives. By the end of 2012, 72 percent of the locomotive fleet had been outfitted with idle-reduction technologies, up from 66 percent in 2011, Lawrence said.

On another front, NS' Research and Tests Department has worked with industry collaborators to develop a top-of-rail friction modification system. NS has been installing the wayside system along curved sections of track to reduce the rolling resistance of passing trains. It dispenses a gel-like lubricant on top of both rails as a train approaches, reducing friction between car wheels and rails.

The solar-powered system contributes to fuel efficiency and reduces wear and tear and maintenance costs on track and car wheels. By the end of 2012, NS had installed 914 across the network, an increase of 35 percent over 2011, said **Brad Kerchof**, director research and tests. ■ **BizNS**

Locomotive rebuild program offers the ultimate in recycling

During the past year, Norfolk Southern has expanded its innovative locomotive rebuild programs beyond Juniata Locomotive Shop to include Roanoke Locomotive Shop. The programs involve recycling 1970s- and 1980s-era locomotive bodies and installing more fuel-efficient, lower-emission engines.

Currently, NS has about a half dozen rebuild programs under way. One of the showcase programs at Juniata involves SD60E units. The E stands for “enhanced.” These 4,000-horsepower road units are rebuilds of 1980s-era SD60 units manufactured by Electro-Motive Diesel Inc. The three biggest enhancements are electronic fuel-injection, a motor-driven air compressor, and a dual-circuit engine-cooling system.

This year, the Roanoke shop is expected to roll out a prototype of the Dash 8.5, a rebuild of a 1980s-era GE Dash 8. This is the first NS rebuild program to feature a GE locomotive, said **Don Graab**, vice president mechanical.

The 4,000-horsepower Dash 8.5 locomotives will be outfitted with home-grown upgrades similar to the SD60E units, including a wider-body cab to improve

the working environment for train crews. In addition, the engines will be equipped with an AC-power feature that will transform them into mobile standby generators for rail terminals in the Southeast that lose power in hurricanes, Graab said.

NS in late 2011 completed construction of an emissions testing facility at Juniata to assist in designing engine emissions kits for rebuilt locomotives. In May, the Environmental Protection Agency approved NS’ application for a “certificate of conformity” that will allow the company to build and install engine emissions kits for the SD60E units. Having the EPA certificate means NS can satisfy federal emissions standards by building emissions kits in-house using reconditioned, after-market engine parts rather than buying more expensive kits from the manufacturer, said **Don Faulkner**, general superintendent at Juniata.

In addition to saving money, the emissions testing facility is enabling NS to test a variety of prototype engine designs and have more control over how an engine performs. ■ BizNS

■ The 6905 is one of NS’ rebuilt SD60E locomotives.





Sustainability: View From the top

“We are doing everything we can to promote sustainability, not only internally, but also externally to ensure that we are positioned as a sustainable, responsible company.”

– **Deb Butler**, executive vice president planning and chief information officer



■ TOP: A branch of an oak tree planted in the Mississippi Delta as part of NS’ Trees and Trains initiative.

CEO **Wick Moorman** broached the idea of a formal corporate sustainability program in 2007, turning to NS’ Environmental Policy Council for input. The council, comprised of senior executives including department heads, once focused primarily on ensuring that the railroad complied with federal and state environmental laws and NS environmental policies. Now, it plays a key role in overseeing sustainability, ensuring that all departments are aware of and contributing to the company’s efforts.

The council is chaired by **Deb Butler**, executive vice president planning and chief information officer. **Blair Wimbush**, vice president real estate and corporate sustainability officer, is a member of the council.

“The whole company owns the sustainability process,” Butler said. “We are doing everything we can to promote sustainability, not only internally, but also externally to ensure that we are positioned as a sustainable, responsible company.”

As CIO, Butler oversees development and implementation of many of the technologies NS is adopting to improve operating efficiencies and customer service. She also chairs Future Track, a committee of company vice presidents that plays a key role in shaping NS’ strategic business initiatives. One of her primary interests is how NS can advance sustainability by leveraging technology.

“The idea of using technology to improve locomotive fuel efficiency and to take advantage of freight rail’s position as an environmentally responsible mode of transportation appeals greatly to me,” Butler said.

NS’ Trees and Trains initiative to reforest former woodlands in the Mississippi Delta resonates personally with Butler. She grew up on the Mississippi, in Memphis, and witnessed the river’s annual flooding. The tree-planting initiative – part of NS’ carbon mitigation strategy to help offset the railroad’s business emissions of greenhouse gases – will help alleviate the flooding. Butler also applauds the company’s efforts to preserve Brosnan Forest, home to rare stands of longleaf pine and endangered red-cockaded woodpeckers.

“You can talk about sustainability as being the right thing to do, and you can get into the marketing arena and the political arena of positioning ourselves as environmentally responsible,” Butler said. “In the end, I think it’s personal as well.” ■ BizNS



Roanoke SustaiNS puts sustainability into practice

Whether encouraging carpooling and bike riding to work or setting up rainwater barrels at a local elementary school, the Roanoke SustaiNS group is dedicated to sharing Norfolk Southern's sustainability message.

"We're letting our employees know about sustainability options to promote professional and personal ways to have environmentally friendly habits," said **Jamie Helmer**, manager process improvement and chair of Roanoke SustaiNS.

With about a half dozen regular members, Roanoke SustaiNS has set up recycling containers at work spaces to gather aluminum cans and plastic bottles, regularly collects rechargeable batteries for recycling, and sponsors an electronic recycling event twice a year for employees. During NS' yearly safety fair in Roanoke, the group distributes information encouraging employees to support local businesses and to buy fruits and vegetables from community-supported farm share organizations. As a sweet treat, SustaiNS members made ice cream in a hand-cranked machine and handed it out to employees on Earth Day.

The group also focuses on energy conservation, participating in Roanoke's Clean Commute Challenge and Ride Solutions program, which encourages carpooling and riding bicycles to work. The railroad worked with Ride Solutions to install a "fix-it" station in a municipal garage, where cyclists can make minor repairs to their bikes, and also set up a bike rack outside the Roanoke office. NS' support prompted the League of American Bicyclists to award the company an honorable mention in 2012 as a bicycle-friendly business.

About 20 Roanoke employees regularly bike to work, including **Tom Glasscock**, assistant manager car engineering. "I started doing it to save gas money and to get in better shape, but I also enjoy bike riding," said Glasscock.

Roanoke SustaiNS has taken NS' sustainability message into the community, donating terrariums and rainwater barrels to local elementary schools.

"It's very important to our environment that we do this and very important to NS that we do this," said **Wanda Centers**, a clerk in expenditure accounting, miscellaneous billing, who is involved in SustaiNS. "We want to be as green as we possibly can. It sends a message to other employees, and we carry it home to our communities." ■ BizNS



"We're letting our employees know about sustainability options to promote professional and personal ways to have environmentally friendly habits."

— **Jamie Helmer**, manager process improvement

NS sees gain in train metrics as Movement Planner matures

NS IS THE FIRST U.S. RAILROAD TO IMPLEMENT MOVEMENT PLANNER. AN EARLY VERSION ASSISTED THE U.S. MILITARY IN BATTLE MANAGEMENT LOGISTICS DURING THE FIRST GULF WAR.

In June of 2010, Norfolk Southern and GE Transportation announced a breakthrough technology called Movement Planner, a computer software system designed to improve the flow of trains across the railroad's network.

Over the past three years, NS gradually rolled out the system on the Georgia, Central, and Alabama divisions, continuing to tweak the software to accommodate the complexities of the railroad's infrastructure. In March 2012, NS began ramping up use on the Georgia and Central divisions.

Now, with many of the bugs worked out, Movement Planner, known as MP, is starting to reveal its promise, said **Andy Siesenop**, NS director transportation systems in Atlanta. An analysis of train traffic in 2012 on the Georgia Division indicates that MP contributed to noteworthy improvements in train velocity and on-time performance.

The study, done in conjunction with GE, showed that average train speed on the division increased by about 7 percent, or nearly 2 mph, over 2011. Average on-time performance improved for all NS revenue trains, with merchandise trains seeing gains of nearly an hour. The analysis looked primarily at trains moving between Macon and Chattanooga through Atlanta.

"This is not just a couple of trains performing well – this is the majority of our trains performing better," Siesenop said. "We're seeing improvements; we're seeing things get better."

Increased train velocity is one of the major benefits NS expected from MP. Increasing velocity creates more track capacity and improves the use of assets such as locomotives and railcars. In turn, that generates potential cost savings in the millions of dollars by enabling NS to handle more traffic without buying additional locomotives and railcars or building new track.

Improved on-time performance means NS can better serve customers and gain efficiencies in yard operations.





“Our customers want consistency, and that’s what MP can help us give them,” Siesenop said. “When you have consistency, our yards and terminals operate more smoothly, as opposed to the sporadic kind of operation they’re forced to have when trains are early one day and late the next.”

Another benefit NS is beginning to realize with MP is more efficient scheduling of track maintenance-of-way work. Earlier this year, NS tested and approved a process whereby Engineering Department employees can use mobile devices and laptops to access MP track line information and plan daily maintenance work based on times that trains will not be moving over specific sections of track. Maintenance gangs on the Georgia Division already are using this information to plan their work, and NS intends to expand the mobile line view to other divisions.

“We’ve never had anything like this before,” Siesenop said.

Battle tested

NS is the first U.S. railroad to implement MP. The technology is built on a complex algorithm that incorporates NS business priorities, locomotive horsepower, track topography, and train tonnage. Siesenop said an early version of the algorithm was developed to assist the U.S. military in battle management logistics during the first Gulf War.

What makes MP valuable for NS is its ability to create a plan for train movements system wide. An individual dispatcher has responsibility for train movements across a single territory. MP has the capability to look eight hours in advance across the network and sort through thousands of pieces of data, including hundreds of daily train schedules, to make up a movement plan.

The system includes a train performance calculator that can estimate a train’s arrival at a location within five minutes of a 100-mile stretch. “It’s super accurate; it’s got an awesome physics engine in it,” Siesenop said.

■ **Andy Siesenop**, NS director transportation systems, says Movement Planner is beginning to show its promise in helping NS improve network velocity. In the photo, he is inside the command center at NS’ Goode Building in Atlanta looking at computer monitors that display Movement Planner’s track line views of trains moving across the Georgia Division.

Dispatchers play a vital role

While MP can do things that humans can't, the system is not able to run the railroad without dispatchers and other NS employees. The system analyzes information fed into it by terminal employees about train departure times, for example, and by dispatchers when unexpected events cause delays.

If a train is delayed by weather or locomotive mechanical failure while traveling to a terminal on line of road, for instance, a dispatcher must enter that information into the system in order for MP to recalculate a movement plan. Dispatchers also communicate with train crews and help ensure that train meets and re-crews go smoothly.

"Movement Planner is reliant on the most current data to make its plans," said **Andy Koch**, chief dispatcher on the Georgia Division. "It's also dependent on dispatchers to give out and keep track authorities up to date."

A critical piece of implementing MP has been getting dispatchers trained and comfortable using the system. MP has an "autorouter" function that enables the software to clear track signals based on the plan it has generated. Dispatchers oversee the process and can manually override the MP's autorouter, which can be necessary when something unexpected occurs.

However, because MP factors in train movements system wide, overriding MP can create problems in train flow over the network. While an MP routing decision might not make sense to an individual dispatcher on one territory, it may be best for system fluidity in the long run, Koch said.

"Right now, we're talking train performance with our dispatchers, and we're looking at the use of the MP autorouter," Koch said.

Not surprisingly, Siesenop said, the analysis of train movements on the Georgia Division showed a strong correlation between train velocity improvement and use of MP autorouter to clear signals. By December 2012, dispatchers were using autorouter nearly 80 percent of the time, compared with 30 percent at the start of the year.

Reaching that point has been a gradual process for many dispatchers used to the old way of doing business.

"When I first sat down with Movement Planner, it was painful," said **Pam McDaniel**, a dispatcher in the Georgia Division's Atlanta office and a 10-year NS employee. "It takes a lot to learn the system."

Dispatchers have gotten more comfortable using MP. It helps that NS managers have been sensitive to dispatchers' concerns, McDaniel said.

"They are listening to our input and making changes as we need to, and that's a positive thing," she said. "That helps us out a lot."

Sustainability possibilities

Eventually, MP could play a role in NS' corporate sustainability efforts. Improving train velocity and on-time performance can generate fuel savings by eliminating unnecessary train idling caused by congestion, for example, translating into reduced carbon emissions. MP also contributes to the company's economic sustainability by improving operating efficiencies, reducing costs, and boosting customer service.

Over time, NS plans to link MP with the train-handling system LEADER, an onboard locomotive computer system that helps engineers achieve maximum fuel economy. With those two technologies working in tandem, NS expects to see measureable additional fuel savings and reduced emissions. ■ BizNS





well·ns



BATTLE OF THE BULGE:

With WellNS, employees take charge

"We've seen people lose 40 and 50 pounds. There is nothing that Lamberts Point has done that can't be done at any other terminal across the system."

– **Mary Pitman**,
manager health
promotions

■ **TOP:** Employees at Lamberts Point Terminal in Norfolk are getting active, eating healthier, and taking off the pounds. Among those who have benefited are, from left, **Ray Shank**, who retired in July, **Dan Welch**, piermaster, and **Ken Barden**, chief clerk.

While America faces what many health professionals consider an obesity epidemic, a growing number of Norfolk Southern employees are determined to fight the battle of the bulge. Through NS-sponsored programs such as Weight Watchers At Work and Virgin HealthMiles, they are getting active, making better food choices, and noting overall improvements in their health.

Mary Pitman, NS manager health promotions, hopes to see more such results as she aims to increase participation in WellNS programs, which dovetail with NS' social sustainability efforts. One major item on her to-do list: To replicate the success of the Lamberts Point Weight Watchers group at other field locations.

NS expanded the Weight Watchers At Work program to Lamberts Point in October 2011, with 28 male employees at the coal transload facility signing up. Within a year, the participants there had dropped more than 1,200 pounds collectively. By early this year, the group had begun its fourth 17-week series.

"They're knocking it out of the park," Pitman said. "We've seen people lose 40 and 50 pounds. There is nothing that Lamberts Point has done that can't be done at any other terminal across the system."

A good support system

These days, Lamberts Point serves up grilled chicken, baked potatoes, and salad instead of fast food fare at employee recognition cookouts. Employees also stopped holding "biggest loser" contests, which are focused on dropping weight quickly and often don't lead to long-term success.

"We don't want to focus on weight loss," Pitman said. "We focus on activity. If you get more active, chances are you're going to lose weight."

Ken Barden, chief clerk at Pier 6, was one of the first to join the Lamberts Point Weight Watchers. Diagnosed with type 2 diabetes, Barden decided to make lifestyle changes after his doctor took out a needle and proceeded to show him how to inject himself with insulin.



"I said, 'Wait a minute. If it will help, I'll go on a plan and see what I can do,'" he recalled.

Taking advantage of a 50 percent subsidy that NS offers employees and spouses, Barden signed up for Weight Watchers. He also joined Virgin HealthMiles, a program introduced by WellNS two years ago to encourage walking and other activity. Barden lost 50 pounds and lowered his glucose, cholesterol, and blood pressure. He maintains his weight by working out on a treadmill before going to work. "I got myself into a habit of exercise that's hard to beat," he said.

An important factor has been support from his Weight Watchers colleagues. During the past year, eight of his co-workers in the pier operations group each have lost 30 to 60 pounds. "We help each other out and praise everyone," he said.

Earn cash by walking

Participants in Virgin HealthMiles wear a pedometer that records their steps, and they can use computer stations to track their weight, body mass index, and blood pressure. They can earn up to \$500 annually based on the number of steps they take and points earned for improving weight, BMI, and blood pressure scores.

Initially, employees paid \$50 each year to participate, but NS began picking up the tab in mid-2012, sparking an uptick in enrollment. In June 2012, 1,700 employees participated. By the end of January, more than 9,300 had joined.

Employees are seeing results. For example, **Zaccheus Moss**, a dispatcher in Greenville, S.C., said he has shed approximately 45 pounds since signing up. He now averages 12,000 steps a day.

"Once I started in the program, it gave me more accountability," he said. "It had been a long time since I had consistently done exercises, but I work out five days a week and check my steps daily. I'm probably in the best health I've ever been in."

Tonisha Jackson, Operations Service & Support clerk in Atlanta, started keeping track of her steps with Virgin HealthMiles a year ago after gaining 30 pounds. The program gave Jackson incentive to increase her daily steps, but the weight did not come off as quickly as she wanted, so she joined Weight Watchers. By early this year, Jackson had lost the extra pounds and vowed to maintain her weight loss.

"It's definitely a process and more mental than anything," she said. "I had to learn portion control and how to not overeat, but my overall fitness level is great."

Ocie Fulford, senior customer account representative, customer accounting, got involved in WellNS after realizing he needed to make health changes. He enrolled in Virgin HealthMiles, began running, joined a gym, and started bringing healthy lunches to work instead of eating out. He noticed a difference right away.

"I have a spring in my step and no more poor circulation," he said. "I think I will be healthier in the long run because I will keep the weight off. It's a constant health improvement versus immediate weight loss." ■ BizNS





■ NS employees **Eileen Relford** and **Scott Morrow** work out in an Atlanta gym.

Healthy living is contagious For Modalgistics employees

After joining Norfolk Southern's Modalgistics Department in October 2011, **Eileen Relford** immediately noticed something different about her co-workers: They spent their lunch hour at the gym instead of at fast food restaurants, snacked on fruit instead of candy, and tried to walk throughout the day.

"I had not spent a lot of time around people who made a healthy and active lifestyle a priority, and it impressed me that they made time to do that," said Relford, who left the department earlier this year to become systems support manager with Operations Service & Support.

Relford decided to follow their lead. She began exercising during lunch at a gym near Atlanta's Goode Building. "It was painful at first, but I saw positive results," she said. Encouraged, she enrolled in Weight Watchers at Work, where she learned how to make better food choices. "The key for me was figuring out what is the right amount of food to eat," she said. "Weight Watchers brought it all together."

Within a year, Relford had lost nearly 60 pounds, run two 5k races, and inspired her husband and parents to start their own fitness routines. These days, she watches her diet, jogs four times a week, and uses an elliptical trainer on days she does not run.

The Modalgistics group has become known throughout the Goode Building for dedication to healthy lifestyles. Members are mainstays in the Weight Watchers at Work program, have mapped out nearby walking routes, and have sponsored a health awareness booth at NS' annual safety expo.

"Modalgistics began wellness before NS started its WellINS program," said **Alan Brown**, senior

manager supply chain strategy. "We all believe that wellness and fitness are components of safety, and we started incorporating fitness into our personal safety action plans. If you are not fit, you cannot safely perform a number of tasks. Your attention is distracted."

Brown changed his eating and exercise habits after his weight peaked at 367 pounds. He has lost 50 pounds but says he continues to struggle with his weight.

"Diets are temporary," he said. "Lifestyle changes are more lasting." His family also joined in. They began eating more fruits and vegetables and opted for a "fitness vacation" last summer that included daily workouts at the YMCA. "My wife wanted to get the family focused on health, so we said let's just do a total immersion."

Scott Morrow, Modalgistics specialist supply chain analytics, has served as an inspiration for colleagues. He keeps "before and after" pictures on his desk to show how far he has come since watching his weight creep up to almost 400 pounds.

Six years ago, Morrow started walking at lunch, began visiting the gym, and joined Weight Watchers at Work. Over time, he shed about 140 pounds. His weight loss led to an appearance on "Good Morning America" and an article in "USA Today."

Morrow, who has kept most of the weight off, averages about 20,000 steps a day as a participant in NS' Virgin HealthMiles program. He has lowered his blood pressure to the point that his doctor took him off medication.

"Daily exercise and eating healthier are part of my life now," Morrow said. "I'll never go back to the way I was." ■ BizNS



NS expands reach on rail safety with Operation Lifesaver trains

“We simply can’t be in every community every day to talk about public safety and the railroads. What we try to do with these Operation Lifesaver trains is reinvigorate existing partnerships and create new ones.”

– **David Pidgeon**,
NS manager public relations

Residents in communities served by Norfolk Southern don’t often get a chance to ride in a train to learn about railroad safety. In April, NS helped make that happen, teaming up with Operation Lifesaver to offer two weeklong excursions that promoted highway-rail and pedestrian safety along major NS rail routes.

The public outreach campaign provided guests an opportunity to ride in NS-owned Pullman passenger cars and see the railroad through the eyes of a locomotive engineer. As the train traveled on the tracks, a camera mounted on the front of specially painted NS Operation Lifesaver locomotives streamed live video on monitors in the passenger cars. Guests could enjoy the scenery while observing the potential safety issues that train crews encounter daily.

“The Operation Lifesaver train is a working example of the complexities of the railroad industry,” said **Dale DeLozier**, an NS police supervisor special agent who participated. “Until one is actually onboard a train and sees the self-contained community of the railroad firsthand, it is only a concept.”

Together, the back-to-back safety trains – one traveling in the North between Buffalo, N.Y., and Huntingburg, Ind., and the other down South between New Orleans, La., and Greensboro, N.C. – stopped in 23 cities while passing through 11 states and covering 1,381 route miles of NS territory. Guests included community leaders, law enforcement officers, safety officials, first responders, and Operation Lifesaver volunteers.

In addition to safety, the trips gave NS an opportunity to educate guests about the company’s heritage and the benefits of freight rail transportation.



■ FAR LEFT: An NS Operation Lifesaver train prepares to cross Lake Pontchartrain in Louisiana as it travels from New Orleans to Birmingham this spring.

■ LEFT: **Derrick Mason**, NS manager grade crossing safety, talks to passengers about rail safety during an April Operation Lifesaver excursion.

Partners in safety

Operation Lifesaver is a nonprofit organization started in 1972 that provides free educational programs across the U.S. to prevent collisions, injuries, and fatalities along railroad tracks and grade crossings. Working with organizations and communities to promote rail safety is part of NS' sustainability efforts in social performance.

"Operation Lifesaver and its mission truly fit the Norfolk Southern model that safety is good business and an integral part of our culture," said **Will Miller**, NS manager grade crossing safety. "We make sure these leaders understand our safety message."

The safety train trips enable NS volunteers to expand their reach over territories that stretch across multiple states.

"We simply can't be in every community every day to talk about public safety and the railroads," said **David Pidgeon**, NS manager public relations. "What we try to do with these Operation Lifesaver trains is reinvigorate existing partnerships and create new ones."

The effort represents a tremendous partnership, not only between Norfolk Southern and Operation Lifesaver, but also with state and local leaders, federal officials, and other Class 1 railroads, said **Bill Barringer**, director grade crossing safety.

"We are fighting a good fight and making a difference in people's lives," he said. "We are looking for every opportunity and avenue to provide our safety message."

Knowledge is power

During the excursions, NS volunteers talked with guests about railroad safety, heightening awareness of potential dangers on the railroad.

Tom Miller, a member of the Ohio Port Authority board of directors, was a guest on the train traveling the northern route. He is a longtime member and supporter of OL.

"I always enjoy speaking at schools to educate young people about the unseen dangers of the railroad," he said. Miller said it's important to instill rail safety into the thought processes of adolescents to prevent future incidents. For that reason, OL programs often are provided in schools.

The trip proved beneficial for those involved in enforcing public safety.

"It was definitely an eye opener for me, and I encourage fellow law enforcement officers to take advantage of the experience, even if their community doesn't have railways," said **Steve Ashton**, a retired police officer who now works as an accident reconstruction expert. "Everyone shares the responsibility to understand the seriousness and potential repercussions of illegally crossing train tracks." ■ BizNS



**OPERATION
LIFESAVER®**

Look, Listen & Live

NS takes cooperative approach to improve performance

“It’s all in how you approach somebody. I approach the individual in a positive way. My involvement is not associated with discipline, so it’s positive all the way around.”

– **Ty Thompson**,
union leader and engineer,
Sheffield Yard, Alabama



As a union leader, **Ty Thompson**, an engineer at Alabama’s Sheffield Yard, is used to employees coming to him for advice. With Norfolk Southern’s ongoing shift in operating culture, supervisors are seeking his assistance more often as well.

Thompson and other union representatives across the railroad are working more closely with management to help identify ways to correct undesirable employee behaviors and boost employee morale. As co-workers, labor representatives can communicate less formally with craft employees and often can generate desired behavior changes through mentoring. Senior managers believe that maximizing this approach will further enhance improvements in NS’ safety and service performance.

“We often involve the local chairs and give them an opportunity to impact what’s going on and try to correct a situation,” said **Todd Reynolds**, general manager Western Region. “We’ve told the local chairs that we would like to give them an opportunity to handle some issues in a different way. It’s win-win. Their people can avoid getting in trouble, and they have the opportunity to provide guidance based on their own experience. They can say, ‘Here’s what you need to be doing and why it’s important.’ ”

While bluntness can be an advantage, Thompson said he is careful not to let his candor overwhelm co-workers.

“It’s all in how you approach somebody,” Thompson said. “I approach the individual in a positive way. My involvement is not associated with discipline, so it’s positive all the way around. When a person is reprimanded for something, they often get tunnel vision, and that’s all they see. You’re not going to get anything out of anybody by being mean and ugly.”

As part of the shift in operating culture, supervisors have received training in behavioral science processes that emphasize the importance of positive reinforcement. Managers have become more aware that they can reduce rule infractions by giving recognition to employees who perform their work tasks in the desired ways.

“When we handle things only with discipline, we don’t always get the desired results,” said **Dan Bostek**, Alabama Division road foreman of engines.

As an example, he noted that road foremen in the past regularly reviewed locomotive data tapes to determine if engineers were following proper train-handling procedures.



"It was used as a scorecard for violations," he said. "When we talked to employees about their tape, they'd go on the defensive." As supervisors have focused on giving positive feedback for good train-handling performance and involving local union leaders as peer coaches, they have begun to see attitude changes, he said.

Bostek, a railroader for more than 20 years, admits that he rarely handed out compliments before NS' culture shift.

"I was always more of the rod and less of the carrot kind of person," he said.

Initially skeptical that behavior-based principles would be effective, Bostek became convinced after seeing employees respond to counseling and positive reinforcement. He recalled an incident involving an engineer with repeated improper train-handling issues.

"I went to the local chairman and said, 'We're better than that. Why isn't he getting the message?' He said, 'Let me handle this,'" Bostek said.

With guidance from the union leader, the employee improved his job performance. "Discipline only gets you so far," Bostek said. "It takes reinforcement of the desired behavior along with correction of the undesirable behavior to be successful."

Positive reinforcement and effective mentoring have enhanced morale and performance on the Memphis district where Thompson is based.

"When a person's attitude and morale are high," Thompson said, "productivity is high." ■ BizNS

■ TOP: NS engineer **Ty Thompson**, local chairman of the Brotherhood of Locomotive Engineers, based in Sheffield, Ala., says positive reinforcement and effective mentoring have improved employee morale and performance.



Employees put in extra effort to keep customers satisfied

When he arrives for his morning shift, **Ricky Jones**, a conductor at Norfolk Southern's Gainesville, Ga., yard, already has his work day mapped out. The 35-year NS employee prepares the night before by logging onto his home computer to find out what railcars he will be pulling for his daily 200-mile run.

It's not a requirement that he check the inbound train list before reporting to work. He does so out of a commitment to providing top-notch customer service.

"When we get off at night, the trains we'll have the next day are already in motion," Jones said. "By knowing that, you're prepared for the next morning. You don't have to stop and look at 10 different tracks to find out where the railcars are."

Jones' dedication to his work and to ensuring that his customers receive shipments in a timely and safe manner helped the Piedmont Division last year earn a Best Division service award for connection performance and adherence to local operating plan, known as LOPA.

"We have conductors, train and engine crews, brakemen, and engineers on our division who take personal ownership and pride in making sure customer relations and routes are correct," said **Robert Lewis**, Piedmont Division superintendent.

Lewis said the company's changes in operating culture contributed to the division's enhanced performance. Managers have implemented initiatives to create a more positive work environment and to demonstrate that NS is an industry leader in both safety and service. As a result, more employees like Jones are putting forth what managers call discretionary effort — going the extra mile to do a good job.



■ FAR LEFT: NS conductor **Ricky Jones**, left, confers with NS engineer **Orwin Massiah**.

■ LEFT: Conductor **Ricky Jones** works local trains out of NS' yard in Gainesville, Ga.

"Yardmasters and trainmasters make a big deal out of minimum failures," Lewis said. "That's really made people proud of the job they do."

Taking pride in the work

The Piedmont Division has more industry switching jobs and local trains than any other NS division, and both factor into its goal to exceed customer expectations. Other conductors have followed Jones' example to look ahead at the day's work lineup.

"They see it helps them," Jones said. "They take pride in getting the job from one point to another. Being ahead of the game allows them to do that."

Improved communication among mechanical, transportation, and engineering departments has contributed to the division's improved connection and LOPA performance, said **Graham McPherson**, Piedmont Division manager mechanical operations.

"It's each locality knowing through communication with their transportation counterparts what cars need attention," he said. "From a mechanical aspect, we're putting extra emphasis on bad order cars to get them repaired in a timely fashion. That helps the connection along so we don't delay any longer than we have to."

Flexibility is also important, especially at the Linwood, N.C., yard, the division's only hump yard. In the past, bad order cars were moved from the yard to the car shop repair track, a time-consuming process. Now, to speed things up, mechanical employees use yard tracks to work on cars that need only minor repairs.

"If we can avoid bringing a car to the repair track, it will get repaired a lot quicker," McPherson said. "If it's something we can do in the yard, we need to do that there." ■ BizNS

"When we get off at night, the trains we'll have the next day are already in motion. By knowing that, you're prepared for the next morning. You don't have to stop and look at 10 different tracks to find out where the railcars are."

– **Ricky Jones**, conductor,
Gainesville, Ga.

ON A WINNING STREAK

Culture change in Cleveland brings improved safety and service

When it comes to culture change, the transformation at Norfolk Southern's Cleveland Terminal is almost seismic. The shock waves greeted **Michael Bradley** when he became the terminal's superintendent last summer, six years after having previously worked there.

Where relationships had once been contentious, Bradley found that cooperation and open communication were flourishing as supervision and craft employees joined forces to bolster safety and maintain an injury-free streak. Service also had improved, with customers regularly commending crews' work.

Overall, employee morale at the terminal has been on an upswing, despite the loss of business when several automotive customers fell on hard economic times.

"I really think there's been a change of attitude in Cleveland," said Bradley, who in June became the Dearborn Division's assistant division superintendent. "There's been more cooperation and communication and a push to get people more involved. They're stakeholders who feel like they're part of Norfolk Southern and want to be part of the process."

Improved communication has been a key factor. Even before NS launched behavior-based safety processes, the terminal had been focusing on improved interaction between supervisors and employees. Daily job briefings give supervisors opportunities to discuss customer needs and challenges facing the terminal. They solicit employee feedback for improving safety and service and implement their ideas.

"Morale gets better when there's personal involvement," said **Kevin Schmidt**, switchman. "Everybody works together and talks to each department."

Bradley said union representatives also have been involved.

"Employees recognize and understand that work is near and dear, and if they don't do the job, chances are Cleveland will lose work to other terminals," he said. "Supervisors are talking to crews, not just sugarcoating it, and, at the same time, they're listening to crews' concerns."

Supervisors have improved their approach with employees when addressing safety and service issues, Bradley said. As a result, their interactions have become more positive.

"Employees recognize and understand that work is near and dear, and if they don't do the job, chances are Cleveland will lose work to other terminals."

– **Michael Bradley**,
assistant division
superintendent,
Dearborn Division

“Now, you can talk with crews and have a good, meaningful conversation,” he said. “They engage you and help solve problems.”

Glen Latterner, conductor, said employees appreciate Bradley’s direct approach, even when the news is not positive. “If somebody has a question, he answers it point blank. There’s no beating around the bush,” said Latterner. “Guys start trusting and step up to the plate to go out of their way to do a better job to take care of the customer.”

Last year, Cleveland’s safety and service committee brought the terminal’s transportation and mechanical departments together to devise a method for keeping track of end-of-train devices. Flashers on the devices were frequently misplaced throughout the day, causing third-shift deliveries to be delayed.

“We made an EOTD tracking sheet that was filled out every shift,” Schmidt said. “If we’re short on EOTDs, we can do something in advance, and customers have fewer complaints about cars not arriving in time.”

This year, the committee is working to reduce the time involved in changing train and engine crews at Rockport. “We asked for ideas from employees,” Schmidt said. “We got feedback suggesting that we call the re-crews in earlier. A lot of people see it as their idea and are trying to make it work. They see that management is listening to them and accepting their ideas.”

Employees and management have promoted customer service and safety, said **Alan Thompson**, a locomotive engineer and local union chair from 2006 to 2012. For the past two years, Cleveland was reportable injury-free, a change from past years when the terminal typically recorded up to eight injuries annually.

Thompson is eager to extend the injury-free run.

“We’re not used to streaks in Cleveland unless they’re losing streaks,” he said, a reference to the lackluster performance in recent years of the city’s professional sports teams. ■ BizNS



■ Pictured here are end-of-train devices, used to monitor a train’s brake line pressure.

Chicago plays critical role in success of culture change

Located amid the nation's busiest rail hub and Norfolk Southern's largest interchange point with other rail carriers, the Chicago Terminal sets the pace for the Dearborn Division and the entire Northern Region. It also has been critical to the success of the railroad's SPIRIT culture shift.

The terminal during 2012 significantly improved its performance and safety metrics, contributing to the division's recognition as the most improved Group 1 division in train performance, connection performance, and adherence to local operating plan, known as LOPA.

"We've built a good team and used a lot of the behavioral science concepts from NS' consultant, Aubrey Daniels International," said **Patrick Whitehead**, formerly Dearborn Division superintendent and now assistant general manager Western Region. "We've had buy-in of folks to collaborate on best practices. We've gotten a lot of people's input into how to make operations better, and we're communicating to make sure we stay on track toward making our goals."

"Everybody is working together to improve corporate metrics," added **Michael Grace**, formerly Chicago Terminal superintendent who was named Dearborn Division superintendent in February.

During a two-week period earlier this year, both the Ashland Avenue and Burns Harbor yards recorded

exceptional LOPA scores. Out of 1,016 cars passing through Ashland Avenue, only one car failed to meet the terminal's LOPA work order schedule as a result of NS actions, while 174 were noncompliant with work orders for customer reasons. "That's a really excellent rate for NS," Grace said. Burns Harbor recorded 52 noncompliant rail cars because of NS, a 1.9 percent failure rate. "Obviously, the best of all possibilities is zero failures, but in the real world, less than 3 or 4 percent is doing real well."

To reinforce those metrics, Grace sent emails to congratulate Ashland Avenue Trainmaster **Cassandra Mullee** and Burns Harbor Trainmasters **Bryan Stater** and **Kelvin Lockhart**, copying their supervisors. They in turn shared the emails with Ashland and Burns Harbor employees.

"It helps get all employees more involved with taking accountability for service and personal safety," Grace said.

The performance improvement reinforces the critical role employees play in maintaining good customer relations.

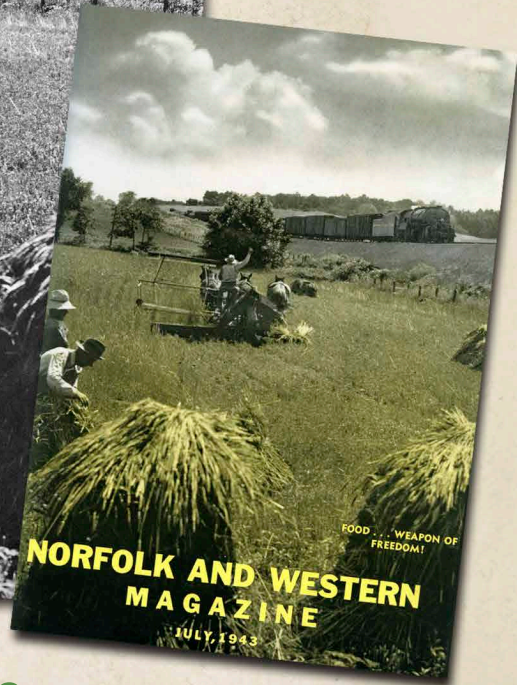
"Before, customer service was not the main goal," Mullee said. "It had always been important, but it was not something we focused on. Now, employees realize customer service is the direction the company needs to focus on, and if complications occur, they take it upon themselves to find solutions without needing management to get involved."

For years, Grace said, Chicago supervisors interacted with employees mainly to deliver negative feedback. Then NS introduced new behavioral science processes, bringing about new attitudes and improved relations. "We look for things employees are doing right and try to reinforce them," Grace said. In return, he said, employees become more accountable for safety and customer service.

"It instills a lot of pride in our work," Mullee said. "It's really a team effort, whether it's supervisors having great work relations with employees or employees having good work relations with customers." ■ BizNS



■ ABOVE: With the Chicago skyline as backdrop, NS trainmaster **Cassandra Mullee** talks with locomotive engineer **John Andrus**.



From the NS archives

In July 1943, the *Norfolk and Western Magazine* devoted its cover to a striking photograph of a farmer harvesting his field and waving to a passing steam train. “The farmer and the railroad have always been partners,” the magazine reported. During World War II, 6 million U.S. farms produced food that was viewed as a crucial “weapon of freedom.” The railroad linked cities with the land, transporting crops to consumers on the home front and to processing plants to be prepared for the troops.

N&W’s agricultural group worked with farmers to develop products that could be easily transported during wartime. Milk traveled in refrigerated cars to factories to be dried and condensed, while fruit from Virginia’s Shenandoah Valley headed to plants in Front Royal, Berryville, and Roanoke to be dehydrated. Trains hauled livestock and poultry to Army camps. N&W assisted farmers in the transport of soybeans, a useful livestock feed that also was used to produce glycerin for explosives and for synthetic rubber. In 1942, the railroad handled 1.3 million tons of agricultural products and 168,000 tons of canned goods, despite a tin shortage.

— *Jennifer McDaid*, NS historical archivist



On the cover: A bird's eye view of a plastic tube, attached to a stake, that shelters an oak seedling – part of an initiative at NS' Brosnan Forest to plant 1,500 acres of native oaks to help sustain wildlife.

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A day for hiring heroes

July 10 was a red, white, and blue day at Chicago's Union Station as "veterans" locomotives from Norfolk Southern and Amtrak served as backdrop at a "Hiring Our Heroes" jobs fair. NS was an industry partner in the GE-sponsored rail transportation event, which was held to help active duty military, veterans, reservists, and military spouses find job opportunities in the rail industry.

NS has been a strong supporter of the federal government's Joining Forces Initiative, an effort to hire veterans leaving the military.

"Norfolk Southern's rail network is a strategic part of the nation's infrastructure, and the operation of our network requires qualified individuals who understand a structured business organization," said **Eli Stancel**, NS corporate recruiter, one of several NS representatives who attended the fair. "A background with military structure and responsibility provides individuals with a skill set that can easily translate to the railroad community."

During the past six years, NS has hired about 1,300 veterans. Currently, employees with military service make up about 14 percent of the company's workforce. Late last year, **Marsha Jackson**, leadership council representative in Operations Service & Support and spouse of a Vietnam veteran, helped form the employee resource group VeteraNS in Atlanta to further build a support system for veterans in the company. VeteraNS will be launched system wide next year. ■ BizNS



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