The bridges of BNSF
Inside this issue

3  Looking down the line
4  Carl Ice on the BNSF Leadership Model
5  Thoughts on 2011: A year of opportunity
9  PTC moving forward: Work under way on 21 more subdivisions
10  The bridges of BNSF
12  Building big: Major bridge projects under way
15  Watchful eyes: Bridge inspectors’ job to know every bolt, beam and brace
16  Team volunteers offer support
18  Budding artists tell safety message
20  New learning portal consolidates training tools
21  It’s never too soon to get snapping!
22  Modeling the Way
23  BNSF Scholarship update

Editor’s Note: We hope you like the new size and look of Railway magazine, your source for in-depth information about important company, employee and industry news. As always, we like to hear from you, so please drop us an e-mail at Corporate.Communications@BnSF.com and let us know what you think!

Our vision is to realize the tremendous potential of BNSF Railway Company by providing transportation services that consistently meet our customers’ expectations.

BNSF Performance Measures

BNSF Units* Handled
Year-to-date through Feb. 6, 2011

<table>
<thead>
<tr>
<th>2011</th>
<th>2010</th>
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<tbody>
<tr>
<td>Coal</td>
<td>229,490</td>
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<tr>
<td>Agricultural Products</td>
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<td>System</td>
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* Carloads, trailers or containers

BNSF Reportable Injuries
Year-to-date through Jan. 28, 2011

<table>
<thead>
<tr>
<th>2011</th>
<th>2010</th>
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</thead>
<tbody>
<tr>
<td>35</td>
<td>50</td>
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BNSF 2011 Velocity Performance
Quarter-to-date through Feb. 6, 2011

<table>
<thead>
<tr>
<th>Locomotives miles per day</th>
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<tr>
<td>Agricultural car miles per day</td>
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<td>177.2</td>
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<tr>
<td>Merchandise car miles per day</td>
<td>141.9</td>
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</tr>
<tr>
<td>Coal car miles per day</td>
<td>333.3</td>
<td>274.2</td>
</tr>
<tr>
<td>Intermodal transit days</td>
<td>3.68</td>
<td>3.85</td>
</tr>
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</table>

- Locomotive data is measured as miles per day.
- Agricultural, Merchandise and Coal active car cycle data is measured as miles per day on the BNSF system.
- Intermodal average transit days=Average time between cutoff and deramp or interchange delivery (transit time starts at cutoff or first train departure if cutoff is after first train departure). The measure weights average trailer and container transit times. With this measure the lower the number the better.
As I review all we achieved together during the past year, once again I am incredibly proud of our company and our people. When they update the history books on BNSF, 2010 will be a chapter all to itself.

About a year ago, we were completing the transaction that made us part of Berkshire Hathaway. As we noted then, Warren Buffett could have chosen any railroad, and he chose BNSF. We said that we expected to see very little change in the way we run the company, which has also proven true. We have a legendary owner who recognizes our importance to the U.S. and global economies and who supports our long-term strategies for growth and service. We can all take pride in being part of one of the largest companies in the world, and the results for BNSF and our customers have been positive.

2010 was an important year in several other ways. We once again proved our strength as our freight volumes increased 9 percent over 2009, reflecting some economic recovery as well as our focus on meeting customer expectations and attracting new business. We also did a good job of cost control, and significantly improved our operating income and several other key measures. We still face much economic uncertainty, but we made good progress in 2010 under challenging conditions.

We also made important strides in safety. Our frequency ratio of 1.77, our best in several years, reflected a 13-percent improvement over 2009. Our severity ratio also improved by 15 percent. At the same time, we recognize that, with two fatal injuries in 2010, we have more work toward our vision of an injury- and accident-free workplace. As always, we each must take personal accountability for our safety, comply with the rules and intercede whenever we see at-risk behavior.

Another crucial objective for 2011 is to improve velocity and on-time performance. We fell short of our velocity goals for coal and intermodal in 2010, and our on-time performance of 87 percent was lower than the 92 percent we achieved in 2009. I am confident in our ability to build on Best Way and other service and efficiency initiatives as we focus on improving velocity and meeting customer expectations.

2011 will be important in many other ways. This year we expect to invest approximately $3.5 billion to ensure our infrastructure remains strong and to improve the efficiency of our operations. We will also continue our hiring plan. Our owners at Berkshire Hathaway have been very supportive as we build for the future and keep our network strong.

A substantial part of our spending will go toward ongoing work installing positive train control to meet the 2015 deadline for this unfunded mandate from Congress. We’ll also continue to encourage a rational and stable public policy environment for the rail industry, including reasonable regulatory and energy policies.

As we begin another year, it is important to reflect on the very difficult period we have been through – as a nation and as a company. The recession had a dramatic impact on the U.S. economy, clearly evidenced in the significant drop in volumes on our railroad. Though our weekly volumes have recovered somewhat, they are still well short of where they were during our peak volume in 2006, and we don’t anticipate full recovery until 2012.

Throughout this economic downturn, our company and our industry have fared much better than most. While many companies took dramatic actions to cut wages and benefits and restructure pensions, we did not. The adjustments we made were modest, and by mid-2010 we were able to bring back all employees furloughed during the worst of the recession. Our company is fortunate to have performed at the level we did.

These accomplishments during difficult times were the result of the talents of the entire employee community. I look forward to the many opportunities and challenges our company faces this year. Thank you for your dedication and your contributions to BNSF’s continuing success.
On Nov. 1, Carl Ice was named president and chief operating officer, responsible for Operations, Marketing and Technology Services. In this role, Ice oversees the day-to-day operations of the company, helping to drive BNSF’s strategies for safety, service, growth, efficiency and technology. Previously, Ice served as executive vice president and chief operations officer since December 2000 and, prior to that, held several other executive positions in Operations, Finance and Information Systems. Ice began his railroad career with Santa Fe Railway in Industrial Engineering in 1979.

Each of us has our own view of what it means to work at BNSF. For some of us, it means serving thousands of customers and communities as a vital part of the global supply chain. For others, it means being part of a large company that has been around for more than 160 years that offers good benefits and a steady job. Others enjoy the operational challenges or the ability to work outdoors or to work mostly self-supervised on a train or along the track. Some are here looking for challenging career growth.

I’ve been with this railroad for more than 30 years, and I’ve been part of the Leadership Team as long as BNSF has existed. Over that time, I’ve seen the many different perspectives our people bring to their jobs, but there have also been certain constants: We are all focused on operating a safe and efficient railroad, and we do it well. We’ve also done a good job, over time, of improving returns on the service we provide, which keeps our company strong in good times as well as tough times.

But equally important is considering the kind of company we want to be. How do we plan our business? How do we treat each other? What do we value in our leaders? Our Vision & Values and Leadership Model were developed for just that reason – to define BNSF’s culture and leadership style.

The process started in 1996, a few months after BNSF was created, when the Leadership Team developed our Vision, which focuses on meeting customers’ expectations. The Vision has been reviewed a number of times since then, but it remains relevant and relatively unchanged. The Management Team also defined our Values, the qualities that drive our culture and the way we treat each other, including Liberty, Equality and Community.

The Leadership Model was the natural next step, and it became the foundation for leadership training to support our Vision & Values. We’ve had the Leadership Model more than 10 years, and today it influences all of us and the way we work together, even those who don’t formally supervise others.

Our Leadership Model builds on our strengths, with five tenets that challenge us to grow as leaders and as individuals:

- Create a compelling vision
- Model the way
- Lead more, manage less
- Communicate, communicate, communicate
- Make development a priority

Over time, the model has become the cornerstone of how we run the company. It is part of every exempt employee’s Performance Management Process, and it has been at the core of every companywide leadership training program since 2001.

Implementing the Leadership Model is a work in progress, just as BNSF continues to be a dynamic and growing company. Yet I believe that we succeed, in the face of many challenges, because we have a clear direction and are supported by a dedicated team of 38,000 employees. Our people are what set us apart. I firmly believe that our Vision & Values and Leadership Model will help us continue to improve, to be the type of company where employees want to work, where they feel valued and challenged, and where they enjoy what they do.

In the coming year, I see my role in part as advancing the good work already under way in Operations, Marketing and Technology Services. But I also see my role as encouraging the type of leadership culture that will help us continue to succeed and thrive as a company – and as individuals. We have a great foundation, and I know that with all of our commitment and hard work, together we can build on that success in 2011.
Thoughts on 2011: A year of opportunity

Building on a steady improvement in volumes in 2010, the year ahead looks to be a brighter one compared with the recent recession years. In the pages that follow, BNSF’s four executive vice presidents share their perspectives on 2010 and 2011, including the opportunities as well as the challenges.

Q How did we do overall in safety in 2010? Do you anticipate any changes as we continue to work toward an injury-free workplace this year?

A Any discussion of our 2010 safety performance must be done in the context of our two employee fatalities – the loss of Andrew Weaver on Sept. 1 and Kelly Yadon on Dec. 1. These tragic incidents remind us how far we need to go to achieve our vision of a workplace free of accidents and injuries.

Beyond these incidents, our overall safety performance showed improvement throughout 2010. Our reportable injury-frequency ratio decreased by 13 percent, and our severity ratio and total reportable rail equipment incidents also improved year-over-year. We are encouraged by these trends and believe that our focus on a Culture of Compliance and a Culture of Commitment is driving improvements in our safety culture.

Regarding our Culture of Compliance, we work in a safe – but unforgiving – environment. Rules compliance is the price of admission to working at BNSF. But we also recognize that the vast majority of employees reliably do a good job and follow the rules. Our leaders will also reinforce and recognize that performance, as we work together to build a Culture of Commitment.

Finally, I believe we all can more fully leverage peer-to-peer safety to reduce risk and exposure. In many excellent examples across our network, employees are looking out for themselves and co-workers. These efforts reflect the ideal of “Safety WITH” rather than “Safety TO” our employees – essential to a sustainable Culture of Commitment.

Q As volumes rebound, how are we addressing velocity and on-time performance? How do our various teams and departments work together to meet customer needs?

A We are working to improve our performance against internal metrics as well as the expectations of customers in all business groups. We need to build on past Best Way successes to improve our velocity, asset and facility utilization, and cost performance.

Terminals need to focus on on-time performance not only for departing trains but also for railcars making the connections from industries, inbound trains and interchange from other carriers. Dispatching teams at the Network Operations Center and remote locations will strive to manage train operations to meet customer commitments and provide the Engineering team with track time for track, bridge and signal maintenance. Intermodal hub teams will work with Transportation to optimize those operations. The Mechanical team will inspect and maintain locomotives and freight cars to minimize or eliminate causes of delays and service interruptions.

Every member of these groups is...
working to exceed our velocity targets and, at the end of the day, to meet or exceed our customer expectations.

**Q** What are our major capital plan highlights for 2011, and how will these projects enhance BNSF’s efficiency and capacity? As we move closer to the 2015 mandated deadline for positive train control (PTC), what will we focus on in 2011? Is the industry making progress toward its interoperability goals?

**A** We’ll continue investing heavily in our physical plant and expect a 12-percent increase in spending for rail, tie and ballast projects. We’ll focus on maintaining ballast to extend the life of rail and ties and on replacing turnouts to improve switch reliability. This will also be another big year for bridges, as we continue work on the Burlington Bridge and other aging structures.

BNSF is in full stride to meet the 2015 federal mandate on PTC deployment. In 2010, we started significant engineering and infrastructure work on 12 subdivisions, and we will extend that work to another 21 subdivisions this year. Nearly every division will see activity as Signal and Telecommunications crews and contractors install microprocessor-based signal components and radios needed for PTC. Network Control Systems, Maintenance of Way and Mechanical teams will also be busy on PTC work.

Significant work remains on interoperability with the other railroads. BNSF has taken a lead role in deploying PTC technology and is working with the Association of American Railroads and American Railway and Engineering Association on standards and protocols for seamless transitions between railroads over shared right-of-way.

**Q** In the year that BNSF has been part of the Berkshire Hathaway family, have we changed the way we measure the company’s performance?

**A** No, we have not changed our measurements. We still run the company with the same basic metrics that we have used for years, including daily, weekly, monthly, annual and longer-term measures. We continue to have a keen focus on improving safety, asset utilization, revenue quality, business growth and operational efficiency. About all that changed with the Berkshire Hathaway acquisition is that we no longer have outstanding shares that are widely held, so we are no longer reporting earnings per share. But we still have net income, so all of the inputs are the same.

**Q** Because we no longer have to report quarterly to Wall Street as a stand-alone company, how do we keep employees apprised of our progress? Why is it important that employees stay informed about BNSF and industry performance?

**A** Let’s start with why it is important and then address what we are trying to do. A major cornerstone of our Leadership Model is Create a Compelling Vision and another is Communicate, Communicate, Communicate. We strongly believe that an informed workforce is a powerful tool. In creating an informed workforce, we need to explain why and how the things we do every day matter. This includes comparing our performance with others in our industry and against our own prior performance.

Crafting an effective employee communication plan has been one of our tougher challenges following the Berkshire Hathaway acquisition. As a stand-alone public company, we published a lot of information. Some of this was required by regulation and some of it we determined was necessary to keep our owners/shareholders informed. We regularly communicated most of this information to our employees. Now we have one shareholder and, while we obviously report regularly to Berkshire Hathaway, those reports are not public. We still report some information to the Securities and Exchange Commission, but it is less than what was required before the acquisition.

So, to keep employees informed, we have made a conscious effort to post performance metrics on the intranet, expand our performance-related information for BNSF News and BNSF-TV, and feature updates on economic and industry trends in various employee videos. In the quarterly Insights e-newsletter sent to
all employees through Outlook, we’ve added considerably more detail on our volumes, revenues and earnings. We discuss this same information during our quarterly CEO conference calls with supervisors. We have also increased the frequency and improved the content of other communications. We know that this effort is a work in progress, but we definitely recognize the importance of keeping employees informed about how we’re doing and how we all can contribute to BNSF’s success.

Q A lot of companies are doing more with less, following the recession. Would you say that BNSF has emerged from the recession leaner as well? What does that mean for 2011?

A I believe that this applies to BNSF Railway as well as many other companies. 2009 was very tough, with an unprecedented downturn in volumes that began in the fourth quarter of 2008 and continued through all of 2009. But we focused on providing good service and being as efficient as possible, knowing that a recovery would eventually arrive. In our efficiency and cost initiatives, we were careful to avoid short-term actions that would damage our long-term franchise. In 2010, this recovery arrived quicker than we expected and we generally performed well, though in hindsight we were somewhat short of resources at times. Through our combined cost and efficiency improvements, we produced excellent financial results and returns once volumes began to improve. And we look for 2011 to be another strong year, as we maintain our efficiency gains and expect volumes to continue improving.

Q How strong is the economic recovery? What is our business plan for 2011, and how are we capitalizing on market opportunities?

A In 2010, we experienced a slow, but steady rise in the economy – with each month being better than the one before. That said, we are still a long way from what we experienced in 2006. We think that 2011 will see continued growth, but again, not back to the 2006 levels.

Our business plan, as always, is to grow all segments of our business, and 2011 will be no different. This year we will:

- Continue to focus on our existing customers; providing great service to our existing customers is the best way to grow out of a recession.
- Continue to capitalize on the tremendous opportunity to convert freight moving over the highway in our key lanes to rail.
- Focus on the opportunities in the Bakken Formation, shipping sand, clay, pipe and the oil produced from these projects.
- Look at ways to attract additional multinational Fortune 500 companies to rail. Currently, some of these companies use very little rail in the U.S. but have significant opportunities for conversion to rail.

Q The administration has a National Export Initiative goal of doubling exports in five years. How are we preparing for this, and do we have a port strategy for handling exports as well as imports?

A Currently, more than 25 percent of BNSF’s volumes move through the U.S. ports. Because so much of our business touches these ports and because of the increased focus on ports from governmental agencies, we will increase our focus on port and channel opportunities, including imports, exports, project and bulk cargo, and terminal expansion.

To respond to this need, we have created a new team at BNSF consisting of three Regional Directors of Port Development positions. The role of these directors is to support the BNSF/port alignment by strategically identifying and advancing shared business development strategies, growth opportunities across all BNSF business units and shared public policy issues. They serve as a primary point-of-contact for the ports in their region, working with the ports to uncover new import and export opportunities and also to quickly address opportunities or issues that arise.

Based in the Pacific Southwest, Pacific Northwest and the Gulf & Inland regions, these individuals will provide focused coordination for all BNSF activities in the ports we serve.

Q What are our customers telling us about new opportunities for BNSF, either in new markets or new means of delivering, such as bulk commodities in containers?
The demand for “ag-in-a-box,” or bulk commodities in containers, will continue to grow in 2011 due to Asian demand for high-quality U.S. agricultural products.

We will also continue to see demand and growth opportunities in the Bakken Shale region.

Our ongoing efforts to continue to convert highway freight to rail will remain a high priority.

Although still a very small segment of our coal business, export coal will continue to grow.

Working with Operations, we will make sure that BNSF is well-positioned to take advantage of these opportunities and others as they arise.

Congress is an important part of the rail regulatory environment, but there are also regulatory agencies that influence rail regulation, such as the Surface Transportation Board (STB) and the Federal Railroad Administration (FRA).

BNSF will continue to focus on issues before Congress, the federal regulatory agencies and also with state and local agencies. We must continue to push for the right balance in rail regulation. Employees can help articulate that we are a critical industry to the U.S. economy and an important employer.

There is a lot of discussion about funding high-speed rail. What is BNSF’s position on expanding commuter and passenger rail, as well as the implications of high-speed rail?

BNSF has been working with passenger rail authorities very successfully, thanks to a well-established set of Passenger Principles that ensure we accommodate new passenger rail service without harm to freight.

High-speed rail is a new effort that has brought a lot of attention to passenger rail recently. While it has gotten funding, it hasn’t changed our outlook on how we work with passenger and commuter rail agencies.

BNSF is pursuing additional public-private partnerships. How important is this funding as part of BNSF’s overall investment strategy?

BNSF invests about $2.5 billion each year back into its network for both maintenance and expansion projects. These are private dollars and do not include any public money for projects that may benefit the public. The most important thing about public-private partnerships is that each organization pays for the portion of the project from which it benefits.

Burlington Bridge in Iowa is a great example. To better accommodate commerce on the Mississippi River, the navigation channel under the bridge’s swing span needed to be widened. The project to replace the swing span bridge with a wider lift span was funded primarily through federal appropriations under the Truman-Hobbs Act. BNSF is also investing in that project and replacing the bridge’s approach spans.

What are some other ways BNSF is trying to improve its relationships in the communities in which it operates?

Communities have always been important to BNSF, which is why it is an area of important strategic focus for the company. We need the support of communities in order to expand our capacity to accommodate goods movement within the U.S.

We are a critical part of local economies by providing important rail service, good jobs and a more efficient option for economic development. It is important for us to listen to and respect the opinions and concerns of community members.

The best way to engage with communities is through our actions. Our behavior, driven by our Vision & Values, has a significant influence on how communities perceive BNSF. While they are a small part of our overall capital plans, these projects are important in that they are classic win-win projects for the public and BNSF.
With 2010 in the rearview mirror, the positive train control (PTC) program is heading into 2011 with more construction, as the company continues its compliance efforts to implement PTC where required by the federally mandated Dec. 31, 2015, deadline.

While 2010 was spent installing or upgrading key signal, track and telecommunication components to support PTC-related functionality on 12 subdivisions, 2011 will extend that effort on an additional 21 subdivisions. That means portions of 33 subdivisions on 10 divisions will be well into construction by the end of 2011. (See map.)

“As we continue to ramp up PTC construction and begin to test PTC components in 2011, many BNSF employees will see—or be involved in—some PTC-related work,” explains Mark Schulze, vice president, Safety, Training and Operations Support. “Momentum will continue to increase as we progress our PTC implementation timeline and lay the infrastructure across more of our system.”

While Signal, Maintenance of Way and Telecommunications teams continue to construct the foundation for PTC, other teams are working on various projects that include:

- Collecting and processing Geographic Information System (GIS) data for each PTC-designated subdivision
- Developing, testing and installing hardware and software components for office, communication, wayside and locomotive systems
- Completing training plans for employees who will encounter new PTC-related tasks

“The legislation requires specific training, and BNSF’s Technical Training Center (TTC) team, working with the PTC program office, has identified these training opportunities,” says Scott Schafer, general director, Railroad Training Services. “Our PTC training project office, headed by Lynné Joplin, has identified the different PTC-related modules, which will be developed during the next year.”

As BNSF continues implementation efforts, employees can review the latest developments at the PTC intranet site—employee.bnsf.com > Departments > Operations > Positive Train Control.
Judging by the typical BNSF employee photo calendar, bridges are a popular subject. For 2011, three of 13 winning shots – the cover and two back-to-back months – feature a bridge.

Perhaps it’s the contrast of light and shadows that bridges create, their striking silhouettes or the strength they suggest. Certainly their historical significance makes them interesting, since they are among the oldest structures on the railroad. Some date to the late 1800s and the days of steam.

Then there is the fascination with bridge design and construction, with many seemingly defying the laws of physics. While all require engineering expertise so the structure can withstand the forces of nature, traffic and time, no two are exactly alike. They can be single- or multi-tracked; straight or curved; made of steel, concrete or timber. Decks can be open or use ballast, with or without walkways. While many come in standard sizes, made of a simple deck and concrete beams, others are engineering feats, intricately assembled with triangulated trusses.

“Bridges are very visual and many are just these giant structures constructed in a diversity of designs,” says Steve Millsap, assistant vice president, Structures, explaining their appeal to photographers and others.

“They also represent a valuable asset for BNSF, worth about $2.5 billion in total,” he notes. That’s because bridges are some of the most expensive pieces of railroad infrastructure; the cost of replacing a bridge ranges from 10 to 500 times as much per linear foot as regular track. Costs are variable, too, from $300,000 for a small timber trestle bridge replacement to more than $100 million to replace a major steel bridge.

Continued on page 12
London, San Francisco and Brooklyn have their famous bridges, and BNSF has several notable bridges of its own. Three are newsworthy today because of major construction: Abo Canyon, N.M., Burlington, Iowa, and Galveston, Texas.

Long before construction began, Structures engineers in Kansas City, Kan., considered many things – including the distance to be spanned, the types of materials available and the loads the bridge must accommodate – before determining the size and shape of their designs. Another crucial piece of the planning was coordination with Transportation, outlining tight work windows to reduce the impact to train operations.

Despite the challenges they pose, the bridge projects are critical to BNSF’s ongoing operations, which is why BNSF is investing $58 million to replace major structures, including Burlington and Galveston. The Abo project is part of a capital expansion plan. Here’s an update on these big builds.

Abo Canyon bridges
In the very remote and logistically challenging Abo Canyon in central New Mexico, BNSF is constructing 4.5 miles of new second mainline track. The multiyear project will eliminate a bottleneck on the Transcon, where currently 80 to 90 trains operate daily.

The existing track and structures in Abo Canyon were constructed between 1903 and 1907, and the route picked then continues to be the best-engineered route available. The new bridges, too, match the existing bridges’ span lengths and substructures that are in the river, so the water flow characteristics are unchanged, according to Bob Boileau, assistant vice president, Engineering Services. Although the Abo River normally is only a trickle, during heavy rains the water is capable of rising to just below the bridge decks.

The canyon itself has sharp curves and a heavy grade, and getting the route ready for double tracking took considerable work. One challenge was just getting the rocky area construction-ready. Blasting and excavation took up most of 2009, with 1 million cubic yards of earth moved.

Adding to the construction challenge is the confined location; most of the bridge work (seven major bridges and two minor structures that total 3,000 feet in length) is being done at the bottom of the canyon. “The canyon is constrained and very narrow,” says Boileau. Construction roads

Concrete: The bread and butter
BNSF has more than 13,000 bridges that combined make up slightly more than 305 miles of bridge. About half are made of steel, one-third are of concrete and the remainder timber. There are 29 movable bridges, meaning a section is able to lift up vertically, roll or hinge open (called a bascule bridge) or swing to allow passage of waterway traffic.

Because of the concentrated impact of moving trains – the pounding of wheels, the side-to-side motion and drag from the train’s braking – a railroad bridge must be of heavy construction. The material of choice, what Millsap calls the “bread and butter of bridges,” is concrete.

Readily available and economical, concrete is not prone to damage by the elements or fire. This contrasts with timber – the material typically used when railroads first constructed bridges 150...
into the canyon have been widened to accommodate extra-long trailers needed to move in the 80-foot concrete beams.

Now that the bridges are complete, the project’s track and signal work has begun, with cutover anticipated in late second quarter.

Burlington Bridge

Originally constructed in 1868, this aging bridge over the Mississippi River at Burlington, Iowa, is being completely replaced in two phases. The first phase covers the swing span, which has been replaced by a vertical-lift span.

The new span more than doubles the opening for marine traffic and shortens the time the bridge is closed to train traffic. With a swing span, there is one set cycle time to open and close the bridge; a vertical lift is raised only as much as needed to accommodate varying vessel heights. Also, towboats will no longer have to break apart to get through the bridge, reducing the number of bridge openings for marine traffic.

Replacing the swing span with the vertical-lift span took place during a 30-hour window in late December. The new lift span will be fully operational by spring and before the river reopens to marine traffic. The remaining spans will be replaced during Phase Two, to be completed by the end of the year.

Located on the Chicago-to-Denver main line, the bridge is used by about 35 trains daily and opens about 300 times per month to let river traffic pass.

Galveston Causeway Railroad Bridge

This major project will replace a portion of the 99-year-old Galveston Causeway Bridge that has been declared by the U.S. Coast Guard to be a hazard to navigation. The bridge is a concrete viaduct with a steel bascule lift bridge over the navigation channel. Current work entails replacing the 22-year-old 125-foot bascule span over the channel with a 382-foot vertical-lift span similar to the Burlington Bridge lift.

The project is scheduled to be completed in mid-2012.

The test of time

For more than a century, BNSF bridges of all varieties have carried the loadings of trains, largely because engineers in days past designed bridges with a long-term view. “They knew that steam locomotives would just get bigger and bigger, so they designed bridges for these gigantic engines,” says Millsap. “Then diesels came along, and they had lesser impact on bridges.”

But today, with trains getting longer and freight car loads getting heavier, the life of BNSF bridges is being used up more quickly. Instead of feeling one heavy steam engine per train, as expected by early bridge engineers, bridges are feeling 135 cars with the same impact per train. As a result, slow orders may be issued, leading to congestion. According to Millsap, in 2007 service interruptions related to bridges began occurring more frequently, which is one reason BNSF is undertaking major bridge projects. (See related story below.)

More than half of BNSF’s bridge miles were built before 1960, and BNSF has steadily increased its total structures budget (including bridges, tunnels and snow sheds) from about $80 million in 2008 to about $110 million expected in 2011. In 2011, BNSF’s capital plan calls for 150 bridge rebuilds, fills and re-decks along with the completion of the Burlington Bridge replacement. The plan also includes a walkway standard: Any bridge that is being rebuilt now must have at least one walkway.

Continued on page 14

years ago – which was abundant and accessible, usually right on the banks of the rivers. Concrete bridges have a life of 80 to 100 years; timber’s is 60 to 80. Steel structures have an even longer life, from 100 to 130 years, but the volatility of steel prices and time needed to fabricate steel parts make them less attractive.

Each material has its advantages. While timber has to be treated and maintained more frequently, its components can be easily replaced. Steel is the only option when the bridge will span more than 70 feet, whereas concrete can be precast and easily transported for simple-span structures just days before it is needed.

Although the county owns the bridge, BNSF and Union Pacific Railroad operate trains over it, and the city uses it for utility lines through a lease agreement. Through a separate agreement, BNSF operates and maintains the bridge and main line.

The bridge is a concrete viaduct with a steel bascule lift bridge over the navigation channel. Current work entails replacing the 22-year-old 125-foot bascule span over the channel with a 382-foot vertical-lift span similar to the Burlington Bridge lift.

The project is scheduled to be completed in mid-2012.
If a walkway needs to be added, the total project will cost about $325,000.

Generally, bridges are repaired one component at a time, according to Millsap. Ballast deck is renewed. Timber pieces replaced. Truss members repaired.

**Check and double-check**

Checking their assigned bridges for wear are BNSF’s 70 dedicated bridge inspectors. They annually check and then are accompanied by supervisors a second time for another inspection. Their measurements and findings – of substructure, piers, ties, spans, rails, connections, conditions and surfaces – are input into a database for review and maintenance planning by BNSF structural engineers.

The inspectors not only look after their bridges, they also need to know safe capacity loads and conduct special inspections when weather or other conditions arise. If a train crew or track inspector reports a problem with a bridge, the inspector will be called to see if repairs are needed and provide the proper protection for train movement. (See related story on page 15.)

Bridge safety – rail and highway – was brought under the microscope following the 2007 collapse of the I-35 bridge in Minneapolis. At the time, the government provided very little oversight of rail bridges, mainly because the Federal Railroad Administration (FRA) determined that railroads were already inspecting bridges using industry standards and no evidence showed a strong need for government oversight.

In 2008, FRA and the rail industry came into agreement on standard rail bridge safety procedures that covered inspection and maintenance practices. Last July, the FRA issued a final rule as part of the Rail Safety Improvement Act of 2008 requiring track owners to implement bridge management programs that include annual bridge inspections.

“For years, we’ve performed the tasks the FRA is requiring, and our inspections already exceed the minimum once-a-year requirement,” says Millsap, noting that inspections for federal highway bridges are required once every two years. “Structural integrity of BNSF bridges is foremost for our safe and efficient operation. Our last line of defense against the ever-present elements and forces is inspection. We want to catch a problem before it becomes a problem.”

The Department of Homeland Security’s Transportation Security Administration and the U.S. Coast Guard also have limited roles in railroad bridge safety. Following 9/11, BNSF worked closely with Homeland Security and Resource Protection to identify bridges that might be susceptible to terrorism. Increased signage, barriers and cameras were installed to add another layer of protection.

“When it comes to bridges, our goal is to ensure they are safe – for BNSF employees and the communities through which we operate – and reliable so we can serve the needs of our customers,” says Millsap. “We plan for these bridges to be around a lot longer than we ever will.”

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**For The Record**

Here are the oldest, longest and tallest BNSF bridges. (Similar to the milepost designations on track, most rail bridges have a number associated with them.)

**Oldest**

Bridge 372.75, located at Thayer, Iowa, was built in 1878. It is a 55-foot deck-plate girder bridge.

**Longest**

Bridge 1136.3, a 7,654-foot steel bridge at Orwood, Calif., is the longest BNSF-owned bridge. (The Galveston, Texas, Causeway, owned by the county, is longer at 8,000 feet.)

**Tallest**

Bridge 125.7 over the Crooked River Canyon at Terrebonne, Ore., is tallest at 320 feet, 100 feet higher than its south Transcon counterpart over Canyon Diablo in Arizona.
Wollerton’s bridge patrol extends from the Harbor District in Los Angeles and Long Beach, Calif., on the west to the Mojave Desert, where the Southern Transcon reaches the Arizona border, to the east.

In between are 835 bridges of all shapes and sizes as well as an equal number of culverts. Wollerton has in-depth knowledge of each as he inspects them multiple times a year. Made of wood, steel, pre-stressed concrete or a combination of materials, Wollerton’s bridges – laid end to end – make up 11.68 miles.

In addition to performing regularly scheduled inspections, he and the other inspectors are on call 24/7 for unexpected situations requiring a bridge to be examined, usually after a heavy rainstorm, fire or earthquake or if hit by a vehicle.

While inspecting structures a few miles west of Victorville, Calif., Wollerton shared some of the insights he’s gained from 39 years of experience.

After driving his truck off the paved highway and onto an empty field, Wollerton parks on the western edge, then dons safety gear. He then hikes about 100 yards to a pair of side-by-side through-truss bridges on the double-track main line between Barstow and San Bernardino.

Walking onto the site first, he begins a careful inspection of bolts, rivets, handrails, the foundation, track — everything and anything that is part of the structure. When finished, he walks over to the parallel bridge and does the same thing, making sure everything is tight, serviceable and properly aligned.

“You have to look at everything on a bridge,” Wollerton says, “including unusual wear and cracks. Bridge technology has changed over the decades, and you have to be aware of the different building materials and how they’re used in construction.”

If he finds something amiss, he’ll write up a report and send it electronically to his supervisor, the Structural Engineering office in Kansas City and a structure repair gang. “If I spot something dangerous, like a cracked stringer [the support underneath the track] that might fail when a train rolls by, I’ll call the dispatcher and shut the bridge down immediately.”

While Wollerton is inspecting, he hears an approaching eastbound train and moves the proper distance from the right-of-way, always safety conscious and watching his footing. He positions himself for a roll-by, a visual inspection of the train as it passes. Like the bridges he just checked, he is doing the same for the train.

A former U.S. Army paratrooper with the famed 82nd Airborne, Wollerton comes from a railroading family. His father, George Wollerton, worked for the Santa Fe Railway in Southern California as a dispatcher.

Wollerton started out in 1972 as a laborer on a bridge and building gang at Ludlow, Calif., a few miles east of Barstow. He says he has always enjoyed his work, even if it keeps him on the road — about 40,000 miles a year.

“I love the fact that I’m out in the field, doing what I have to do to keep the railroad running,” he says. “It’s been a great career.”
BNSF, through its Employee Assistance Program (EAP), offers confidential, frontline evaluation and support for employees and qualified dependents involved in life-stress situations, including trauma. (See box.)

Mark Morton, Brotherhood of Locomotive Engineers and Trainmen safety coordinator on the Texas Division, says he understands the potential effects following an incident. Since beginning his career as a locomotive engineer at BNSF in 1981, he has been involved in three critical incidents.

“People need to remember that this type of incident doesn’t just affect the engineer,” says Morton. “It affects the entire train crew plus employees in other departments, police, emergency responders and the general public who may be in the vicinity.”

Morton’s own experience led him to become a peer-support team (PST) volunteer in BNSF’s EAP eight years ago, and he says that experience has actually helped him cope with trauma.

“In my experience, you never forget the accident,” says Morton. “It is a matter of learning to live with it.”

Providing a natural support system

BNSF’s EAP offers professional counseling, with EAP managers across each division acting as the primary local contact. If an employee experiences an event at work that involves a serious injury or fatality of another employee, the EAP provides onsite support and works closely with
local management and the assigned medical field manager to assess needs.

But no two experiences are the same, and everyone reacts differently.

“Coping with trauma takes many forms and can be a widely varying experience,” says Amy Pool, LifeSynch EAP director. “Most employees really want to get home, to a ‘normal’ environment, surrounded by people who are really their natural support group.”

Because of this, in 2000, the EAP expanded efforts to identify and train peer-support volunteers on every division. Pool recruited Morton, who immediately agreed to participate.

“My point in being a peer-support team volunteer is to let other BNSF employees know that someone has been through what they are going through,” says Morton. “They need to know that other employees at BNSF care about what they are experiencing.”

He agrees with Pool that people react differently to critical incidents, saying that some want the opportunity to talk while others don’t require a listening ear.

“Some just handle a devastating experience better with people beside or behind them,” Morton explains. “I am not a professional counselor, but I want other employees to know that I’m there if they need someone. It really is a simple, but extremely effective, thing to do.”

Making the call

The process for becoming a PST volunteer varies somewhat by operating division, according to Amanda Gambrell, BNSF’s director, Field Clinical Operations. But typically, PST volunteers are leaders and are respected among their work group. A potential PST volunteer can either volunteer or be recommended, which begins the candidate selection process. But all potential PST volunteers must undergo an interview with an EAP representative and have management and union leadership support.

Once selected, a PST volunteer receives appropriate training from the EAP. “PST volunteers are not professional counselors, and they are not typically onsite at a critical incident,” says Gambrell.

Employees involved in a critical incident receive information on how to contact a PST member. Many times, the PST volunteer makes the call to an employee.

“PST members need to be sensitive to the individual employee’s perspective, but sometimes just hearing that someone cares can help reduce an employee’s overall anxiety or stress reaction,” says Pool.

Pool also believes that people are naturally resilient. BNSF’s EAP and PST volunteers can help an employee reconnect to that resiliency, which means the employee will cope better overall with his or her experience. Of course, as always, employees who want or need additional counseling can work with their EAP representative to get the help they need.

“BNSF’s program really is the best of the best, says Gambrell. “Our interest lies in making sure that any employee gets the support he or she needs and in making sure that support is easily available to an employee who wants it.”
Budding artists tell

Focus on Safety

Age-category winners:

Up to age 3: Mathew Hardin, son of Scott Hardin, fuel management analyst, Fort Worth

Ages 4-6: Delaney Childers, granddaughter of Phillip Codina, carman, Alliance, Neb.

Lydia Noble, age 17, grand prize winner
More than 170 entries were submitted for this year’s Labor Relations and Safety departments’ Safety Drawing Contest.

The contest, which featured Operation Lifesaver’s “Look, Listen and Live” and “Stay Off the Tracks!” themes, brought in creative drawings using pencil, crayon, watercolor and other media.

“We were really excited about the quality and number of submissions this year,” says Mark Schulze, vice president, Safety, Training and Operations Support. “The judges had a difficult time selecting winners in each category. More importantly, it was gratifying to see that so many of the children who submitted drawings clearly understand the importance of safe behavior around railroad tracks.”

The grand prize winner was Lydia Noble, age 17, daughter of Steve Noble, conductor, Superior, Wis. In addition, a special Judges’ Award was given to Alyssa Lauffer, age 13, daughter of Gracie Lauffer, claims manager, Fort Worth, for creative use of the theme.

The grand prize winner received a $100 gift card, while the Judges’ Award winner and age-category winners each received a $50 gift card.

All other participants received a $5 McDonald’s gift card.

Alyssa Lauffer, age 13, special Judges’ Award


Ages 10-12: August VanCleave, 12, grandson of Kevin Piper, locomotive engineer, Lincoln, Neb.

Ages 13-18: Hannah Goble, 16, daughter of Jim Goble, manager, Consumer Products, Fort Worth
The new Learning Portal is now available for all BNSF employees!

Employees can easily access the tool to find their personal and direct reports’ training-related information at this one location by:
- Going to employee.bnsf.com
- Clicking on the Employee tab
- Clicking on the Learning & Careers tab
- Then clicking “Enter” on the Learning Portal banner

The Learning Portal is one stop where employees have access to:
- View training records.
- See the online and instructor-led training (ILT) schedules for 2011.
- View current qualifications and job-specific required training and certifications each year.
- Enroll in online and/or ILT courses (exempt employees only).
- Complete online Web-based training courses (referred to as WBT, which replaces computer-based training, or CBT, courses).

You can log on to the Learning Portal from any computer with intranet access. Internet Explorer 8 and Flash 10 are required.

Although the Learning Portal brings several changes and improvements, a few things will remain the same:
- Testing procedures that had been used for CBT courses will not change with the move to WBT. Employees will continue to test the same way they do today.
- Training administrators and supervisors will continue to enroll scheduled employees for all training courses.
- The process for enrolling Year A and Year B Transportation employees remains the same.
- ILT classes will continue to be offered as they are today.

Questions? Please e-mail LearningPortal@bnsf.com

Accessing the Learning Portal via the Web

To access the Learning Portal via the Web, type in www.bnsf.com > Employees (access link at the top, left-hand side of the page) > Employee Login tab. Choose “Training” (instead of “Windows”) from the drop-down menu and log into the intranet using your normal user name and password.

The initial log-in will download an application to your computer that enables WBT modules to launch. This may take a few minutes to complete. Once there, go to the Learning & Careers tab, then the Learning Portal.

Nearly every state on the BNSF network was affected by the onslaught of snow, ice and subzero temperatures that were part of an early February storm billed as one of the worst in a decade. From 12 to 24 inches of snow were dumped on several states, including Oklahoma, Iowa and Illinois. Meanwhile, states north and south of that central area dealt with combinations of freezing rain, sleet, ice and subzero wind chill temperatures.

Employees of all crafts went above and beyond to keep trains moving where possible. Although customers were notified that delays would occur, employees worked hard to keep those delays to a minimum.

Top: In Chicago, weather nearly shut down rail and street activity for that city.

Top right: At St. Augustine, Ill., train operations continued despite subzero temperatures.

Right: A rotary snowplow departs Lincoln, Neb., headed east for storms in Iowa and Illinois.
It’s a wrap

Now, locomotives are getting shrink-wrapped, too, and for similar reasons.

“We’re using the wrapping to protect locomotives that we plan to store more than four months,” says Tom Lambrecht, general director, Locomotive Maintenance and Repair. “This product, which we began testing late last year, protects locomotive components – the turbocharger and cooling fans as well as the cab interior and electrical components – from the environment.”

The wrapping is being done at the diesel shops in Northtown (Minneapolis), Alliance, Neb., and Glendive, Mont., locations where weather can be extreme.

According to Lambrecht, the shrink wrap – with a moisture-absorbing interior – is an economical and relatively quick process that’s also simple to apply. Once the locomotive’s sharp edges are covered with cardboard, a long roll of the material is laid end-to-end on the top of the unit. Next, the material is loosely draped, starting with the nose, then the sides and then the back. Openings are created for the handrails, and the material is pulled snugly along the bottom with a ratchet system.

Once the wrap is in place, the shrinking begins, using a propane-fueled heat gun. The last step is to identify the wrapped locomotive with its assigned numbers.

Details about the calendar contest will be announced in the coming weeks in BNSF News. For now, in addition to considering the season, you should also remember the following:

- Photos must include a BNSF train; **only the newest paint scheme will be accepted.**
- Horizontal pictures work best for the calendar’s format.
- Also, a digital camera that captures at least eight megapixels is recommended. Pictures should be in focus.
- Digital photos saved and labeled on a disk are preferred. Each photo should be named and have its own entry form.
- Please include a color printout of the digital image.
- Pictures may include BNSF employees working on the railroad.

We also try to capture trains hauling the various commodities we handle as well as photos depicting our broad geographic coverage.

Be on the lookout for the next great shot, and watch for the BNSF News article with contest information. The deadline for submissions will be July 1, 2011.

It’s never too soon to get snapping!

It may seem a long way off until 2012, but now is a good time to grab your camera and start taking photo entries for the 2012 calendar contest. We are always looking for good seasonal shots, and with winter still gripping the country, your scenic snow shot might just make it into next year’s calendar. And with spring just around the corner, get ready to capture some nice green foliage!
Couple doubles their donations through Matching Program

Locomotive Engineer Lenny Scheufler and his wife, Beverly, have a long history of volunteering their time to the local hospital.

Regulars at Sumner Regional Medical Center (SRMC) in Wellington, Kan., together the couple has donated more than 2,400 hours of service in the last nine years to the auxiliary.

“It’s important to be a volunteer in your community,” says Lenny, “and this [the hospital] is where we’ve chosen to do a lot of ours.”

But their time is just one of many sacrifices. Recently the Scheuflers donated $10,000 to the SRMC Endowment Foundation.

“We’ve always made small donations. I’m within a couple of years of retiring, and because the railroad matches up to certain amounts, I thought this would be a good time to do it before I retire,” he says of the amount.

With the BNSF match, the donation comes to $20,000.

“The Matching Program is fantastic. I’ve used it for years, giving to the library and college as well,” he says.

But the hospital is special. “We know how important it is to have a hospital here rather than to have to run all over the state,” he says. “You just hate to lose it. If you do, you’ll lose your town.”

Note: For details on the company’s Matching Program, go to the employee intranet site: http://www.bnsf.com/assets/matching_gifts.pdf

What once was lost is found

People often lose things, never to find them again. In the case of Mike Huffman, conductor, he lost his shaving kit containing the wedding ring given to him by his wife of 29 years, Nina.

Huffman was sure he wasn’t going to see the shaving kit again, but made an attempt to find it by talking to Amory, Miss., Crew Hauler Frances Wright, who contacted the division newsletter office.

A couple of days before Christmas, a package was delivered to the Huffmans’ home. Inside was the shaving kit and ring, found by Springfield, Mo., Trainmaster Joe Vermule, who had read about the missing kit and ring and decided to look through the terminal’s lost and found. After a bit of searching, he located the kit with the ring still inside.

“My wife opened the package and she just squealed,” Huffman says. “She was ecstatic. It’s good to know there are honest people in the world.”

Feeding the hungry in South Texas

BNSF and Union Pacific dispatchers at the Spring, Texas, Dispatching Center teamed up to spearhead a campaign to collect food and cash donations for the Montgomery County Food Bank, which asked the community to help feed the hungry.

During the holidays, food banks tend to receive abundant donations but fall short throughout the rest of the year. Karen French, BNSF train dispatcher, saw a news story about the food bank’s dire need for donations and decided to take action.

French worked with UP Train Dispatcher Angela Whitlock to raise awareness and enlist support from their colleagues and friends. They set an impressive goal: donate 1,000 pounds of food.

When the drive ended, they had collected 1,331 pounds of food and $256. With each dollar donated, the food bank can purchase 11 pounds of food, so the total donation came to 4,147 pounds of food.

French looks forward to holding the event again in the future.

“I will do this again next year in hopes to double it,” she says. “I know that the world is changing one person at a time. I have certainly changed.”

Another ring rescue

In the 1980s, when Sanda Bigley – now Sandra Cleays – lost her class ring, she naturally thought it was gone forever.

But the Scottsbluff, Neb., High School graduate got the surprise of her life nearly three decades later.

The old ring hadn’t crossed Cleays’ mind.
until she listened to her answering machine and heard a message from Butch Broadfoot, BNSF signal maintainer.

“My name is Butch,” the caller said, “and I’ve found a class ring, and I’m wondering if it’s yours.”

Although she didn’t believe there was any possibility the ring was hers, she returned the call.

During their phone conversation, she answered a series of questions to identify the ring and made arrangements for its return.

“I was completely speechless,” Cleays says. “I didn’t know what to say.”

Broadfoot found the ring while working in Mitchell, Neb., when he saw something out of the ordinary in the dirt, at a point where the tracks intersect a highway. “I didn’t know what to do until I actually found initials on the inside,” he says.

Taking the ring home, his wife conducted Web-based research to find Cleays – the only girl with the initials SLB in the high school’s class of 1983.

“Sitting by the railroad tracks for all those years I would expect it would be destroyed,” says Cleays of her ring. “It’s absolutely amazing, and I have worn it every day since.”

**Charity golf tournament scores for United Way**

California Division employees hit the links in the first Charity Golf Tournament last fall at Shandin Hills Golf Club in San Bernardino, Calif.

More than 100 employees, representing every department, raised $2,279 for Arrowhead United Way in San Bernardino.

“Arrowhead does such a great job helping this community,” says Hector Garcia, economic development manager for Northern California, Nevada and Utah, who organized the tournament. “BNSF is a big part of the San Bernardino community, and we want to make sure we’re giving back to our community. A partnership with Arrowhead United Way is a good fit.”

In addition to entry fees, money was raised by raffling items such as golf clubs, bags and putters. The raffle also included an acoustic guitar donated by the United Way.

All tournament participants received bags filled with mugs, key chains, pens and pencils, courtesy of Operation Lifesaver.

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**BNSF College Scholarship Program**

Applications due April 1

College-bound high school seniors who want to apply to the BNSF Foundation Scholarship Program need to complete and submit applications no later than April 1, 2011.

The Foundation will award up to 40 scholarships of at least $2,500 each for the 2011-2012 college year, with up to 10 available through the National Merit Scholarship Corporation at $5,000 each.

Program details and the online application can be accessed by going directly to the International Scholarship and Tuition Services (ISTS) link: [https://aim.applyists.net/BNSF](https://aim.applyists.net/BNSF)

Note: Because the Foundation is not able to keep track of students’ progress or the completeness of an application, applicants should follow up with ISTS by sending an e-mail to: [https://www.applyists.net/EmailRequestForm.asp](https://www.applyists.net/EmailRequestForm.asp)
BNSF is continuing efforts to help the public understand the benefits of rail on Jim Lehrer’s NewsHour. The 30-second spot blends historical and current images and runs three times a week. NewsHour airs on PBS (check local listings for broadcast times).