



UNION PACIFIC

2018 Building America Report

A report to communities on our social, environmental and economic sustainability progress.



About the Report

Union Pacific's mission of service defines us and drives our commitment to safely transport products across the country. In doing so, we strive to serve our customers, enhance shareholder value, invest in our communities and provide promising careers, while operating in an ethical manner.

This report details our progress in key areas supporting social, economic and environmental sustainability pillars: delivering an excellent customer experience, operating safely, strengthening communities, engaging employees and protecting the environment. It also summarizes our 2018 financial performance.

We used the Global Reporting Initiative's global sustainability reporting standards as a framework to report our most material social responsibility issues. This publication focuses on initiatives and accomplishments from the 2018 calendar year and includes 2018 data, unless otherwise noted.

Table of Contents

LETTER TO STAKEHOLDERS	3	OPERATING SAFELY	23	PROTECTING THE ENVIRONMENT	56
OUR COMPANY	4	Rail Safety Maintenance	24	Our Approach to Environmental Management	57
Corporate Strategy	6	Innovation at Work	26	Climate Change and Environmental Risks	58
Unified Plan 2020	7	Positive Train Control	27	Fuel Efficiency	60
Financial Performance	8	Safely Handling Hazardous Materials	28	Incorporating Technology	61
Risk Oversight Approach	8	Safety Through Security	29	Energy Conservation	62
Sustainability Management Approach	9	Keeping Employees Safe	30	Waste Management	63
Key Performance Indicators	10	Public Safety	31	Water Management	64
Stakeholder Engagement	11	What's Ahead	32	Biodiversity and Land Preservation	65
Key Awards and Recognition	11	STRENGTHENING OUR COMMUNITIES	33	What's Ahead	65
A President's Final Journey	12	The Community Ties Giving Program	34	APPENDIX	66
What's Ahead	12	Our Impact	36		
ECONOMIC IMPACT	13	Key Partnerships	37		
Investing in Infrastructure	14	Making a Difference in Our Communities	42		
Creating Local Economic Opportunity	15	The Great Race to Promontory	44		
Enabling Innovation and Sustainability	17	What's Ahead	44		
Generating Opportunity Through Our Supply Chain	18	ENGAGING EMPLOYEES	45		
What's Ahead	18	Embracing Employee Needs	46		
DELIVERING AN EXCELLENT CUSTOMER EXPERIENCE	19	Developing Employees	49		
What We Carry	20	Embedding an Ethical Approach	50		
Unified Plan 2020's Customer Impact	21	Continuous Improvement the UP Way	51		
Leveraging Technology to Support Customers	22	Renewed Focus on Diversity and Inclusion	52		
What's Ahead	22	Keeping Employees Healthy, Happy and Well	54		
		What's Ahead	55		

On the cover: A Union Pacific train makes its way through a crossing in North Platte, Nebraska.

Letter to Stakeholders

The past year for Union Pacific can be summed up in two words – dramatic change. Employees, customers, communities and shareholders experienced change in 2018. Our transformation is necessary to build the railroad for the future, one that is stronger, more reliable, and safer. The fact that these changes were necessary didn't alter the fact that they were difficult and challenging.



Track Foreman Levi Mays talks with Chairman Lance Fritz about his work during a field visit in Pryor, Oklahoma.

We launched a new operating plan called Unified Plan 2020 that implements Precision Scheduled Railroading principles, coupled with our own best practices. We started by asking those closest to the work to design a plan focused on moving rail cars faster and more efficiently. The changes we implemented had a measurable impact in a short time. Between September and December 2018, on-time car delivery increased 5 percent, car velocity grew 9 percent and dwell, the time a car waits to move, dropped 15 percent. Our industry-best employees made this happen, and these wins enabled us to implement Unified Plan 2020 at a faster pace than originally anticipated.

When we look at our system from a car level and work our way up to train level, it's exciting to identify new opportunities – but we aren't doing it alone. We're partnering with our customers, looking for ways to increase efficiency. For example, a large industrial customer requires a third-party safety inspection on cars before they enter its facility. This inspection historically took place on our main line, causing a daily delay averaging more than seven hours each week. Now, the inspection is performed at the facility, allowing us to fluidly move through the area. This is one of many examples you will read about in this report.

Change doesn't happen easily or without making difficult decisions. As we streamlined operations, we consolidated operating regions from three to two, and service units from 17 to 12. We removed more than 1,200 locomotives and approximately 30,000 freight cars from our network since Aug. 1. Focusing on work that adds direct value to our customers, and eliminating work that doesn't, resulted in reducing general and administrative jobs as well as craft professional jobs. More change will occur in 2019 and future years as we continue Unified Plan 2020 implementation. It's vital to ensure Union Pacific remains a strong, competitive company supporting our customers with world-class safety, and best-in-class service, reliability and efficiency.

Through this transformation, we remain constant in our commitment to operate responsibly as we deliver the goods Americans use every day. This report is part of our ongoing conversation with stakeholders. Each section describes key initiatives and reflects on 2018's performance. We identified these materiality pillars by listening to our stakeholders to understand what's important to them, and why.

- **Economic Impact** illustrates how Union Pacific drives economic growth in the 23 states where we operate through employment, capital investments and in-state sourcing efforts.
- **Delivering an Excellent Customer Experience** reflects our commitment to provide the level of service our customers expect. In a world where orders are completed by a swipe and deliveries within hours or days, we're leveraging technology to provide real-time solutions.
- **Operating Safely** details our relentless efforts to maintain a safe railroad for our employees and the communities we traverse.
- **Strengthening Communities** demonstrates our commitment to act for a greater good, giving back our time, money and expertise. Through these efforts, we can better connect with each other and make a positive difference for future generations.
- **Engaging Employees** outlines our promise to create fulfilling careers with advancement opportunities, as well as promote healthy lifestyles.
- **Protecting the Environment** highlights efforts to increase fuel efficiency, reduce carbon emissions, and build partnerships with communities and government agencies, protecting ecosystems across our network.

Each stakeholder is important, as is ongoing engagement. We are undergoing a preliminary materiality assessment to strengthen our relationships. We want to build on our understanding of stakeholder perspectives related to corporate social responsibility issues and how they impact our business. I look forward to sharing those results with you in our 2019 Building America Report.

In closing, I want to pause and reflect on the great honor our company had in December. We helped thousands of Texans, and the entire country, pay their respects to former President George H.W. Bush by transporting his body from Spring, Texas, to College Station, Texas on a special funeral train. It was pulled by UP 4141, a locomotive unveiled in October 2005 for a transportation summit at the Bush Presidential Library. The trip was the culmination of years of planning and flawless execution among many departments, as well as the Department of Defense, Texas A&M University and the communities along the route. It is impossible for me to adequately express how proud I am of Union Pacific.

We made great strides in 2018, and I'm hopeful for our future, as we continue driving toward our ultimate goal – being the best in our industry at delivering safe, reliable and efficient service.

Lance Fritz
Chairman, President and CEO



Our Company

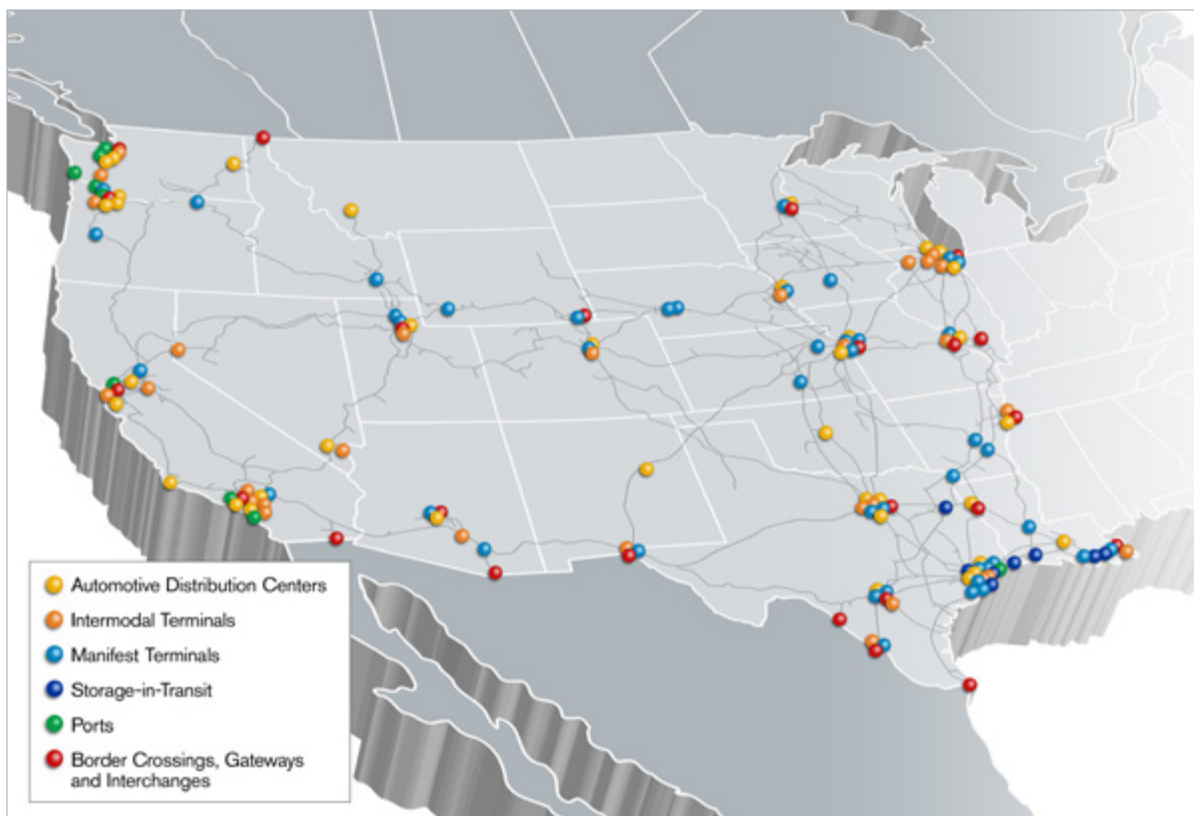
Union Pacific Railroad Company is the principal operating company of Union Pacific Corporation (NYSE: UNP). We are one of America's most recognized companies, with a heritage of building the country and a vision to keep doing so.

Our rail network connects 23 states in the western two-thirds of the country, providing a critical link in the global supply chain. Over the last 10 years, from 2009 to 2018, Union Pacific invested \$34 billion in our network and operations, supporting America's transportation infrastructure and enabling economic growth.

6 Corporate Strategy	10 Key Performance Indicators
7 Unified Plan 2020	11 Stakeholder Engagement
8 Financial Performance	11 Key Awards and Recognition
8 Risk Oversight Approach	12 A President's Final Journey
9 Sustainability Management Approach	12 What's Ahead

Conductor Brian Lopez is ready to board a locomotive in Riverside, California.





VISION

Building America

Our vision symbolizes the Union Pacific experience for all the people whose lives we touch. It connects the importance of our rail transportation to America's economy, honors the generations that preceded us and is the promise to the generations that will follow.

MISSION

Dedicated to Serve

Union Pacific works for the good of our customers, shareholders, communities and one another. Our commitment defines us and drives the economic strength of our company and country.

VALUES

Performance

Our passion, concentration and determination will drive our safety, customer satisfaction and quality results.

High Ethics

Our reputation will always be a source of pride for our employees and a bond with our customers, shareholders and communities.

Teamwork

We are all part of the same team, and working together to reach our common goals is one of our strengths. Communication and respect are the foundation of great teamwork.

32,236 ROUTE MILES IN 23 STATES

7 BORDER CROSSINGS

8.9 MILLION ANNUAL CARLOADS

8,300 LOCOMOTIVES

62,000 RAIL CARS

42,000 EMPLOYEES

35,000 RAILROADS CROSSINGS

18,000 BRIDGES

Corporate Strategy

Union Pacific's goal is clear: Be the best freight railroad in North America. This means we're the safest, the most reliable and the most efficient.

The "how" also is evident. Operational excellence and an engaged workforce with deep market knowledge and strong customer relationships will result in best-in-class safety, customer experience and shareholder returns.

In 2018, we revised our strategy and will focus on its rollout and implementation in 2019. The six value tracks used in our previous strategy live on in our strategy wheel, providing employees a clearer picture of the railroad's strategic intent. The individual strategic elements work together to turn the wheel, driving Union Pacific forward:

- **Safest and Most Reliable Freight Rail Products and Services.** Everything we do must be done safely, or we don't do it – that's our promise to each other. We also must be reliable, so customers trust we'll deliver on our promises. Unified Plan 2020, our new operating plan, accomplishes this by creating an achievable transportation plan customers can count on.
- **Highly Efficient Operations.** Driving down cost and removing waste helps us to be more competitive, enabling us to enter new markets. The faster we turn our assets – whether it's a locomotive or a freight car – the more we can do with our investment.
- **Industry-Leading Customer Experience.** Continuously improving the customer journey provides higher levels of service and better transparency into customers' transportation supply chains, helping them win in their markets.
- **Secure Appropriate Business.** Selling products that fit our business model versus developing boutique services builds a consistent, balanced network. We will continue finding solutions customers value, but they also must optimize our network.
- **Best-in-industry Cash Returns.** Each employee plays a role, from getting price on a contract to finding efficiencies in everyday work. This gives shareholders confidence in our ability to create financial returns, allowing us to invest in and grow our business.

- **Optimal Investment.** Every dollar spent must drive safe, reliable and efficient results. We invest in areas customers are willing to pay for, whether it's improving car cycle time, updating track infrastructure on vital corridors or developing digital tools that help them plan their business.
- **Proud and Engaged Workforce.** The wheel turns when our employees work toward the same goals. It takes the best employees in the industry to become the best freight railroad in North America – we have that, and there is nothing stopping us from achieving our vision.

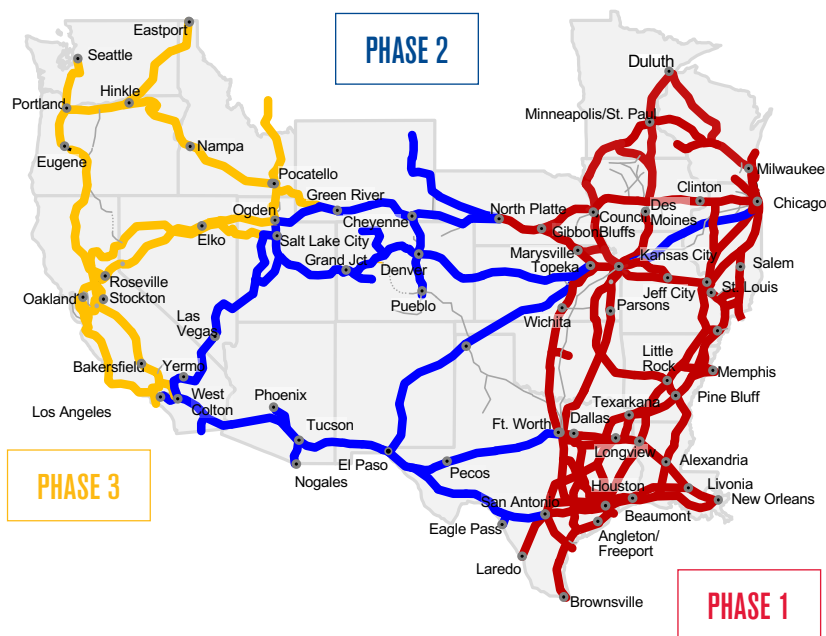
As we transform our railroad into the best version of itself, our values will continue guiding us: Our **passion for performance** will help us win; our **high ethical standards** will ensure we don't win at the expense of any one stakeholder; and **teamwork** will guarantee we win as a team.



Unified Plan 2020

Union Pacific launched its new operating plan called Unified Plan 2020 Oct. 1. The plan implements Precision Scheduled Railroading (PSR) principles and is an important part of our objective to operate a safe, reliable and efficient railroad.

Unified Plan 2020 was first implemented on our Mid-America corridor, creating more streamlined operations between Wisconsin and Texas. About 50 percent of our daily carloads touch this corridor. We saw meaningful gains in on-time performance, productivity and financial results. Following these early wins, we accelerated implementation.



While PSR has been implemented at other North American railroads, we took a clean-sheet approach to develop our plan. We incorporated the experience and expertise of employees closest to the work, including those in the field. Unified Plan 2020 encompasses the following principles:

- Shifting the focus of operations from moving trains to moving cars.
- Utilizing general-purpose trains by blending existing train services.
- Minimizing car dwell, car classification events and locomotive power requirements.
- Balancing train movements to improve the utilization of crews and rail assets.

Our goal is moving cars faster. To achieve this, we are removing unnecessary cars, improving the entire network's fluidity. For example, clearing 100 cars from Union Pacific's system frees up 1 track mile. Between August and year's end, we removed more than 30,000 freight cars, freeing up the equivalent of 300 track miles, helping us better serve customers.

Our company has a storied history as the railroad industry leader. Making these changes will help us achieve our goals. Our employees' dedication to teamwork is critical, allowing them to focus on high-value work and eliminate tasks that do not directly support Unified Plan 2020.

We are pleased with the momentum gained in the fourth quarter. The company saw steady improvement in the Key Performance Indicators we use to gauge progress. From September to December, we reduced overall operating inventory by 11 percent and car velocity, how fast a car moves, improved 7 percent. We also cut cars' wait time or dwell by 13 percent. All of these metrics mean we are moving our customers' freight faster, and our service is becoming more reliable. We will continue pursuing initiatives to make further gains in safety, service and productivity.

Financial Performance

Freight railroads are the backbone of the U.S. economy, supporting the livelihoods of employees in most sectors. Union Pacific's diversified portfolio generates operating income and shareholder returns, further stimulating the economy.

In 2018, we reported net income of \$6 billion or \$7.91 per diluted share, compared to \$4.6 billion or \$5.79 per diluted share* in 2017, after adjusting for the impact of corporate tax reform, 29 and 37 percent increases, respectively, when compared to 2017. Our operating revenue was \$22.8 billion compared to \$21.2 billion in 2017, a 7 percent increase, and our operating income was \$8.5 billion compared to \$7.9 billion*, an 8 percent increase.

Freight revenues increased 8 percent year-over-year to \$21.4 billion, driven by 4 percent volume growth, higher fuel surcharge revenue and core pricing gains. This was partially offset by negative traffic mix. Growth in international and domestic intermodal, petroleum products, metals, rock, plastics and industrial chemical shipments more than offset declines in coal, grain and frac sand shipments.

* Non-GAAP results, adjusted to exclude the impact of Corporate Tax Reform. See Union Pacific's website under Investors for a reconciliation to GAAP.

Risk Oversight Approach

We operate a dynamic enterprise risk management process with continuous monitoring to identify and address potential concerns, including those arising in the ever-changing economic, political and legal environments in which Union Pacific operates.

Management identifies and prioritizes enterprise risks and regularly presents them to our board of directors for review and consideration. Our chief compliance officer reports to the board on risk mitigation strategies, supported by senior executives responsible for implementing risk mitigation. We also report risk factors in our [Annual Report Form 10-K](#).

The board's audit committee oversees internal audits of the company's enterprise risks. Internal auditors present their findings on mitigating controls and processes to the committee, which, in turn, reports to the board.



Bridge employees use a truck crane to repair a pier in Houston, Texas.

Sustainability Management Approach

Our business grows when we understand the needs of our communities and customers – and respond to those needs with dedication and commitment. Our sustainability approach reflects this. We are committed to engaging employees in our mission, transporting products safely, providing family-supporting jobs, operating ethically, protecting and strengthening the environment, and investing in America's communities.

Union Pacific's Chairman, President and CEO, and senior management oversee our corporate social responsibility strategy and report progress to the board of directors. A cross-functional management team is responsible for development and day-to-day management, while our nearly 42,000 full-time employees embrace and implement the strategy. Our stewardship is important – it's a way to unify our diverse workforce around a single purpose.

OUR SUSTAINABILITY AND CITIZENSHIP GOALS

Union Pacific's Building America Report details the company's progress against key pillars of our sustainability and citizenship strategy:

- Operating a safe, efficient, reliable and environmentally responsible rail network that delivers the best customer experience.
- Constantly improving employee and customer safety through training, education, innovation and investment.
- Developing programs and processes, making us an employer of choice.
- Growing our business profitably and responsibly so we can invest in the future and positively impact our stakeholders.
- Creating economic strength and improving quality of life in the communities where our employees live and work.
- Working to reduce locomotive fuel consumption 1.5 percent by 2020.

We track our performance toward these goals using the Key Performance Indicators (KPIs) shown in the table on page 10. Modeled after Global Reporting Initiative (GRI) standards, our KPIs align with our stakeholder groups' priorities. Achieving success in each category directly impacts Union Pacific's business. KPIs are updated annually in this report. Financial and safety performance results are presented during Union Pacific's quarterly earnings calls.

BUSINESS AND INDUSTRY AFFILIATIONS

Union Pacific is a member of many national industry and business organizations, including:

- American Frozen Foods Institute
- American Wind Energy Association
- Association of American Railroads
- Food Shippers of America
- GoRail
- GreenBiz Executive Network
- Intermodal Association of North America
- Midwest Association of Rail Shippers
- National Association of Manufacturers
- National Association of Rail Shippers
- National Business Group on Health
- National Freight Transportation Association
- National Grain and Feed Association
- National Minority Supplier Development Council
- National Rail Labor Conference
- National Safety Council
- Operation Lifesaver
- Pacific Northwest Association of Rail Shippers
- Southwest Association of Rail Shippers
- United States-Mexico Chamber of Commerce
- U.S. Chamber of Commerce
- Women's Business Development Center
- Women's Business Enterprise National Council

Key Performance Indicators

FINANCIAL	2016	2017	2018
Net income	\$4.2 BILLION	\$4.6 BILLION ¹	\$6 BILLION
Operating revenue	\$19.9 BILLION	\$21.2 BILLION	\$22.8 BILLION

OPERATING SAFELY	2016	2017	2018
Rail crossing accidents (per million train miles)	2.43	2.55	2.69
Reportable injury rate (per 200,000 employee-hours)	0.75	0.79	0.82

STRENGTHENING COMMUNITIES	2016	2017	2018
Capital program (private funds, no taxpayer dollars)	\$3.5 BILLION	\$3.1 BILLION	\$3.2 BILLION
Spend with minority- and women-owned businesses	\$325 MILLION	\$406 MILLION	\$357 MILLION

ENGAGING EMPLOYEES	2016	2017	2018
Percent of unionized employees	85%	85%	85%
Workforce diversity ²	6% FEMALE 94% MALE 2% ASIAN 11% BLACK 72% CAUCASIAN 13% HISPANIC 2% NATIVE AMERICAN	6% FEMALE 94% MALE 2% ASIAN 12% BLACK 72% CAUCASIAN 13% HISPANIC 1% NATIVE AMERICAN	5% FEMALE 95% MALE 2% ASIAN 12% BLACK 71% CAUCASIAN 14% HISPANIC 1% NATIVE AMERICAN

PROTECTING THE ENVIRONMENT	2016	2017	2018
Energy usage	40.6 MILLION MEGAWATT HOURS	41.9 MILLION MEGAWATT HOURS	44.5 MILLION MEGAWATT HOURS
Water usage withdrawals	1.26 BILLION GALLONS	1.14 BILLION GALLONS	1.2 BILLION GALLONS
GHG emissions			
Intensity per million gross ton miles	12.6 METRIC TONS	12.34 METRIC TONS	12.79 METRIC TONS
Locomotive fossil fuel emissions (Scope 1)	9,913,870 METRIC TONS	10,216,978 METRIC TONS	10,873,854 METRIC TONS
Fossil fuel emissions (Scope 1 and 2)	10,685,250 METRIC TONS	10,969,898 METRIC TONS	11,759,189 METRIC TONS
Employee travel (Scope 3)	18,603 METRIC TONS	18,466 METRIC TONS	17,138 METRIC TONS
Purchases from biomass sources	119,872 METRIC TONS	125,359 METRIC TONS	122,692 METRIC TONS
Waste			
Total waste generated	1.10 MILLION TONS	1.25 MILLION TONS	2.09 MILLION TONS ³
Tonnage diverted from landfills	68%	70%	71%

¹ Non-GAAP results, adjusted to exclude the impact of Corporate Tax Reform. See Union Pacific's website, under Investors, for a reconciliation to GAAP.

² U.S. Population 2018 census estimates (permits reporting of more than one race): 6% Asian, 13% Black, 77% Caucasian, 18% Hispanic, 1% Native American.

³ 2018 exceeded a typical year due to rail tie and petroleum contaminated soil disposal. We also moved to a new waste tonnage calculation system and will continue refining our approach in coming reports.

Stakeholder Engagement

Union Pacific's sustainability approach requires engaging with our four key stakeholder groups to understand their evolving needs, ultimately creating competitive advantages for customers, job stability for employees, strong returns for our shareholders and economic strength in our communities.

STAKEHOLDERS

EMPLOYEES

Union Pacific employees work 24/7 across our 23-state service area. We engage employees through the following channels:

- Communication from our CEO in many forms, such as online and in-person town halls with question-and-answer sessions; CEO videos covering key issues, including safety, Unified Plan 2020 and employee engagement; and a CEO blog highlighting observations from field visits and topics impacting the company.
- Information Television Network.
- Senior management town halls with question-and-answer sessions.
- Employee clubs, resource groups, networks, focus groups and surveys.
- Annual ethics training and regular ethics bulletins.
- A values line allows employees to anonymously report concerns 24/7.

CUSTOMERS

Union Pacific has great relationships with its customers. At the heart of those relationships is great communication. Communication enables us to develop solutions meeting their changing needs and supporting growth. We engage customers through the following channels:

- Regular face-to-face, teleconferences and virtual meetings.
- [Our customer website](#).
- Social media.
- Customer communications, including letters from the executive vice president – Marketing and Sales.
- Estimated time-of-arrival notifications.
- Customer surveys and forums, evaluations and suggestions.
- Our Customer Care and Support team.

COMMUNITIES

Union Pacific's business positively impacts communities by creating economic growth and development for local businesses, career opportunities and reduced road congestion. We seek to support communities and manage potential negative impacts through the following channels:

- Local public affairs representatives who regularly work with elected officials, economic development alliances, civic groups and other community organizations.
- Our national 24/7 emergency hotline. In addition to emergency response, operators work with callers reporting issues, such as blocked crossings.
- Event sponsorships and employee volunteerism.
- [The Community Ties Giving Program](#).
- [Our Crossing Accident Reduction and Education Safety \(UP CARES\) program](#).
- Free safety training for emergency responders.
- [Inside Track](#) – our website dedicated to sharing news, photos and videos about Union Pacific, our employees and the communities where we live and work.
- Social media platforms, including Facebook, LinkedIn, Twitter, Instagram, YouTube and Glassdoor.

SHAREHOLDERS

Clear communication with shareholders is important to Union Pacific. We engage them through the following channels:

- Annual reports, proxy statements and Securities and Exchange Commission (SEC) filings.
- Our [Investor Relations site](#) featuring upcoming events, public filings, industry reports, shareholder resources and answers to frequently asked questions.
- Annual Building America Report and [Investor Fact Book](#).
- Shareholder meetings with management and investor conferences.
- Quarterly earnings reports and conference calls.

OTHER KEY AUDIENCES

REGULATORY OFFICIALS

Union Pacific works closely with regulatory officials to align our business with the country's infrastructure requirements, shaping a responsible and sustainable operating environment through the following channels:

- Transparent compliance reports, voluntary agreements and in-person meetings.
- Ongoing dialogue via staff in Washington, D.C., and across our network.
- Participation in the Association of American Railroads (AAR) and U.S. Environmental Protection Agency's (EPA's) SmartWay Transport Partnership.
- Employee and corporate regulatory and legislative advocacy.
- The Union Pacific Environmental Management Program.
- Collaboration with U.S. Customs and Border Protection (CBP) and other government agencies.

SUPPLIERS

Suppliers are an important part of Union Pacific's business – they help us serve our customers and provide quality materials and services. We manage suppliers through our [Supplier Code of Conduct and Quality](#) program, engaging them through the following channels:

- Electronic commerce capabilities.
- Supplier performance tracking system.
- Supplier diversity program.

Key Awards and Recognition

Union Pacific is proud of the work we do, delivering the goods Americans use every day, building a diverse and inclusive workforce and strengthening communities. Our efforts were recognized with the following awards:

- Fortune's most admired company among trucking, transportation and logistics for the eighth consecutive year.
- Ranked among the world's largest transportation companies on the Forbes Global 2000.
- Union Pacific Executive Vice President and Chief Financial Officer Rob Knight named best CFO for sixth consecutive year by Institutional Investor magazine on its list of airfreight and surface transportation companies.
- Among Top 10 on Monster's Best Companies for Veterans List.
- Named to Military Times' Best for Vets: Employers list for the eighth time and among 37 companies listed in the Military Times' Best for Vets Index.
- Military Friendly Gold Award recipient.
- Only Class I railroad on Mogul's list of Top 1000 Companies Worldwide for Millennial Women.
- Named a Top Supporter of Historically Black Colleges and Universities Engineering Survey.
- Named one of Inbound Logistics' Green Supply Chain Partners.
- Received Nissan's North America Logistics Value to Customers Award.
- Recognized as a Supplier of the Year for Performance in Sustainability in North America by BASF Corporation.
- Received the Sister Cities International Citizen Diplomacy Corporate Responsibility Award.
- Earned Gold level recognition from the American Heart Association on its Workplace Health Achievement Index for the quality and effectiveness of Union Pacific's workplace health programs.

A President's Final Journey

It was our honor and privilege to participate in former President George H.W. Bush's funeral, providing a train that carried his body from Spring, Texas, just outside of Houston, to College Station on Dec. 6.

The train was pulled by UP No. 4141, a locomotive designed to honor the nation's 41st president. It was originally unveiled in 2005 during a ceremony near the George Bush Presidential Library on the Texas A&M University campus. The custom-painted locomotive incorporates the colors of the Air Force One used during Mr. Bush's presidency and symbolizes national pride and strength.

For Union Pacific Locomotive Engineer June Nobles and Conductor Randy Kuhaneck, the honor of operating the funeral train was a matter of duty for a fallen sailor. Nobles and Kuhaneck served the U.S. Navy under Bush – Nobles for nine years, Kuhaneck for eight. Kuhaneck met Mr. Bush in 2005 when the president briefly took over the controls of No. 4141, following the locomotive's unveiling.

As the funeral train traveled 70 miles to College Station, it passed through towns including Wellborn, Navasota and Magnolia. Thousands lined the way with flags, flowers, crosses, large signs and formal military salutes, honoring the president.

"It was a very moving event," said Kuhaneck. "At times, I got emotional. This person – this president – touched a lot of people. His legacy can be summed up in two words: honesty and integrity."

This was the eighth time in U.S. history a train carried a president to his final resting place. The last funeral train was for President Dwight Eisenhower in 1969, passing through seven states before reaching its final destination in Kansas.

A special video documenting the former president's journey may be viewed on [YouTube](#). Following the funeral procession, the locomotive returned to Omaha for a brief display and then traveled across our network, providing employees an opportunity to see the locomotive firsthand.

WHAT'S AHEAD

2019 will be another year of change, and the end result will be a safer, more reliable and efficient network. We will focus on implementing our evolved strategy, helping employees understand the role their work plays in moving the company forward. By engaging employees, we can eliminate redundancies and tasks not related to achieving our objectives. Stronger employee engagement will be critical as we finish initial implementation of Unified Plan 2020. We will always be looking for new opportunities to make our railroad more efficient and reliable. As we make changes, we will continue working with customers, notifying them prior to changes.



The 70-mile trip allowed thousands of Americans to participate in the president's funeral and pay their last respects.



Locomotive Engineer June Nobles and Conductor Randy Kuhaneck felt the funeral train created a renewed sense of unity among Americans.

Our Economic Impact

Union Pacific exists to build America. Our positive economic impact is more than just a by-product of our business, it's central to our vision and purpose.

Our railroad connects communities and resources, generating opportunity and supporting growth in the 23 states where we operate and across the country. We create economic value not only through returns generated for shareholders, but also employment for roughly 42,000 employees, the business we give suppliers, and every business opportunity, commercial relationship and innovative idea our network makes possible.

14 Investing in Infrastructure

15 Creating Local Economic Opportunity

17 Enabling Innovation and Sustainability

18 Generating Opportunity Through Our Supply Chain

18 What's Ahead

Information Technologies Project Engineers Saikou Camara, left, and Aris Garcia work in the research and development lab in Omaha, Nebraska.



Investing in Infrastructure

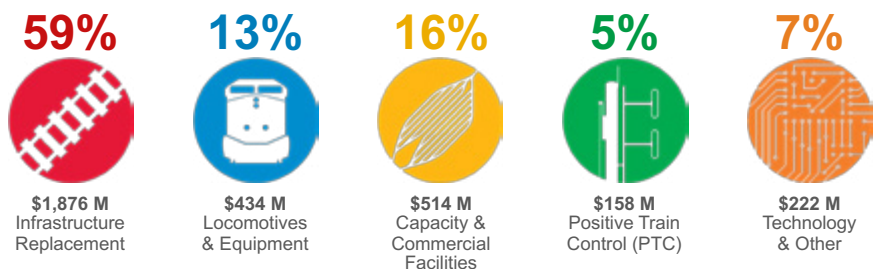
Union Pacific's capital investments create economic opportunity through employment and supply chain activity. They also represent investments in building a sustainable rail network that can support economic growth for generations to come. Union Pacific's 2018 capital program totaled \$3.2 billion.

From clothing to electronics, cars and agricultural products, if a product is moving by rail, there is a good chance it will visit Chicago – the nation's largest rail hub – along the way. On average, about 500 freight trains and 800 passenger trains pass through the region each day. Movement to and from Chicago is forecasted to more than double by 2045¹. The growth is occurring as businesses look for ways to provide goods affordably and quickly, while taking advantage of technological advancements.

Union Pacific is a key member of CREATE, a partnership between the U.S. Department of Transportation, State of Illinois, Cook County, City of Chicago, Metra, Amtrak and the nation's other Class I freight railroads that operate or interchange in the Chicago region. Working together, the group coordinates traffic challenges and is overseeing 70 projects designed to create rail network efficiencies. For example, new roadway overpasses or underpasses at locations where pedestrian, auto and bicycle traffic currently cross railroad tracks at street level will enhance public safety and decrease the time the public waits for passing trains. Other projects include new overpasses or underpasses to separate passenger and freight rail traffic, and improving service for rail commuters while reducing overall congestion. This ultimately boosts regional and national economic competitiveness.

The more we invest in building a safe and efficient railroad today, the more opportunities our infrastructure can support communities going forward. These efforts combined with our Unified Plan 2020 initiative provide customers the opportunity to grow, boosting the local, regional and national economy. The chart on this page shows the capital investments Union Pacific made in 2018.

2018 CAPITAL INVESTMENT



INFRASTRUCTURE REPLACEMENT

Our largest form of capital investment strengthens our rail network through track, signal and bridge replacement projects.

LOCOMOTIVES AND EQUIPMENT

New and upgraded locomotives, rail cars and equipment investments meet customer needs, enhance safety and reduce our environmental impact.

CAPACITY AND COMMERCIAL FACILITIES

New commercial facilities and network expansions increase capacity to support economic growth and opportunities to serve new locations.

POSITIVE TRAIN CONTROL (PTC)

This advanced system of technologies is designed to automatically stop a train before certain accidents occur, such as train-to-train collisions and incidents caused by excessive speed or unauthorized movements.

INNOVATION

From apps managing train systems to enhanced track inspection systems, we continually invest in new technologies enhancing safety, efficiency and service.

Creating Local Economic Opportunity

Union Pacific owns and operates more than 32,000 track miles in 23 states across the western two-thirds of the United States. We create economic opportunities for local communities through direct employment with Union Pacific, as well as prosperity created by local employee spending. Our capital investments create additional jobs and business opportunities through our supply chain. The following chart shows Union Pacific's economic impact in the 23 states where we operate. In the following pages, we explore other local economic opportunities Union Pacific supports.



STATE	EMPLOYEES	PAYROLL*	ROUTE MILES	CAPITAL INVESTMENT*	IN-STATE PURCHASES*	COMMUNITY TIES GIVING PROGRAM
ARIZONA	1,118	102.4	691	41.1	25.7	132,400
ARKANSAS	2,628	240.4	1,323	142.1	40.5	353,200
CALIFORNIA	4,357	434.8	3,303	252.8	196.8	1,695,600
COLORADO	901	94.8	1,505	46.5	165.4	411,400
IDAHO	811	79.1	848	46.5	8.9	185,000
ILLINOIS	3,958	363.3	2,310	168.8	1,543.5	682,900
IOWA	1,509	137.2	1,441	76.1	61.2	644,100
KANSAS	1,204	128	2,199	113	218.7	215,500
LOUISIANA	1,178	122	1,143	115.5	50.6	261,800
MINNESOTA	442	42.6	645	12.4	103.6	99,900
MISSOURI	2,269	207.8	1,541	41.9	252	322,800
MONTANA	14	1.4	125	2.5	4.4	28,000
NEBRASKA	7,975	1,143.1	1,066	215	156.9	5,699,700
NEVADA	509	42.5	1,193	77.5	11	167,800
NEW MEXICO	503	48.8	618	43.3	2.1	131,100
OKLAHOMA	347	37.6	1,255	49.7	117.9	133,500
OREGON	1,506	139.8	1,073	83.7	162.3	809,400
OTHER	167	34.6	28	683.1	1,464.1	5,579,700
TENNESSEE	48	3.6	17	0.3	87.4	52,000
TEXAS	7,475	652.6	6,298	776.9	2,194.8	1,597,200
UTAH	1,284	124.1	1,268	58.7	110.5	456,700
WASHINGTON	305	26.9	541	43.9	155.8	193,500
WISCONSIN	401	45.1	930	16.1	228.1	108,100
WYOMING	1,058	82.5	875	97.0	50.8	175,600
TOTAL	41,967	4,335	32,236	3,204.4	7,413	20,136,900

*IN MILLIONS

DALLAS TO DOCK PROVIDES GROWTH SOLUTION

As international demand increases for plastic products, rapid production and export growth can cause intermittent congestion and capacity constraints at popular port locations. To help shippers and receivers reach world markets and meet demand, Union Pacific launched its [Dallas to Dock service](#). It's designed to reduce transportation costs, while improving transit time to Asia by an average of 19 percent.

Plastic pellets travel in hopper cars from the Gulf region to Dallas, where they are packaged and transferred into intermodal containers and trucked less than 2 miles to Union Pacific's Dallas Intermodal Terminal. From there, containers travel to ocean ports with available capacity via our premium intermodal service, which provides expedited delivery to ports for world markets in countries, including Asia and South America.

In October, packaging industry leader Katoen Natie opened a new packaging facility outside Dallas, Texas, to support Dallas to Dock service. The new facility was built in an established industrial park with room for future growth. Its location is ideal for a variety of businesses and is a great example of freight rail utilization, providing growth opportunities and overall economic development for the region.

ST. JOSEPH PORT REOPENS FOR BUSINESS

Union Pacific is working with the St. Joseph Regional Port Authority in St. Joseph, Missouri, to grow local commerce along the Missouri River. It's prime location is within 500 miles of 43 percent of the U.S. population and 44 percent of the nation's manufacturing establishments. Although the port was never closed, it's been six years since rail was an option. Union Pacific made track repairs, reopening the spur, and we're working with port authorities and local businesses to demonstrate how they can take advantage of the new service offering. In mid-November, the port accepted its first rail car shipment, and interest continues growing in the bioenergy, steel and industrial products industries.



Plastic resin pellets are packaged inside the new Katoen Natie warehouse and loaded onto Union Pacific intermodal cars for distribution.



Located along the Missouri River, the St. Joseph Regional Port Authority is equipped with a Union Pacific rail spur, dock, storage yard and truck scale.

Enabling Innovation and Sustainability

The rail infrastructure Union Pacific maintains and operates enables innovation. By helping businesses source new types of raw material and forming new partnerships, our network supports the transition toward a more sustainable economy.

TIMBER RETURNS TO THE RAILS

The first rail car loaded with timber was shipped out of the San Luis Valley, in south-central Colorado, to the Denver market. The pilot was the culmination of years of work and a U.S. Forest Service grant, which funded creation of the Forest Management and Marketing LTD Cooperative. The co-op engages multiple stakeholders, including U.S. and international buyers, Union Pacific and [Wood Source Fuels](#).

This unique public-private partnership is still in its infancy, but it hopes to fulfill two key objectives: reducing wildfire fuels that could lead to devastating community destruction and improving overall forest health by controlling disease and insect infestation. Union Pacific then hauls the biomass to processors and producers, fulfilling growing market demand.

A FRESH LOOK AT INSPECTING CROSS-BORDER IMPORTS

Roughly 11 percent of Union Pacific's total 2018 carloads crossed the U.S.-Mexico border. Those coming in at our Clark's Park facility in Eagle Pass, Texas, now pass through a new U.S. Customs inspection building. A new mechanical repair shop and four tracks were also added to support current business and improve inspection processes, while allowing for future growth opportunities.

Part of the inspection process requires the intermodal container and commodities inside to be checked. For fresh produce, it's critical the cold chain, or temperature inside the trailer, is maintained. Union Pacific developed a Mobile Cold Inspection Point (MCIP). The 53-foot intermodal trailer, matching the dimensions of those carrying produce, allows Customs and Border Protection agents to protect the cold chain while quickly and safely inspecting the equipment at ground level. The MCIP was successful during its two pilot tests.



A rail car filled with timber from three national forests and two state land trusts is loaded and ready for departure.



Union Pacific's Mobile Cold Inspection Point allows Customs and Border Protection agents to efficiently inspect equipment.

Generating Opportunity through our Supply Chain

Each year, Union Pacific spends billions of dollars across our network of more than 70,000 suppliers. Our supply chain includes businesses in every one of the 23 states in which we operate, and this spending represents a significant portion of the economic impact our business generates.

Union Pacific was the first U.S. railroad to establish a supplier diversity program in 1982. Suppliers support our operations with fuel, engineering services, construction materials and much more. Union Pacific purchased about \$357 million in goods and services from more than 541 diverse suppliers in 45 states. Our spending with diverse suppliers grew an average of 2 percent annually from 2009 to 2018. Approximately 68 percent of our strategic suppliers reported purchasing goods and services from diverse suppliers, demonstrating their support for our diversity initiative.

SAFETY, COMMUNICATION BEHIND THE WHEEL OF SUPPLIER'S SUCCESS

When another company lost its contract to load and unload vehicles at Union Pacific auto facilities, CPR Transit CEO and owner Paula Fagan saw an opportunity, and she grabbed it. She presented a business plan to provide the same service at ramp facilities in West Chicago and Centerville, Illinois, saving more than 40 jobs, which would have been lost when the previous company went out of business.

The Bolingbrook, Illinois-based company is co-owned by Fagan and her husband Robert Holmes, who has extensive industry expertise. Both oversee daily functions at each ramp facility, working closely with Union Pacific to ensure new cars, trucks and SUVs that are being loaded and unloaded maintain factory conditions. Like Union Pacific, CPR Transit believes safety and clear communication are critically important. Constant radio communication among employees, hand signals, spotters and technology are used to make operations successful.



Vehicles wait to be unloaded at a Union Pacific auto facility.

WHAT'S AHEAD

We anticipate spending roughly \$3.2 billion in capital investments in 2019. About 70 percent of our planned investment will be replacement spending to harden our infrastructure, replace older assets and improve the safety and resiliency of the network. We will continue modernizing our existing locomotive fleet and invest in capacity projects on our network where constraints and productivity opportunities exist. We are also planning expansions at intermodal ramps and other commercial facilities to accommodate expected growth.



Delivering an Excellent Customer Experience

Union Pacific moves the goods American families and businesses use every day, including the food we eat, the cars we drive, the chemicals to clean our water, and the steel and lumber to build our communities. We have roughly 10,000 customers, large and small, and we work to deliver their products in a safe, reliable, fuel-efficient and environmentally responsible manner.

20 What We Carry

21 Unified Plan 2020's Customer Impact

22 Leveraging Technology to Support Customers

22 What's Ahead

UMAX intermodal containers are being loaded onto a train for departure from City of Industry in Los Angeles, California.



What We Carry

Our railroad directly serves many of the fastest growing cities in the United States and connects the country's global supply chain at all major West Coast and Gulf Coast ports to Canada, Mexico and the country's eastern gateways. In 2018, approximately 40 percent of our freight originated or terminated outside of the U.S.

As announced in 2017, we began the year by consolidating our six major business units into four: Agricultural Products, Energy, Industrial and Premium. The change allows us to better meet customer needs with streamlined service. We also refocused our customer service center and consolidated four subsidiaries into one – [Loup Logistics Company](#) – to better serve our customers. Loup combines the strengths of Union Pacific Distribution Services (UPDS), Streamline, ShipCarsNow and Insight Network Logistics (INL) to provide innovative transportation logistics services that help connect shippers to rail.



OUR DIVERSIFIED COMMODITY MIX

Agricultural Products

If it's on your table, chances are it traveled by train to get there. Beer, flour, tomato paste, potatoes, cheese – we transport the food that feeds the nation and many other parts of the world.

Energy

We transport the energy products that power homes, schools and businesses – coal, LPG, petroleum products, renewable energy products, wind turbines and sand for drilling.

Industrial

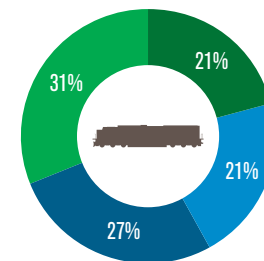
We carry a variety of raw materials and finished goods, including the lumber, steel, cement, pipe and plastics used to construct cities and build roads.

Premium

Our wide range of multi-modal transportation solutions offer truck-competitive rates and service schedules for domestic and international intermodal shippers, moving products such as electronics, toys, furniture and clothing. We also deliver finished vehicles and automotive parts.

Mexico Markets

We are the leading freight transportation services provider between the United States and Mexico, and the only railroad serving all six major Mexico gateways. Cross-border traffic with Mexico comprised about 11 percent of Union Pacific's total 2018 volume.



FREIGHT REVENUE

Agricultural Products		21%
Energy		21%
Industrial		27%
Premium		31%

Unified Plan 2020's Customer Impact

Union Pacific faced significant service challenges, including network congestion and slower train speeds, in the first part of the year. We believe Unified Plan 2020 will help us avoid these challenges and provide our customers more reliable, efficient service. It was important that we worked with customers, alerting them to changes prior to them taking effect. Our commercial team continues diligently engaging customers, educating them on ways to better manage their railcar inventories and grow their businesses.

Unified Plan 2020 allows us to uphold our promise to customers – delivering an excellent customer experience. Key metrics we follow to understand the effectiveness of Unified Plan 2020 include service reliability (car trip plan compliance), how fast cars are moving (velocity), the amount of time cars spend in yards (dwell) and how many cars are on our network (operating inventory). We saw improvements in all of these areas.

UNIFIED PLAN 2020: MISSISSIPPI LIME EDITION

The idea of taking a clean-sheet approach to our service inspired Senior Director of Transportation Services Jason Teel. He took the concept to Mississippi Lime Company in St. Louis. A change in the way Union Pacific organizes Mississippi Lime's cars significantly reduced dwell time, resulting in cars arriving at their destination up to three days sooner.

"We improved their service, and then we took it a step further by asking, 'What else can we do?'" Teel said.

The Union Pacific and Mississippi Lime teams sat down for their own whiteboard session, calling it Unified Plan 2020: Mississippi Lime edition. The joint team analyzed how trains are built at Mississippi Lime's facilities and discovered that while some cars must be held for chemical analysis, not all have to wait. By moving cars that don't require analysis, 24 hours of dwell time per car can be eliminated.

"One of Mississippi Lime's core values is operational excellence, and this really speaks to that," said Ron Wood, production planning manager, Mississippi Lime. "We started out with a mindset that nothing is off the table; as we put ideas down and added details, the plan came together easier than you might expect."

CUSTOMER COLLABORATION FREES UP TERMINAL SPACE, IMPROVES CAR VELOCITY

Every team knows the path toward success starts with a thoughtful and thorough game plan. It's the pre-planning, or in this case pre-blocking, that led to a win in the Great Plains Service Unit. A daily local train runs between Cargill's Blair, Nebraska, plant and Union Pacific's Council Bluffs, Iowa, yard where a portion of the cars are switched and built into blocks for pickup by the Iowa Interstate Railroad. The switching process causes these cars to dwell in our yard for at least a day.

Cargill has its own yard and third-party switcher, so it made sense for them to build a block based on destination. The change required collaboration between multiple Union Pacific teams, Cargill and its third-party switcher, Rail Serve. Now, our local train picks up the block and sets it out upon arrival in Council Bluffs, eliminating 24-36 hours of switching time – meaning Cargill's goods are moving more efficiently to their destinations.



Incorporating field expertise from those who interact directly with customers is an important part of Unified Plan 2020 implementation. From left, Yvette Lawson, manager-Transportation Planning; David Berry, manager-Resource Planning; Jaime Martinez, senior director-Transportation Services, Gulf Coast Service Unit; and Tara Hogan, senior director-Quality Assurance; participate in Unified Plan 2020 planning.

Leveraging Technology to Support Customers

Part of offering a more reliable service product is improving our communication with customers, so they know what to expect and when. We've made some excellent progress enhancing our technology to provide proactive notifications that allow customers to plan better and improve their shipping experience. These included:

- “Local Service Scheduled Today” notifications let customers know when they will receive service at their facility.
- “Bad Order Notifications” indicate when repaired rail cars will return to service.
- “You Are Next” notifications provide guidance on timing of local service.

SmartETA implementation improved estimated time of train arrival accuracy. So far, we have seen a roughly 20 percent improvement in train arrival times. As the technology continues to get “smarter,” we anticipate these improvements will continue.

When it comes to moving intermodal shipments, saving time and faster turn times for drayage is key to enhancing the customer experience. Our UPGo smartphone app is gaining popularity from its pilot program, first launched in Nov. 2017. The free app is similar to pre-check for airlines. It allows truckers to update their parking spot, confirm the waybill, which contains shipment instructions, has been received and the container accepted, expediting their entry and exit from intermodal facilities. UPGo is used at 18 of our 33 intermodal terminals, helping drivers increase efficiency and improve the ease of doing business with Union Pacific.

BUILDING CUSTOMER RELATIONSHIPS

In the modern world, supporting customers with the latest technology is an essential part of providing an excellent customer experience. Just as important are the relationships we build. Our International Intermodal team excels in this area, providing learning opportunities for our global ocean carrier partners. We hosted a forum, attended by 16 customers from around the world including Taipei, Taiwan; Seoul, Korea; Tokyo and Osaka, Japan; and Beijing, China. In addition to classroom presentations, we took our guests on tours of the Harriman Dispatching Center in Omaha, Nebraska, to learn how we manage train movement, our new transload facility in Dallas, Texas, and into a train yard. The forum was one way we showed customers how important it is to invest in fostering relationships with Union Pacific.



Gate Clerk Vernadine Johns, right, assists a driver with check-in at the ICTF intermodal facility in Long Beach, California.



The International Intermodal Forum attendees visited Dallas, Texas, to see the new packaging facility where plastic pellets are loaded into intermodal containers and shipped overseas.

WHAT'S AHEAD

As we implement Unified Plan 2020, a critical part of delivering more reliable service is ensuring we provide customers an excellent experience with every interaction. We continue listening to our customers to better understand what's important and develop solutions that make doing business with us easier. By leveraging new technology, we are rolling out several customer experience improvements, such as a new online freight claim filing system and automated, proactive shipment notifications. The result will be increased self-service opportunities, better communication and faster response times.



Operating Safely

Safety is Union Pacific's No. 1 priority. As a company, we continuously look for innovative approaches to enhance the safety of our employees, our communities and the customers we serve. We invest in training, research and development, and public education – all with the goal of increasing rail safety awareness and improving safety.

24 Rail Safety Maintenance

26 Innovation at Work

27 Positive Train Control

28 Safely Handling Hazardous Materials

29 Safety Through Security

30 Keeping Employees Safe

31 Public Safety

32 What's Ahead

A snooper truck allows bridge inspectors to more easily and safely examine structures.



Rail Safety Maintenance

Rigorously maintaining quality rail infrastructure is foundational to our ability to operate safely. It helps prevent derailments, provides a safe path for train crews and avoids shipment delays for customers.

Union Pacific continuously inspects railroad tracks, locomotives and other equipment. Our track inspection program customizes schedules and techniques to examine each rail line, mile by mile. We inspected more than 4.8 million track miles in 2018, enough to cover our 32,000-mile network more than 149 times.

Despite efforts to strengthen our rail infrastructure, operational changes increased variability. Federal Railroad Administration (FRA) reportable derailments worsened 8 percent from 335 in 2017 to 363 in 2018. We are committed to working toward our goal of operating in an incident-free environment, this includes providing increased training opportunities and employee communication.

BIG DATA TECH HELPS PREDICT RAIL FAILURE

The goal: take the data collected across more than 32,000 track miles, plug it into a computer and accurately predict which track section will break next. Broken rails are among the most common causes of train derailments in the U.S. With all this data, our decision analytics, engineering and safety teams are creating a predictive analytics model to generate a list of the most at-risk track sections.

We collect data from past incidents, ongoing track maintenance, road bed conditions, track materials and physical wear. Using a tool called a logistic regression model – a highly sophisticated probability method – we’re assembling and testing the data elements to predict what will happen, based on what’s already happened.

The model will not replace human senses and the vast knowledge base residing in our dedicated employees; however, when it’s fully developed, it could preemptively identify up to one-third of track-related failures in the top 10 percent of Union Pacific’s riskiest track miles.

SAFETY INSPECTION FLEET

We use state-of-the-art equipment to regularly inspect rail lines. Geometry cars use an optical gauge measuring system consisting of lasers and cameras under the rail car to produce real-time track geometry images. The system evaluates track structure wear and tests for defects to help prevent derailments, maintain track health and increase track longevity. Union Pacific’s two evaluation cars, featuring military-grade navigation, cover a combined 70,000-80,000 track miles per year – enough to annually traverse our main lines at least twice.

We have four Gauge Restraint Measurement System (GRMS) vehicles positioned across our system to identify signs of wear or potentially weak spots in the track. Each vehicle is capable of testing up to 60 miles of track daily, specifically focusing on curved sections. To simulate the force generated by a locomotive, the GRMS vehicle applies 9,000-10,000 pounds of lateral forces to the track. Its operator verifies any potential defect and immediately remediates. In 2018, we used GRMS vehicles to aid inspection of more than 27,000 track miles.

Union Pacific has an Unmanned Geometry Measuring System, housed in a regular box car and powered by solar panels, rather than a fuel tank. Attached to a train hauling freight, it looks for track abnormalities, communicating in near-real time the type, severity and location to a data facility for verification and potential remediation. This system is capable of testing more than 30,000 miles per year.

Currently in pilot testing, our Locomotive Track Geometry System attaches to a regular locomotive hauling freight. Like the Unmanned Geometry Car, this system is capable of looking for track abnormalities, communicating in near-real time the type, severity and location to a data facility for verification and potential remediation. Using locomotives to test track geometry allows us to cover a larger footprint, while evaluating conditions with an actual train, rather than a track inspection vehicle. We believe this technology has the potential to cover about 250,000 track miles per year.

SAY HELLO TO THE PMV8

Union Pacific's Precision Measurement Vehicle (PMV) is among the newest and most advanced truck-based survey platforms. The PMV captures high-definition, 360-degree video and acquires data using optical distance measurement wheels, an advanced inertial navigation system and cameras mounted under vehicles. The data collected is integrated into employee training simulation models, helping familiarize train crews with territories. It also helps with system mapping, transmitting GPS locations of critical facilities, such as control points and road crossings, to Union Pacific's Positive Train Control system.

We have two PMVs – the PMV7 and PMV8 – that were built in-house by our Engineering and Information Technologies departments. Together, they measure more than 8,000 track miles per year and provide grade information for fuel efficiency. Whenever a GPS event is taken, the computer responds with a “Star Wars” movie sound effect, such as a recording of R2D2 or C-3PO.

A DEEPER LOOK INTO RAILROAD TIES

Inspectors are constantly appraising the state of the railroad and planning replacement schedules for rail ties, which hold the rail upright and keep it properly spaced. In the past, an inspector could visually evaluate 3-5 track miles per day. Now, technology allows us to examine an average of 50 track miles.

The Aurora system uses a combination of laser scanning and X-rays to quickly and consistently evaluate ties. Laser scanning provides a 3-D image, detecting defects such as large cracks, splits and plate cutting. Plate cutting is a mechanical wear condition caused when the rail and plate “eat” into the tie. These capabilities allow inspectors to see into a tie and determine its lifespan. They then create a plan, mapping out needed removals, also taking into account factors such as rail curvature and tonnage.

In 2018, we replaced more than 3.9 million wood ties.



The PMV8 traveling near Highland, Texas.



The Aurora system is used by track inspectors to examine rail tie quality.

Innovation at Work

At Union Pacific, we believe innovation is any change making us better. It can be a big idea leading to large-scale improvement or something smaller that impacts an employee's day-to-day operations. We leverage both high-tech and low-tech approaches. That can mean tweaking a process by leveraging continuous improvement tools or using an existing technology for a new purpose.

Just as important as embedding innovative thinking into our culture is understanding that not all ideas will be successful. We know some solutions take more time to develop and require multiple iterations.

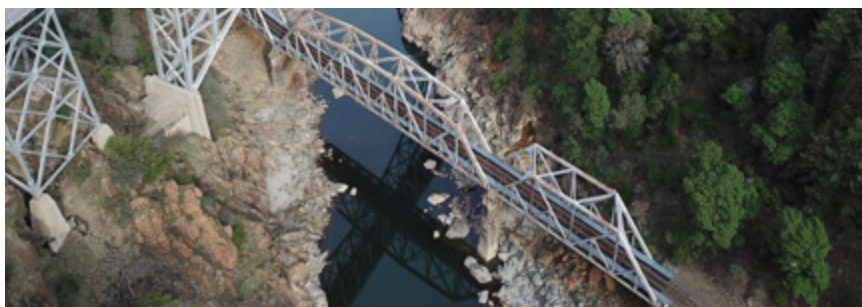
DRONE INSPECTIONS

Unmanned Aerial Systems (UAS), or drones, are part of Union Pacific's safety tool kit, collecting valuable information at derailment sites and natural disaster incidents. This allows us to assess our infrastructure and respond while keeping employees out of harm's way. While we use real-time and live feeds, we also use drone data to create 3-D images. This helps our team find an incident's root cause, and, ultimately, mitigate future issues.

Union Pacific employees with a Federal Aviation Administration (FAA) Part 107 certificate, a government requirement to commercially operate drones, are stationed in all 12 service units across our network. Through 2018, about 200 drones were in use and 200 employees received training specific to FAA regulations and Union Pacific policies.

Current drone technology applications include:

- Routine inspection of buildings, bridges, tracks and telecommunication equipment.
- Weather-related and/or operating incident assessment.
- Hydrography – Providing 3-D imaging of rivers and coastal areas for flood mitigation planning.
- Photography – Providing employee familiarization of yards, facilities and structures.



A Union Pacific drone captured this image during a culvert inspection demonstration in Pulga, California.

BRIDGE PROJECT REWRITES RAIL INDUSTRY NORM



The movable lift span over the San Bernard River Bridge was slid into place in one outage, preventing nearly a dozen additional outages.

Union Pacific's Engineering team blazed new trails to expedite a unique rail bridge project near Sweeny, Texas. The 112-year-old San Bernard Bridge was due for replacement to handle heavier tonnage traffic. During replacement planning for the three-span structure, the team faced a dilemma: construct the movable bridge using conventional on-track methods at the cost of numerous track outages, or try something new – construct the entire bridge offline.

While not uncommon to build spans offline during bridge construction, the concept of sliding a complete, movable bridge 48 feet in one outage is unique. The track was out of service for the least amount of time, one three-day outage, minimizing customer impact. Within a few days, all remaining electrical, signal, communication and mechanical components were finished, allowing the bridge to open for river traffic.

A timelapse video showing the bridge replacement is available on [YouTube](#).

INNOVATIVE TECH UPS DETECTION

Some Union Pacific car shop employees have a new tool to help detect internal wheel defects, and it fits in the palm of their hands. West Colton, California, is one of seven locations testing the new handheld ultrasonic device, capable of determining a wheel's internal integrity – something undetectable to the human eye.

Employees used the handheld device to test load 286-ton rail cars and those carrying hazardous materials, which can cause additional wheel stress. The technology has proven successful, allowing employees to catch and address potential issues before a train reaches the line of road.



West Colton, California, Carman Welder John Moreno and Car Inspector Cesar Aguirre test a new wheel defect detector.

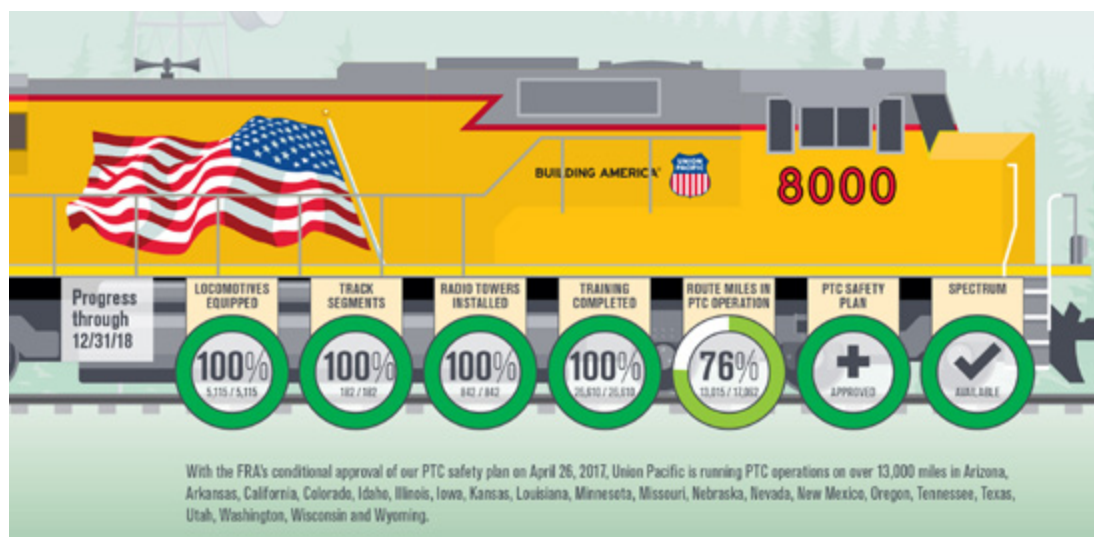
Positive Train Control

Positive Train Control (PTC) is installed on 100 percent of Union Pacific's required lines and implemented on required passenger train routes. Implementation efforts continue to ensure PTC interoperability with other freight and passenger railroads operating on our tracks by 2020, as allowed by federal law.

One of the most challenging parts of PTC implementation is ensuring system interoperability among all U.S. rail lines and locomotives. Given the various readiness levels of North American freight and passenger railroads, including publicly funded commuter lines and short lines, it is important that all railroads continue working together to maintain the health, safety, resiliency and fluidity of the rail network during PTC implementation.

With the FRA's conditional approval of our PTC safety plan on April 26, 2017, Union Pacific is running PTC operations on more than 13,000 miles in Arizona, Arkansas, California, Colorado, Idaho, Illinois, Iowa, Kansas, Louisiana, Minnesota, Missouri, Nebraska, Nevada, New Mexico, Oregon, Tennessee, Texas, Utah, Washington, Wisconsin and Wyoming. Union Pacific and freight and passenger railroads continue working together to safely implement PTC on the remaining 4,000 required route miles.

Union Pacific completed required employee training in 2018. Education is ongoing as we retrain some employees and introduce the system to new hires. Training materials are tailored to a variety of roles, including locomotive engineers, conductors, dispatchers, maintenance of way/engineering, mechanical, signal, telecom and information technologies.



Safely Handling Hazardous Materials

Union Pacific is obligated to transport hazardous materials by federal law, while trucks are not. Our commitment to safely haul this material is reflected in our 99.99 percent success rate delivering without incident.

Union Pacific focuses on accident prevention, preparedness, response and recovery. Our Hazardous Materials Management group consists of highly trained experts in hazardous material transportation safety who work with customers and inspect tank cars, ensuring products are properly secured.

PREVENTION

Through our prevention efforts, Union Pacific partners with customers, regulators and other stakeholders to conduct hazardous materials shipment inspections, sponsor training opportunities and actively participate in numerous industry initiatives focused on continuous improvement of hazardous materials shipments.

PREPAREDNESS

While we work to prevent incidents, Union Pacific's Hazardous Materials Management group regularly prepares for such an event. We do this by building strong relationships with first responders and other stakeholders throughout the communities where we operate.

Union Pacific provides fire departments and other emergency responders along our routes with comprehensive training on minimizing derailment-related impacts. We provided classroom and hands-on training to roughly 5,870 local, state and federal first-response agencies.

We also sponsored 117 emergency responders from 14 states to attend a rail-specific hazmat training center in Pueblo, Colorado. The five-day tank car safety training course focused on tank car assessments and repairs, and safely controlling hazardous material spills. Training also included a large-scale simulation of a hazardous material incident, providing emergency responders hands-on experience.

Over the last 10 years, Union Pacific trained more than 50,000 emergency responders throughout our network. Union Pacific is a charter member of TRANSCAER® – a voluntary national outreach effort focused on assisting communities to prepare for and respond to a possible hazardous materials transportation incident. Union Pacific has won the TRANSCAER National Achievement Award for 11 consecutive years.

We partner with stakeholders at the local, state, tribal and federal level to establish geographic response plans. Conducting drills and exercises is another vital tool in preparedness. We regularly exercise our emergency response plans within our facilities, as well as with local, state, tribal and federal agencies.

Using our unique training tank cars and training box cars, we teach first responders on our system and provide various coaching opportunities and drills.



A training exercise tests first responders' readiness in Corpus Christi, Texas.

RESPONSE

If an incident involving hazardous materials occurs, Union Pacific's Hazardous Materials Management group responds to safely and quickly mitigate any potential hazards to public health, environment and property. We do this by working with emergency response agencies and our network of specialized contractors, and by using internal resources, such as firefighting trailers and waterway spill containment systems.

All hazardous materials professionals are trained thoroughly in hazardous materials response and in the National Incident Management System. This allows for safe and effective response operations while working together with our public partners.

RECOVERY

Once an incident is under control, our hazardous materials professionals continue ensuring the communities, environment and Union Pacific's network have properly recovered. We do this through environmental remediation and proper product handling practices. Union Pacific is capable of removing product from a damaged container and placing it into non-damaged containers. We accomplish this with our state-of-the-art transfer trucks and equipment, as well as numerous smaller transfer trailers that can safely and effectively remove liquid products. This creates a safer and more effective option for communities and reduces costs to our customers.

Safety through Security



Union Pacific's Special Agent Honor Guard members stood watch at the National Law Enforcement Officers Memorial in Washington, D.C., as part of National Police Week.

The Union Pacific Railroad Police Department is a team of highly trained special agents dedicated to maintaining the railroad's security and integrity. The department holds accreditation from the Commission on Accreditation for Law Enforcement Agencies (CALEA), which is considered the gold standard in law enforcement accreditation and recognizes agencies meeting the highest law enforcement standards.

The police department uses security monitoring technology to protect critical infrastructure from intruders around the

clock. It coordinates its operation with CBP, the U.S. Coast Guard, the Federal Bureau of Intelligence, the Department of Homeland Security, the Transportation Security Administration, and state and local law enforcement. Union Pacific was the first U.S. railroad named a partner in CBP's Customs-Trade Partnership Against Terrorism.

LEARNING MOMENT TURNS INTO RAIL SAFETY SUCCESS

Union Pacific Senior Special Agent Darin Archer found a mother and three high school students trespassing on the tracks near Texarkana, Arkansas, while taking prom photos. Instead of writing a ticket, he turned it into a learning moment, sparking a pilot program that continues to grow.

He asked the students to create an outreach program at an Arkansas High School. Teaming up with teachers and administrators, Archer shared our safety messaging with the photography class, including active members of the school's community service club, drama department students and the audio/visual club.

The goal is for students to teach their peers about rail safety.

"I've learned that students can talk to each other better than old dudes like me," Archer said. "The kids visit our yard to experience it, and they become safety advocates and peer mentors."

The students are trained to answer questions and share their knowledge. They also produced safety messaging and collateral materials to distribute in the school and across social media. The program is now taking steps to expand to Arkansas' Genoa High School.



Texarkana, Arkansas, high school students learn about rail operations during a yard field trip.

CYBERSECURITY AT UNION PACIFIC

We employ a vast array of technology across every aspect of our business, from traditional devices in our offices and yard facilities to locomotives using innovation to maximize safety, reliability and fuel efficiency.

Our Information Assurance team is responsible for the confidentiality, integrity and availability of Union Pacific's infrastructure and assets. The team has robust processes and redundancies in place to prevent, detect and respond to potential threats. We also perform regular vulnerability scanning and system penetration testing to validate our security controls and assess our infrastructure and software applications. Like many organizations our size, we are continuously probed by malicious computers around the world. In 2018, the Union Pacific network was probed 300 billion times. Extensive incident response, disaster recovery and business resumption plans are in place and tested annually, ensuring the computing environment can withstand a wide range of scenarios.

Following the Sept. 11, 2001, terrorist attacks, the rail industry developed a security plan that includes a comprehensive blueprint for security enhancement and risk mitigation actions. It applies a unified, risk-based and intelligence-driven approach to rail security. In coordination with our industry partners, we regularly exercise and enhance cybersecurity prevention and incident response plans.

The Railway Alert Network is the industry's intelligence and security information center. Each day, its staff reviews intelligence and related security information to produce analyses of terrorist tactics, malicious cyber activity, rail-related threats and incidents, and suspicious activity. Union Pacific uses these materials for threat hunting and in our security training and awareness programs.

Union Pacific employees are required to attend security awareness training, which provides information on data security policies and procedures. The Information Assurance team works with employees to identify best practices for securing their workspace and creating strong passwords. Employees are regularly coached on how to identify phishing attacks, and how to avoid being victimized.

Union Pacific is committed to protecting the security and confidentiality of our data and that of our customers, employees and contractors. Although the U.S. has not enacted widespread regulation, such as The General Data Protection Regulation in the European Union, there is a patchwork of state laws and regulations governing personal data collection and use. Union Pacific is developing a program to comply with the new California Privacy Act, the most comprehensive, which takes effect Jan. 1, 2020. Specifically, Union Pacific is working to increase transparency around our data collection and use procedures, that enhance our ability to respond to inquiries and requests regarding a person's data.

Keeping Employees Safe

SAFEST U.S. RAILROAD FOR THE FOURTH STRAIGHT YEAR, BUT WORK REMAINS

Union Pacific was the top-performing U.S. Class 1 railroad in employee safety for the fourth consecutive year. Despite this designation, we still have work to do. The employee reportable injury rate, measured by the number of injuries for every 200,000 employee-hours worked, worsened 4 percent from 0.79 in 2017 to 0.82 in 2018.

Three of our employees did not return home. We honor their memory by working toward an injury-free railroad. Union Pacific continues improving technology, enhancing processes and fostering a culture focused on operating safely.



Total Safety Culture Facilitator Todd Hosking created stickers for work vehicles, encouraging employees to complete a 360-degree visual inspection prior to leaving the parking lot.

COURAGE TO CARE AND TOTAL SAFETY CULTURE

Our employees are our eyes and ears – they identify risks, initiate action to mitigate those risks and work to keep each other safe.

Courage to Care, a voluntary commitment made by Union Pacific employees since 2012, empowers each person to look out for their peers and “stop the line” on any operation that could result in an incident. The company also pauses systemwide operations twice annually for safety stand downs, giving employees an opportunity to have candid safety discussions and share experiences to learn from each other.

Total Safety Culture complements these efforts. The employee-owned, voluntary process includes training, observations and feedback. Employees compliment each other on safe behaviors, while intervening in a positive way to address at-risk actions.

ENHANCING SIMULATOR TRAINING

Union Pacific uses 39 full-size locomotive simulators to replicate the experience of operating a locomotive along our tracks. Locomotive engineers spent about 20,600 hours training on these simulators in 2018, up from roughly 20,000 hours in 2017.

We have five mobile training trailers, each equipped with seven workstation simulators and 25 laptop simulators. This equipment supports PTC implementation. We trained 2,559 locomotive engineers and managers in 2018. Training began in 2015 with more than 9,000 honing their skills on the simulators.

Union Pacific uses Remote-Controlled Locomotive (RCL) simulators to provide hands-on training for licensed remote operators. In their daily work, operators use a small computer console to direct locomotives in rail yards. Remote control operators spent more than 9,500 hours training on RCL simulators in 2018, up from more than 7,000 hours in 2017. We plan to continue using simulators for new hire conductor and RCL classes.

MONITORING PERFORMANCE AND EMBEDDING SAFER BEHAVIOR

Union Pacific uses video technology across our locomotives and vehicles to monitor engineers’ and drivers’ performances, ensuring safety, security and situational awareness. On the vast majority of occasions, this proactive performance sampling validates and confirms our employees’ professionalism. It also increases our in-depth understanding of people’s response to different situations, enabling us to improve coaching and embed safer behaviors.

Most of our locomotives are equipped with in-cab cameras. In 2018, we installed in-cab cameras inside 713 locomotives, increasing the total number of equipped locomotives to more than 5,355. These complement external-facing cameras, providing a complete view of incidents. We also integrate event recorder data, such as train speed, throttle position, brake settings and horn use.

Many Union Pacific vehicles are equipped with DriveCams, positioned below rearview mirrors to record 12-second video clips triggered by driving events, such as hard braking, swerving or excessive speed. DriveCam captures images from eight seconds before an incident occurs to four seconds afterward, enabling trained, third-party personnel to analyze root cause.

Public Safety

Keeping our communities safe involves proactive outreach to raise awareness and prevent risky behavior near railroad tracks, but we can't do it alone. We rely on law enforcement partners, as well as our employees, to be ambassadors in the communities where they live and work.

According to the FRA, 94 percent of all rail-related fatalities and injuries occur at railroad crossings or as a result of trespassing. Nearly all are preventable.

ENGAGING COMMUNITIES THROUGH UP CARES

Risky behavior near railroad tracks has sobering consequences, and the devastating outcome is something no one should witness. Our UP CARES program recognizes the most compelling arguments for staying safe are often those delivered face-to-face. Our employee volunteers deliver rail safety presentations to pedestrians, motorists and professional truck drivers across our 23-state network. To request a safety presentation, visit up.com.

UP CARES also addresses risky driver and pedestrian behavior around the tracks. In 2018, 80 percent of crossing incidents occurred while warning devices were activated. Investigations reveal risky or distracted driving was the cause.

Union Pacific special agents partner with local and state police departments to observe driver behavior. Our goal is not to write tickets, but to have meaningful conversations that change behavior.

NATIONAL RAIL SAFETY WEEK

In celebration of the second annual National Rail Safety Week, Union Pacific partnered with several law enforcement agencies and communities to host UP CARES operations across our 23-state network. In Houston, special agents hosted media in the cab of a locomotive, providing them a first-hand view of dangerous motorist behavior. [The Houston Chronicle](#) captured video of numerous vehicles reversing after breaching crossing arms, and other vehicles stopping on the tracks – including a large tractor-trailer that nearly caused an emergency train stop. During the two-hour event, Houston Police discussed safe driving habits with more than 60 drivers.

We worked with Safe Kids Worldwide, a key partner in our Community Ties Giving Program. Together, we participated in TV, radio and newspaper interviews in several cities. We shared important safety reminders across our social media channels, engaging more than 317,000 people who liked, shared or commented on posts.

In Chicago, our Commuter Operations employees targeted all three of Union Pacific's commuter lines, connecting with more than 3,000 riders. It was an opportunity to educate those who rely on rail as their primary mode of transportation across Chicagoland. Signs discouraging trespassing were installed at various stations.



This Las Vegas, Nevada, UP CARES operation was a success thanks to our law enforcement partners.



Utah Transit Authority Officer Andy Campbell talks to a driver about railroad safety during "Operation Clear Track" in Salt Lake City, Utah.

UP AND AMERICAN SUGAR CANE LEAGUE: A SWEET SAFETY PARTNERSHIP

The American Sugar Cane League represents 20 percent of America's domestic sugar production, and most of the 1.8 million tons produced in Louisiana is shipped via rail to destinations nationwide. During the harvest season, railroad crossings become heavily used as 18-wheelers loaded with sugar cane transport the product from field to mill.

“Even though sugar cane season is short-lived, it’s very active,” said Union Pacific Locomotive Engineer and Public Safety Coordinator Billy Fuller. “These vehicles run 24 hours a day. It’s important we work with the American Sugar Cane League wherever possible to reduce the likelihood of potential incidents.”

During our 13-year relationship with the league, new opportunities to share important rail safety reminders have emerged, such as newsletter advertisements and public presentations. The league also shares field locations and harvesting times with Union Pacific, allowing us to notify train crews operating in the area.

RESPONDING TO INCIDENT REPORTS

Union Pacific’s Response Management Communications Center (RMCC) processes emergency and non-emergency calls from communities across our 23-state network. The RMCC team operates 24/7, responding to emergencies, reports of vehicles stuck on railroad tracks, criminal activity and other concerns. Drivers and pedestrians can contact the RMCC through the phone number posted near railroad crossings, **888-UPRR-COP (877-7267)**.

In 2016, the Commission on Accreditation for Law Enforcement Agencies (CALEA) awarded our RMCC team its second distinguished accreditation, recognizing an advanced standard of compliance across policy and procedures, administration, operations and support services. We are in a four-year cycle of accreditation maintenance and will qualify for our third distinguished accreditation in 2020. RMCC is one of 104 public safety communications centers worldwide recognized for emergency response and professional excellence in this way.



Locomotive Engineer JT Fenceroy discusses rail safety at the 2018 Louisiana Agricultural Expo in Shreveport, Louisiana, with sugar cane farmers and sugar industry members.

WHAT'S AHEAD

We will continue leveraging technology as we work toward our ultimate goal – operating in an incident-free environment. We plan to train an additional 100 employees to operate drones in 2019. Field management is active in developing the program based on evolving technology, business need and feedback.

Strengthening Our Communities

Union Pacific takes tremendous pride in our community relationships and efforts to improve the places where we live and work through the Community Ties Giving Program and volunteer efforts. We supported more than 2,600 nonprofit partners, donated \$20 million to community efforts, and our public affairs representatives are members of more than 180 local civic organizations, such as chambers of commerce and economic development organizations.

Union Pacific's lines of communication are open to local and state agency officials, neighborhood groups and local citizens. Our public affairs representatives facilitate resources and address operations-related concerns reported directly through our 24/7 community line and website. Communities are one of Union Pacific's key stakeholders, and we are committed to serving and investing in their futures.

34 The Community Ties Giving Program

36 Our Impact

37 Key Partnerships

42 Making a Difference in our Communities

44 The Great Race to Promontory

44 What's Ahead

By offering family-supporting jobs and working with our partners to offer valuable skills training, Union Pacific hopes to fuel strong, inclusive communities with a vibrant quality of life.



The Community Ties Giving Program

Union Pacific's charitable giving programs have helped thousands of nonprofit organizations achieve their missions since 1959. Evolving with the changing needs of the communities we call home, we redesigned our philanthropic giving program in 2017 and it took on a new name, the Community Ties Giving Program.

Fully implemented in 2018, funding allocated by the Community Ties Giving Program ranges from \$2,500-\$25,000 for organizations receiving local grants to \$3 million for multi-year key partnerships. We understand each community has its unique challenges and opportunities. The programs we support align with one or more of our social impact goals related to safety, workforce development and community spaces. Together, our work in these areas builds safe, prosperous and vibrant communities – places people want to live and work.

SAFETY

Communities thrive when residents feel safe. Union Pacific is committed to helping communities prevent and prepare for accidents and emergencies, ensuring everyone gets home safely at the end of each day. This reflects our commitment to employee safety and the communities through which our railroad passes. We prioritize funding for programs that achieve the following objectives:

- Encourage safe behaviors and prevent accidents through education and awareness, particularly projects focused on rail, driver, bike and pedestrian safety.
- Eliminate risks and improve safe access to community spaces through infrastructure improvements. Examples include signage, proper lighting and public trail upgrades.
- Prepare and equip residents and emergency responders to effectively respond to incidents and emergencies, if or when they occur.
- Prevent crime and violent incidents through efforts addressing the root causes and seeking to mitigate their occurrence.

WORKFORCE DEVELOPMENT

For more than 155 years, Union Pacific has helped stimulate growth in cities and towns across the nation by training and providing employment to thousands of workers. We believe a skilled workforce and access to jobs paying good wages are essential elements for a prosperous community. We prioritize funding for programs that seek the following objectives:

- Put youth on the right track by creating awareness of family-supporting jobs, such as those offered by Union Pacific, and building foundational skills, specifically in Science, Technology, Engineering and Mathematics (STEM)-related fields, as well as necessary technical and life skills to begin a trajectory toward these careers.

SAFETY SPOTLIGHT

A Lesson in Bicycle Safety

Each year in California, more than 100 bicyclists are killed and 10,000 injured. In many cases, incidents were preventable. Union Pacific supported The Sacramento Police Foundation's efforts to change the statistics through its Pedals program. Police officers provide important safety gear, including reflectors and helmets, and encourage safe behavior for children and teens riding in the community and near railroad tracks.

The program also is geared toward improving inner-city youth self-esteem and reducing juvenile delinquency. Research shows young adults who have a positive outdoor outlet are less likely to commit a crime. Officers hope their interactions through the Pedals program build positive relationships and trust in the communities they serve.



Sacramento police officers discuss safety and build relationships through the bike giveaway program.

WORKFORCE DEVELOPMENT SPOTLIGHT

Creating a Passion for STEM

In Chicago's inner-city schools, phrases like "I'm just not good at math" echo among low-income students, many of whom don't consider a career in STEM fields a possibility. That's where the Big Shoulders Fund steps in, offering programs, such as math games for elementary children during indoor recess, and coding and robotics for high school students.

Union Pacific is proud to support the Big Shoulders Fund, an extended-day after-school program providing students an opportunity to experience how science, technology, engineering and math create career paths. Research shows interest in these fields wanes in middle school, especially if students don't see STEM professionals where they live. An investment in students at a young age creates a passion for STEM-related careers, which is critical for students and our nation.



Students discuss a group science project in St. Nicholas of Tolentine School's science club, a program supported by the Big Shoulders Fund.

The Community Ties Giving Program

- Raise awareness of, educate and prepare young adults for middle-skills jobs through community colleges, vocational and career training programs, workforce readiness initiatives and programs assisting with job placement and/or on-the-job experience.
- “Up skill” the existing workforce by providing training and resources enabling workers to reach the next level in their careers.
- Provide training and mentorship for nonprofit professionals, helping them grow and advance their organizations.

COMMUNITY SPACES

Vibrant communities attract businesses, tourists and skilled workers. We seek to ensure residents within our communities have access to special places celebrating cultural diversity, artistic expression, our natural environment and the social interactions enriching their lives. We believe such community spaces contribute to the distinct identity of cities and towns. We prioritize funding for programs and projects that meet the following objectives:

- Create, sustain or expand upon artistic and cultural experiences offered to a broad and diverse audience. For example, museums, theaters, libraries, concerts and lectures.
- Preserve and share a local community's unique history, including projects related to trains and/or Union Pacific history.
- Provide clean, safe and positive outdoor recreational and/or educational opportunities fostering an appreciation for our natural environment.
- Beautify neighborhoods and main street areas to improve livability, promote commerce and, ultimately, attract more residents, businesses and visitors.
- Plan for, create or enhance unique spaces reflecting a community's character, and diverse needs and desires.

COMMUNITY SPACES SPOTLIGHT

Building America One Playground at a Time

A dream is coming true in Fort Worth, Texas. Work is underway to transform an old playground into Dream Park, designed to ensure no child is left on the sidelines due to a disability. The new, universally inclusive playground goes above and beyond Americans with Disabilities Act guidelines. Special features include a stainless steel roller slide, cozy dome for children with Autism, adaptive swings, a zipline and musical components.

Union Pacific is proud to partner on this project, giving all children, parents, grandparents and other community members with disabilities a place to play together; ultimately building the foundation for a more inclusive society. When completed in spring of 2019, Dream Park will be one of the largest inclusive playgrounds in Texas.



Dream Park construction began in September with equipment installation, followed by rubber surfacing, sidewalk and fence work.

Our Impact

COMMUNITY SPACES

280
community buildings constructed or enhanced

330
green spaces created or enhanced

780
public spaces cleaned

SAFETY

1.1M
trained in safety procedures

27k
hours of safety training

2,800
emergency services equipment procured



WORKFORCE DEVELOPMENT

19k
job placements

230k
hours of career-related classroom training provided

LOCAL COMMUNITY SUPPORT

corporate sponsorships, memberships, and local needs grants

MATCHING GIFTS

GivePLUS and FFEG

Key Partnerships

From local grants to key partnerships, our philanthropic outreach aligns with Union Pacific's long-standing commitment to building America. Key partnerships incorporate two subgroups, regional and national, and provide large-scale, targeted grants intended to achieve significant, measurable and sustainable impact in our communities, while supporting Union Pacific's key areas of giving in safety, workforce development and community spaces.

NATIONAL PARTNERS

Following a nationwide search, Safe Kids Worldwide, Local Initiatives Support Corporation (LISC) and the National Park Foundation were selected as national key partners, each receiving \$1 million in 2018. Our partnership with these world-class nonprofit organizations continues into 2019 with an additional \$1 million in funding for each group. Together, we are empowering communities to create a safe place for children and families, bringing economic prosperity and well-being to our neighborhoods, and encouraging exploration of our country's greatest treasures – national parks.

SAFE KIDS WORLDWIDE



Clifford the Big Red Dog makes a special visit to Union Pacific Center in Omaha, Nebraska, to launch his new book, "Clifford and the Railroad Crossing."

In partnership with Scholastic and Safe Kids Worldwide, we developed a new Clifford the Big Red Dog book, in which Clifford and his friends encounter a railroad crossing both by school bus and on foot, and learn valuable lessons about rail safety. The new book launched in December, and is a fun tool for Safe Kids Worldwide and Union Pacific employees to share in their communities.

Safe Kids Worldwide refreshed its "Start Safe Travel" program material to include a new section on rail safety. The content is distributed to local coalitions across the United States, who then present the material at Head Start centers and community events. The material was leveraged during National Rail Safety Week, engaging more than 300,000 social media users.

[Safe Kids Worldwide](#) is a nonprofit organization working to prevent childhood injury, the No. 1 cause of death for children in the United States.



Our partnership with Safe Kids Worldwide is designed to reach a full continuum – from pre-schoolers to K-12 youth, and parents – with research-based education and messaging designed to reduce risky behaviors that lead to rail-related incidents.

In partnership with Scholastic and Safe Kids Worldwide, we developed a new Clifford the Big Red Dog book, in which Clifford and his friends encounter a railroad crossing both by school bus and on foot, and learn valuable lessons about rail safety. The new book launched in December, and is a fun tool for Safe Kids Worldwide and Union Pacific employees to share in their communities.

LISC

Union Pacific is partnering with [LISC](#) to invest in American workers and an economic future based on quality jobs. Our partnership is fueling the Bridges to Career Opportunities (Bridges) program, which helps participants build foundational literacy, math and technical skills, allowing them to qualify for training and credentialing programs that can lead to living-wage jobs. The curriculum is tailored to local growth industries and includes "soft skills" that are necessary for success in a work environment.



The Bridges program is part of an integrated set of services offered by LISC Financial Opportunity Centers (FOCs), a network of career and financial coaching service centers across the country. Union Pacific is specifically focused on FOC programs in Chicago, Illinois; Kansas City, Missouri; Houston, Texas; and Los Angeles, California. In July, our Talent Acquisition team hosted a UP:jobs webinar for LISC FOC partners. More than 100 workforce development coaches learned about UP career opportunities, the application process and hiring requirements, enabling them to educate program participants. This introduction served as a starting point on how to best grow our partnership in the years to come.

This partnership helps build pathways for diverse, underserved individuals to find family-sustaining careers, as well as build a skilled pipeline for in-demand jobs in the rail industry and beyond.



Union Pacific Senior Recruiter Chiquita Morgan hosts a training class with LISC Chicago and North Lawndale Employment Network.

NATIONAL PARK FOUNDATION

Our history with the national parks started with creating iconic Western parks like Yellowstone, Zion, Grand Canyon and Death Valley, when the railroad provided the only access to pristine landscapes that were otherwise virtually impossible to visit. We are pleased to renew our partnership under the theme “Explore America’s Backyard,” encouraging younger generations to visit national parks and bring awareness to lesser-known parks – the ones in our own backyards.



We launched our partnership during National Park Week in April by releasing a [parks video](#) highlighting our joint history, which was shared on social media and played in 55 of the most highly visited national parks. News of our partnership was shared on a video screen in Times Square in New York City, providing a powerful platform to encourage millions to visit national parks.

Approximately half of our funding supports the National Park Foundation’s [Open OutDoors for Kids \(OOK\) program](#). Our funding supported 42,000 students with visits to 27 national parks in 15 states. We believe it’s important for students to explore the world around them while learning about science, history, conservation and their role in protecting national and local treasures. Union Pacific’s contribution constituted 21 percent of the total OOK budget, making us the program’s largest private donor.



Union Pacific locomotive engineer Harlee Watson stands outside his alma mater, Little Rock Central High School, one of the Open OutDoors for Kids locations supported by Union Pacific.

REGIONAL PARTNERS

Regional partnerships are granted by invitation only and, like our national partnerships, are often multi-year commitments designed to provide long-term impact in our communities. We want to work with organizations with whom we can explore big ideas, build powerful momentum within our communities, and achieve significant, lasting impact across Union Pacific’s network.

TEXAS A&M TRANSPORTATION INSTITUTE

Young drivers experience the highest rate of transportation-related fatalities. In an effort to change the statistics, Union Pacific is supporting the [Texas A&M Transportation Institute’s Youth Transportation Safety \(YTS\) program](#), which focuses on issues such as eliminating distracted driving, driving at night or while drowsy, not wearing a seatbelt or impaired driving. Funding will help YTS expand its bicycle and pedestrian safety efforts, as well as add a rail safety component. It also will support the next generation of the Teens in the Driver Seat app. A teen driver starts the app before a trip and – as long as they don’t access their phone while driving – logs undistracted miles at the end. Points are awarded based on safely driven miles, and prizes are offered.



Union Pacific’s Senior Supervisor of Public Safety Buck Russel discusses rail safety at a Teen’s in the Driver’s Seat event, geared toward creating a traffic safety culture among youth.

ASSOCIATED INDUSTRIES OF ARKANSAS

For years, graduating high school seniors have been encouraged to pursue a college degree, causing a decline in the number of people entering skilled trade professions. [The Associated Industries of Arkansas](#) now hopes to inspire students to consider a career in construction, transportation, manufacturing and other trades, preparing the next generation to replace the state's aging skilled professional workforce. To offer insight into these fields, the Be Pro, Be Proud Mobile Workshop provides middle- and high school-age students hands-on experience through diesel technology, fiber optics splicing and welding simulators. Union Pacific is proud to help the organization replace and expand its existing workshop, which showcases many of the careers found at the railroad.



Welding is an important skill for the railroad, and visitors have an opportunity to see if it sparks their interest inside the mobile workshop.

CHICAGO COOK WORKFORCE PARTNERSHIP

Union Pacific is building on its 2017 partnership with [Chicago Cook Workforce Partnership](#), which provides interns with hands-on experience through internships. Last year, we hosted three interns, exposing them to various railroad career paths. The Opportunity Works program in Chicago, Illinois, gives young adults the resources they need to find a family-supporting job. The intense program begins with fundamental skills training, such as money management, scheduling and personal hygiene, followed by six weeks exploring careers in high-growth, high-demand sectors that serve as Cook County's economic engine.



Opportunity Works interns tour a Union Pacific yard to learn about day-to-day operations and various career opportunities.

JUNIOR ACHIEVEMENT OF UTAH

In this digital era, a skills gap is making it difficult for some students to enter the workforce. [Junior Achievement of Utah](#) and Union Pacific are working together to put youth on the right track, enhancing foundational skills in finance, STEM, life skills and career awareness through gaming. JA City is an interactive, hands-on learning facility with the feel of an actual community, featuring 25 businesses. Each brings the city to life and helps teens dream about their future. The full concept for Union Pacific's display is still in development.



JA City in Salt Lake City, Utah, provides storefronts where students work, learning about commerce and free enterprise.

WESTSIDE COMMUNITY SCHOOLS FOUNDATION

We often select a career based on interactions or experiences in our youth. Soon, additional Westside High School students in Omaha, Nebraska, will get to experience what a career in welding means. The [Westside Community Schools Foundation's](#) newly expanded lab will allow additional students to enter the program and have flexible space for lectures and group activities, as well as storage for gases and additional Arc Welding Units. The purpose is to create awareness about trade positions that lead to family-supporting jobs, such as those offered at Union Pacific.



Westside students learn how to properly use tools and create strong welds.

DENVER ZOO

Like Union Pacific, [Denver Zoo](#) is a central chapter in Colorado's story. It is one of America's oldest public zoos and still features structures dating back to the early 20th century. Denver Zoo's train station is at the historic heart of its campus, offering rides to more than 270,000 riders each year. In addition to fun facts about Asian elephants, rhinos and gorillas, the train's conductor will share important safety reminders with passengers. Signs at the train depot and across the park will encourage visitors to consider how they interact with trains and tracks, and practice safe behavior at the park's two rail crossings.



Visitors have a chance to practice safe habits around railroad tracks as they experience Denver Zoo's sights and sounds.

OREGON MUSEUM OF SCIENCE AND INDUSTRY (OMSI)

Union Pacific and [OMSI](#), located in Portland, Oregon, are building a Design Challenge for visitors participating in the museum's new Center for Innovation (C4I). C4I provides museum guests a space to design and test solutions to solve personal, local and global challenges. The goal is to inspire children to connect with STEM-related activities. The full concept for Union Pacific's design challenge is still in development.



Union Pacific has proudly supported OMSI STEM-related programming since 2011.

LOCAL SUPPORT SPOTLIGHT

We supported hundreds of local organizations through our Local Grants program. The recipients were selected through an open application process, and their work aligns with our Community Ties Giving Program goals. Some of those organizations include the following:

Safety

- Twin Cities Public Television in St. Paul, Minnesota, seeks to create multilingual railroad safety messages in four target languages – Hmong, Spanish, Somali and English – for broadcast on its 24/7 channel dedicated to public safety, health and emergency preparedness.
- Louisiana Sheriff’s Honorary Membership Program in Baton Rouge, Louisiana, provides bulletproof vests to deputies throughout the state.
- Providence Health Care Foundation Eastern Washington in Spokane, Washington, offers ongoing injury prevention programming for children and parents emphasizing traumatic brain injury prevention related to activities such as mountain biking, snowboarding and rock climbing.

Workforce Development

- Big Brothers Big Sisters of Tucson in Tucson, Arizona, helps disadvantaged high school students improve graduation rates and prepare for college or trade-related careers.
- Skillpoint Alliance in Austin, Texas, enables individuals with barriers to employment to transform their lives through skills-based training and education, preparing students for work in the electrical field.
- Missouri Chamber Foundation in Jefferson City, Missouri, provides a free, statewide internship-matching program linking employers, students, colleges and universities through a personalized support and outreach initiative targeting hard-to-fill positions in welding, electrical work and machine operations.

Community Spaces

- Levitt Pavilion for the Performing Arts in Arlington, Texas, provides more than 50 free, family-friendly and culturally diverse live concerts through its Free Music Under the Stars program.
- Carroll Public Library Foundation in Carroll, Iowa, is renovating and expanding to enhance its children’s section with room for on-site educational programming, as well as increased space for community events.
- Gorge Grown Food Network in Hood River, Oregon, supports local farmers and provides access to good food for a healthy, self-sufficient Columbia River Gorge community.

The Community Ties Giving Program proudly supports local United Way organizations across our operating regions. Union Pacific has a longstanding partnership with United Way that we believe is a vital resource and contributor to communities across the country.



A pancake feed at Union Pacific Center in Omaha, Nebraska, featured the leadership team as celebrity chefs and raised more than \$2,600 toward the company’s United Way goal. From left, Rhonda Ferguson, executive vice president, chief legal officer and corporate secretary; Lee Myers, assistant vice president-Risk Management; and Tom Andreoli, vice president-Law.

Making a Difference in our Communities

Union Pacific's business is inextricably linked with communities, and we strive to tackle problems, find solutions and make positive impacts. Every partnership is important to us, and the work we do has the potential to change lives. Following are just a few of the projects we supported with grants that made a difference in the communities we call home.

INNOVATIVE ARKANSAS NONPROFIT SUPPORTS INVENTIVE MINDS

The Arkansas Regional Innovation Hub in North Little Rock is a lot of things: a woodshop, welding lab, co-working and event space. During the day, entrepreneurs, small business owners and students attending field trips can be found at work. After school, up to 100 students learn coding, laser cutting, 3-D printing, robotics, video game design and more.

With all this “making,” there was just one problem: Many people in rural areas didn't have access to the Hub. In an effort to reduce barriers and encourage every Arkansan to be innovative, the Mobile Makerspace was created. The trailer, partially funded by Union Pacific, has many of the Hub's features, including its own 3-D printer. Unveiled in May at the annual Maker Faire, it now travels across the state to teach classes in schools and community centers.



Created by Arkansas Regional Innovation Hub participant Drew Lovell, miniature models of the “Johnny 5” robot from the 1986 film *Short Circuit* were on display at the Hub's annual Maker Faire.

COMING SOON: NEW COMMUNITY ARTS AND CULTURE CENTER

Shakespeare said it best in his famous *As You Like It* monologue, “All the world is a stage.” In February 2020, Council Bluffs, Iowa, area residents will enjoy a new stage at the Hoff Family Arts and Culture Center.

Union Pacific is proud to support Pottawattamie Arts, Culture and Entertainment (PACE) as it renovates the historic Harvester II building. When completed, the 95,000-square-foot, state-of-the-art facility is an Iowa West Foundation initiative that will enrich and enliven the region through performance, education, culinary craft, visual arts and community engagement. The facility will offer flexible administrative space for local nonprofits. PACE, American Midwest Ballet, Kaneshville Symphony Orchestra, Chanticleer Community Theater and regional entrepreneurial food incubator, Kitchen Council, will also call the space ‘home.’ A new addition to the historic structure, the Polina and Bob Schlott Performing Arts Center, will house a 280-seat theater, named Union Pacific Stage.



Construction begins on the Polina and Bob Schlott Performing Arts Center.

FOREVER FOREST OFFERS LESSON IN SUSTAINABILITY

How do you teach children about sustainability and the everyday products we use that are made from trees? Through play and a traveling exhibit called *Forever Forest*. The exhibit was created in partnership with Union Pacific, North American Wholesale Lumber Association, Omaha Children’s Museum, and the hard and soft lumber industry of North America. It encourages families to observe, explore and investigate amazing aspects found throughout the forest, such as insects and different plant parts. *Forever Forest* features a tree top climber, a realistic mini replica of a Union Pacific locomotive and a kid-sized home under construction for children to help build. These play areas illustrate the lifecycle of a tree, from forest to transportation to our communities, and use in our homes and schools.

The national tour began at the Omaha Children’s Museum, making stops across Nebraska and at The Magic House in St. Louis, Missouri. Altogether, more than 250,000 visitors have stepped into the world of trees, experiencing how forests play a role in their lives. *Forever Forest* will travel to the Mobius Children’s Museum in Spokane, Washington, and Amazeum in Bentonville, Arkansas, in 2019.



A replica Union Pacific locomotive puts children at the controls, providing a first-hand look at what it’s like to ride down the rails.

MATCHING OUR EMPLOYEES’ GENEROSITY

Union Pacific’s GivePLUS program matches employee donations to nonprofit organizations, dollar-for-dollar, and supports employees who volunteer their personal time by providing matching grants. We matched our employees’ generosity and donated nearly \$2 million to nonprofit organizations improving our communities. Additionally, Union Pacific matches dollar-for-dollar employee contributions to its Fund for Effective Government (FFEG) by donating to charities of employees’ choosing.



Union Pacific employees donate their time filling bags at Omaha’s Food Bank of the Heartland.

The Great Race to Promontory

CELEBRATING WITH THE COMMUNITIES LINING HISTORY'S PATH

Union Pacific's history is intertwined with the thousands of communities created or whose growth was spurred by the building of the first transcontinental railroad. President Abraham Lincoln signed the Pacific Railway Act of 1862, authorizing Central Pacific Railroad of California, chartered in 1861, to build a line east from Sacramento. At the same time, the act chartered the Union Pacific Railroad Company to build west from the Missouri River. The original legislation granted each railroad 6,400 acres and up to \$48,000 in government bonds for each mile completed, igniting The Great Race to Promontory.

To mark this monumental anniversary, we began a three-year "race" in 2016, building anticipation and excitement for the 150th anniversary of the transcontinental railroad's completion. We created an interactive website, [the Great Race to Promontory](#), illustrating the journey to Promontory, Utah, with rare photographs and animated maps.

We continue hosting community celebrations, including a 7-by-7-foot traveling exhibit featuring historical photos and community descriptions. A custom panel highlighting each community's connection to our development was created and gifted. It was a privilege to visit with towns and cities, and we are proud to have presented a commemorative Golden Spike to our community partners with an engraved message reading: "Towns developed, and the bond between UP and the early settlements grew. As we celebrate the 150th Golden Spike anniversary, UP is proud of these long-standing community relationships."

The special events and celebrations will culminate with two special ceremonies – May 9, 2019, in Ogden, Utah, and May 10, 2019, at Promontory Summit, Utah, the spot where the Golden Spike was ceremoniously "tapped" into place.



Union Pacific's Senior Director of Public Affairs Nathan Anderson presents a commemorative Golden Spike to Reno, Nevada, City Council member Jenny Brekhus.



Three of the four original spikes reunited in Omaha, Nebraska, at the Joslyn Art Museum.

THE EIGHTH WONDER OF THE WORLD'S CROWN JEWELS

For the first time since that windy day at Promontory Summit in 1869, three of the four original spikes driven to honor the transcontinental railroad's completion were reunited in Omaha, Nebraska, a few miles from mile zero, where Union Pacific laid its first rail near the Missouri River. The spikes sparkled as the centerpiece of a traveling exhibition, *The Race to Promontory: The Transcontinental Railroad and the American West*.

The exhibition celebrates the railroad's construction through the photographs and stereographs of Andrew Russell and Alfred Hart. Their work, drawn exclusively from Union Pacific's collection, visually recreates the meeting of the rails. Many of the displayed images have never been publically viewed.

"It's fascinating that both railroads chose photographers to document their journey, rather than a painter or print maker," said Joslyn Art Museum's Chief Curator and Holland Curator of American Western Art Toby Jurovics. "If you think about it, the most modern invention in transportation was being documented by the most modern artistic medium – photography."

The Race to Promontory: The Transcontinental Railroad and the American West exhibition began at the Joslyn Art Museum, before moving to the Utah Museum of Fine Arts in Salt Lake City, Utah. It will end its journey at the Crocker Art Museum in Sacramento, California, in late 2019.



WHAT'S AHEAD

Union Pacific is pleased with the progress we've made during the first, full year of our redesigned Community Ties Giving Program. We look forward to seeing our key partnerships mature, making progress toward our social impact goals in safety, workforce development and community spaces.

Union Pacific's board of directors approved additional funding, bringing our projected Community Ties Giving Program 2019 spend to \$21 million. We will expand our Regional Key Partnerships program and build on the first-year successes of our National Key Partnerships. We are creating new curriculum related to the Transportation, Logistics and Distribution (TDL) sector through our LISC partnership. We are working diligently to distribute our new Clifford book to communities and launch a new program with Safe Kids Worldwide, designed to engage teenagers in spreading our rail safety message to children. We are also partnering with the National Park Foundation on a 2019 summer photo sweepstakes, encouraging exploration in our nation's parks.



Engaging Employees

Union Pacific's dedicated employees are passionate about their role building America. We believe the work that every employee does matters, and how the work is accomplished is just as important as producing results and achieving goals. Every employee's career path is unique, from an office setting to working on or with trains. At Union Pacific, we help employees develop skill sets enabling them to grow and move into positions across the company or become experts in their role, providing fulfilling careers.

46 Embracing Employee Needs

49 Developing Employees

50 Embedding an Ethical Approach

51 Continuous Improvement the UP Way

52 Renewed Focus on Diversity and Inclusion

54 Keeping Employees Healthy, Happy and Well

55 What's Ahead

Marketing and Sales Manager Natalie Ortega handles grain and fertilizer customers nationwide from her office in Omaha, Nebraska.



Embracing Employee Needs

Union Pacific is a company that is always moving, advancing and building. In 2018, we made a number of organizational changes that position us to tackle the challenges and opportunities of today and into the future. We are dedicated to engaging employees, motivating them to unlock new levels of passion and dedication while leveraging their diverse talents.



We consolidated our Operating department from three regions to two – the Northern Region and Southern Region. We also eliminated five service units and combined the work into our remaining 12 service units. These changes were made in an effort to streamline decision-making by removing unnecessary or redundant processes.

We experienced heavy demand in the second and third quarters. We recruited new employees and, in some cases, offered hiring incentives for train crew and hard-to-fill electrician positions. As we reported in our second quarter earnings release, our train, engine and yard (TE&Y) workforce, the people responsible for moving trains, grew significantly with approximately 900 employees in the training pipeline. Roughly 750 additional TE&Y employees graduated from training in July, August and September.

Our network experienced severe congestion, and we launched Unified Plan 2020 to streamline operations. We stored locomotives and rail cars, and eliminated work not directly supporting our Operating objectives. This resulted in reducing general and administrative jobs as well as craft professional jobs. We indicated these were the first of what likely will be additional workforce reduction initiatives through 2020. Although difficult, these changes are critical to ensuring Union Pacific remains a strong and competitive company.

BUILDING EMPLOYEE ENGAGEMENT

When employees are empowered and respected, they feel connected to the company. Union Pacific believes every employee needs to be engaged in making his or her work safer, more productive and with a better outcome.

We asked employees to participate in our second companywide Engagement Survey. Approximately 30 percent of agreement and 76 percent of nonagreement employees participated in the 32-question survey, up slightly from participation in our first survey in 2016. Responses were grouped into three indexes: Employee Engagement, Performance Enablement and Manager Effectiveness, and results were shared with employees.

We have room for improvement, yet there are already areas where the company excels. For example, employees have a strong sense of pride in their work and the role Union Pacific plays in our economy. We asked teams to celebrate these wins together and put together an action plan for improvement areas. From local managers to our executive management team, we are committed to engaging our employees.

PROVIDING MEANINGFUL BENEFITS

We offer a comprehensive benefits program including medical insurance, educational assistance and a 401(k). Benefits vary based on the applicable collective bargaining agreement or an employee's non-union status.

As our company and workforce continue to evolve, so must our practices and policies. In 2018, we made significant benefit changes for our nonagreement workforce. Employees with less than five years of service were granted three weeks of vacation, instead of two weeks.

We understand it can be difficult to balance family responsibilities with similar work demands. With that in mind, Union Pacific updated its paid parental leave and sick leave practices. Paid parental leave provides nonagreement employees not qualifying for short-term disability up to two weeks bonding time after the birth of the employee's child, or the placement of a child with a nonagreement employee in connection with adoption or foster care. Maternity leave benefits still exist as in the past for employees qualifying for short-term disability associated with childbirth. We also provide nonagreement employees paid time away to care for a sick child or parent.

We are proud of these new benefits; however, work schedules required to operate our railroad's 24/7 operations can be challenging, and employees often need extra support caring for loved ones. The Bright Horizons Care Advantage™ database refers employees to supportive care providers and services, such as:

- Center-based and in-home child care.
- Elder care.
- Pet care.
- Housekeeping.
- Tutoring and homework help.

LABOR AGREEMENTS

Union Pacific works with 14 major rail unions representing approximately 85 percent of roughly 42,000 full-time employees.

National labor agreements became subject to modification most recently on Jan. 1, 2015. Beginning in the last quarter of 2017 and through 2018, Union Pacific reached voluntary agreements with the following unions, which ratified them, including:

- Brotherhood of Locomotive Engineers and Trainmen.
- Brotherhood of Railroad Signalmen.
- Brotherhood of Railway Carmen.
- International Association of Sheet Metal, Air, Rail and Transportation Workers – Transportation Division including Yardmasters.
- National Conference of Firemen and Oilers.
- Transportation Communications International Union, and International Association of Machinists and Aerospace Workers.

Agreements were reached with the following unions through arbitration:

- International Brotherhood of Electrical Workers.
- International Association of Sheet Metal, Air, Rail and Transportation Workers – Mechanical.
- Brotherhood of Maintenance of Way Employees.

Union Pacific reached agreement terms for wages, health and welfare with each union. We will commence the next round of negotiations in November 2019.

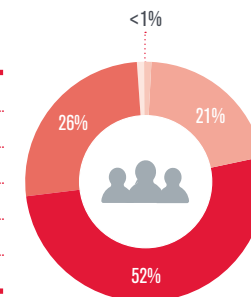
AUXILIARY WORK AND TRAINING STATUS (AWTS)

Shifts in business demand resulted in temporary reductions to train and yard service, causing employee furloughs. A furloughed employee is placed on an inactive board and not subject to call unless the union agreement they work under has specific stipulations. Approximately 75 percent of all TE&Y employees were eligible to be covered under AWTS agreements providing limited benefits, which must also be approved by local unions.

AWTS agreements provide up to eight work or training days per month, and continue full health care benefits and service months contributing to Railroad Retirement. Employees continue training to sharpen their skills and prepare for full-time employment when customer demands increase.

POPULATION (TOTAL COMPANY)

Approximately	42,000
Traditionalists (born before 1946)	<1%
Baby Boomers (born 1946-1964)	21%
Generation X (born 1965-1981)	52%
Millennial (born 1982-1997)	26%
Generation Z (born after 1998)	<1%



SENIOR MANAGEMENT

Female	21%
Male	79%
Asian	2%
Black	5%
Caucasian	87%
Hispanic	6%
Native American	0%

UNION PACIFIC RECOGNIZES 50-YEAR EMPLOYEES

1968 was a busy year – Apollo 8 astronauts spent Christmas orbiting the moon, the U.S. launched emergency 911 telephone service and, not to be outdone, the Big Mac made its nationwide debut. It also marks when Union Pacific's 50-year employees started work on the railroad.

Three hundred years of collective service distinguish our 2018 honorees, recognized at Omaha's Union Pacific Center. Employees recognized were:

Theodore Dominguez, locomotive foreman, Mechanical

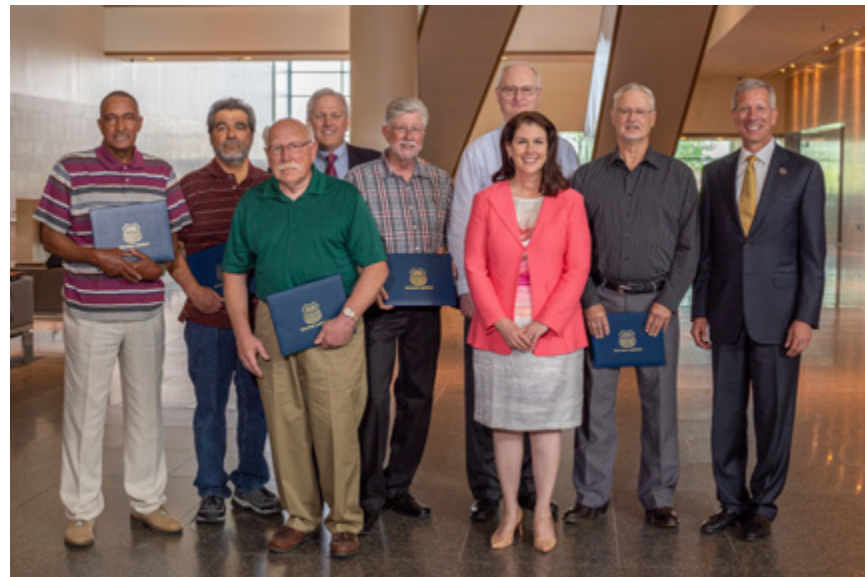
Stephen Johnstun, conductor, Northern California Service Unit

Lewis "Jake" Mallett Jr., yardman, Alton & Southern

Barry Norman, yardman, Alton & Southern

Alan Ratcliffe, pricing coordinator, Marketing & Sales

James Smith, locomotive engineer, Mid-America Service Unit



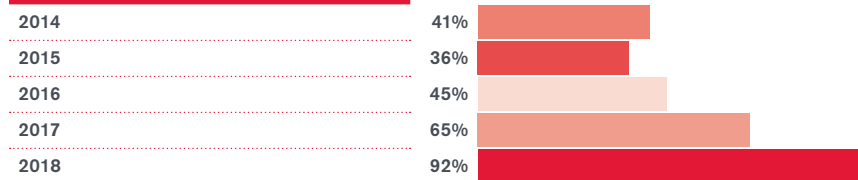
From left: Lewis "Jake" Mallett Jr.; Theodore Dominguez; Barry Norman; retired Executive Vice President and Chief Operating Officer Cameron Scott; James G. Smith; Alan Ratcliffe; Executive Vice President and Chief Human Resource Officer Beth Whited; Stephen Johnstun; and Chairman Lance Fritz.

Developing Employees

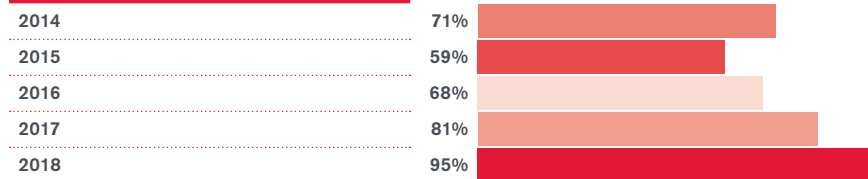
The work of building, maintaining and operating a railroad is challenging. Union Pacific's commitment to employee training and development is vital for cultivating the high-quality workforce we need. It also plays a critical role in keeping our employees safe and ensuring we operate ethically.

EMPLOYEE RETENTION*

OPERATIONS MANAGEMENT TRAINEE



FIELD MANAGEMENT TRAINEE



*These charts reflect end-of-year retention numbers. As employees leave the company over time, statistics for previous years are updated.

DEVELOPING SKILLS

Training and development focus on setting goals and achieving great results. Our core competencies foster a culture of performance and growth supporting our vision, mission and values. In addition to work-related skills, we develop employees' capabilities in eight core competencies:

- Building relationships and influencing others.
- Handling adversity.
- Confronting problems with courage.
- Leading teams.
- Embracing change.
- Making effective decisions.
- Acting strategically.
- Focusing on customers.

We offer skill development opportunities for employees at all levels. These include:

- New Employee Onboarding Program – Courses on communication and industry-specific training through interactive experiences.
- Skill Development – Technical, communication, safety and environmental courses.
- Managerial and Leadership Development – Management and leadership courses helping employees grow and develop.
- Transitioning Managers – Courses helping newly promoted managers lead teams.
- Transportation Operations Training – Operational excellence courses strengthening employee skills and training for superior service.
- Field Management and Operations Management Training Programs – Programs preparing employees for frontline management positions within the Operating Department.
- Emerging Leaders – Leadership programs maintaining a strong pipeline of future leaders, ranging from day-long training courses to multi-month programs. Ongoing, self-led learning tools fostering employee development also are available.

Embedding an Ethical Approach

Union Pacific's reputation and business stem from our employees' character, people with whom we choose to do business and the decisions we make. Providing the training and tools needed to help employees make the right decisions is a priority.

Our policy on Ethics and Business Conduct, *The How Matters*, explains our expectation of ethical conduct, prohibiting offensive remarks and sexual harassment, among other violations. We have a zero tolerance policy on inappropriate behavior involving Equal Employment Opportunity (EEO) and retaliation, encouraging employees who witness behavior they believe violates EEO policy to report the incident.

Union Pacific employees operate under the following high ethical standards:

- **Honesty** – Being truthful when dealing with customers, suppliers, shareholders and fellow employees.
- **Fairness** – Treating everyone fairly.
- **Integrity** – Voicing concerns when we believe our company or colleagues are not acting ethically or complying with the law.
- **Respect** – Maintaining a foundation of trust and respect with colleagues, customers, regulators, suppliers and other stakeholders.
- **Loyalty** – Ensuring no employee is, or appears to be, subject to influences, interests or relationships that conflict with the company's best interests.
- **Accountability** – Holding ourselves, peers and customers to the company's high ethical standards.
- **Adherence to the law** – Complying with all laws.
- **Compliance with policies** – Adhering with the letter and spirit of company policies.

ETHICS AWARENESS

Union Pacific educates employees about ethics and our expectation of high ethical conduct throughout the year. We focus on *The How Matters* and the premise that how we do our jobs is as important as what we accomplish. Published articles on our employee news website, regular ethics bulletins and mandatory training modules remind employees of Union Pacific's high ethical standards.



Gang 8567 Bus Driver Gary Bennett is a 27-year Union Pacific employee who says his Native American culture taught him right from wrong, shaping him into the employee he is today.

Continuous Improvement the UP Way

The UP Way engages all employees to continuously improve safety, service and efficiency by providing methods, tools and processes to standardize work, eliminate variability and waste, and solve problems at the root cause. We use the following primary UP Way tools to achieve continuous improvement (CI):

- **Standard Work** – Operations are performed in a consistent manner, and are regularly enhanced by employees doing the work, improving engagement and reducing variability.
- **Leader Standard Work** – The audit function of the UP Way suite of tools; utilized to ensure improvement is sustained by engaging and developing employees.
- **5S (Sort, Straighten, Shine, Standardize and Sustain)** – The workplace is cleaned and organized in a systematic process, improving our work areas and increasing efficiency.
- **Value Stream Mapping** – A map-like illustration that shows the flow of the process, information, materials and cycle times, allowing us to process constraints and eliminate waste.
- **Problem Solving** – A process for analyzing problems to determine the root-causes in order to solve the problem for the last time.
- **Visual Management** – Work cues that indicate process performance for all employees, providing opportunities to improve and understand processes.

Employees who have a passion for improvement may apply for our UP Way Certification Program. This nine-month program pairs an employee with a mentor while they are trained in CI and enables them to use their skills to complete improvement projects within their department. To date, more than 275 employees have earned a UP Way certification through the program.

PROCESS IMPROVEMENT TAKES OFF IN KANSAS CITY

Innovation and continuous improvement go hand-in-hand. Both are about not being satisfied with current results and thinking outside of the box. Michelle Collins, a material handler in Kansas City, Missouri, found a small change that is making a big impact.

Using the visual management UP Way tool, Collins devised an idea to modify pallet racks with handles and wheels. The pallets store more than 10 sets of gloves the team wears based on the craft and job. The modified pallets are easy to roll and don't require another person to help move them, allowing the team to optimize space and expedite the retrieval process for safety gear. It also provides a visual cue when the supply is running low and ensures safety gear is put away in the appropriate location. The approach complements the shop's computerized ordering system, which automatically reorders once inventory hits a certain level. Having a safe, organized environment allows the team to focus on their daily tasks.



Material Handler Michelle Collins created a new process to make pallet racks easier to access.

Renewed Focus on Diversity and Inclusion

Union Pacific is committed to improving and strengthening performance to further build an inclusive workforce that reflects the diverse markets and communities we serve. Recognizing we still have work to do, we reinvigorated our diversity and inclusion efforts, specifically focusing on an inclusive culture, and a talented workforce and marketplace. We launched a diversity council, chaired by our Chairman, President and CEO, that provides frontline insight and reports quarterly to senior management. We also created an Employee Resource Group (ERG) Steering Committee that oversees our eight existing ERGs. These groups are critical to supporting the company's diversity and inclusion strategy by raising awareness and providing an environment where all employees can realize their potential.

Attracting, acquiring and maintaining a diverse workforce provides access to the skills and character we need to foster innovative ideas and drive optimal business growth. Drawing on different experiences and expertise is critical for strategic decision making, problem-solving, leadership development and creativity.

We recruit talented individuals dedicated to our mission of service and passionate about performing to the best of their abilities while working as one team. We recognize and value that people come from all backgrounds and walks of life, and embrace those with cognitive diversity. Union Pacific wants employees from all groups to launch and grow their career within the company.

FOSTERING EQUALITY

Union Pacific employees have the fundamental right to fair treatment within a discrimination-free workplace. We create a work environment that respects and values differences, which is essential for employees to reach their fullest potential.

We are committed to a work environment free of offensive behavior regarding a person's race, color, national origin, religion, gender, sexual orientation, age, gender identity, veteran status or disability. This includes offensive behavior directed at employees, customers, visitors to company facilities and others who employees may contact during the normal course of work.

We consolidated our Equal Employment Opportunity, Affirmative Action and Complaint Resolution teams. Our diversity and inclusion group has oversight of this combined team, allowing us to better understand cultural indicators and the extent to which we are truly embracing diversity. Our goal is delivering a thoughtful approach to fostering inclusion and equality, and building an attractive workplace where employees want to be and the best talent resides.

In fall 2018, Union Pacific launched the first phase of its inclusive leadership training. Senior executives and Workforce Resources leadership learned about unconscious bias and a skill-based methodology to respond. The final phase of this program will be deployed in 2019.

EMPLOYEE RESOURCE GROUPS

Union Pacific's ERGs are nurturing networks promoting a diverse workplace where everyone does their best work. Each ERG has an executive sponsor directing the leadership team's attention to concerning issues. ERGs support their members, educate other employees and embrace the communities we serve.

More than 2,100 employees across Union Pacific are involved in one or more ERGs, which include:

- Asian Employee Resource Organization (AERO).
- Black Employee Network (BEN).
- LGBT Employee Network (BRIDGES).
- Council of Native American Heritage (CONAH).
- Latino Employee Network (LEN).
- A Women's Initiative – Lead, Educate, Achieve and Develop (LEAD).
- Emerging Professionals Network (UP Ties).
- Union Pacific Veterans Network (UPVETS).

ERGS JOIN FORCES TO SHOWCASE THE VALUE OF DIVERSITY AND INCLUSION

Union Pacific's ERGs came together to host one conference – Forging Forward: Many Tracks, One Network. The conference celebrated our company's diversity in the office and the field. It featured nationally recognized speakers, an executive leadership roundtable and panel discussions, exhibits and networking opportunities. Breakout sessions focused on leadership best practices, career progression advice, benefits and Railroad Retirement, diversity and inclusion, and more. Additionally, each ERG hosted its own half-day event, supplementing the formal agenda.



The ERGs had displays and activities outside the conference, encouraging attendee interaction.

CEO ACTION FOR DIVERSITY & INCLUSION™

A growing body of research reveals that stronger business outcomes directly correlate with diverse teams and inclusive workplace environments. We believe this is true at Union Pacific, too.

The CEO Action for Diversity & Inclusion is the largest CEO-driven business commitment to advance diversity and inclusion in the workplace. Recognizing change starts at the top, our Chairman, President and CEO Lance Fritz is among more than 550 CEOs from the world's leading businesses pledging to take action. This group is dedicated to cultivating workplaces that support open dialogue on complex, and sometimes difficult, conversations about diversity and inclusion, and implement and expand education on topics such as unconscious bias.

Union Pacific is proud to be among these world leaders who are taking positive steps to improve this important societal issue. To learn more about the CEO Action for Diversity & Inclusion, visit ceoaction.com.

BUSINESS ROUNDTABLE CEOS TAKE ACTION

Union Pacific is committed to promoting diversity and inclusion in the workplace. For Chairman, President and CEO Lance Fritz, this is more than a goal – it is a responsibility. Fritz joined more than 120 Business Roundtable CEOs to take action. We submitted a report highlighting programs and activities which help us cultivate an inclusive workplace. To learn more, visit businessroundtable.org.

CODE I COMMITMENT TO OPPORTUNITY, DIVERSITY AND EQUITY

We've called Omaha, Nebraska, home for more than 155 years. Working to ensure our hometown remains vibrant includes efforts to improve diversity. We are the proud signatory for the Greater Omaha Chamber's CODE, which focuses on engaging the business community to advance diversity and inclusion in the workplace. All signatories are committed to implementing comprehensive diversity and inclusion strategies, appointing a full-time diversity and inclusion leader and measuring success through assessment. The coalition is focused on providing resources, as well as networking and educational opportunities for its members. To learn more, visit omahachamber.org.

ENCOURAGING WOMEN TO SEE THEMSELVES AT UNION PACIFIC

Women comprise approximately 5 percent of Union Pacific's total workforce and represent one of the company's biggest diversity opportunities. At the same time, businesses such as ours face a growing shortfall of skilled trade workers due to fewer men and women choosing to learn a trade.

We continue recruiting and encouraging women to see themselves succeeding at Union Pacific. Our [careers website](#) features stories of women working in Transportation, Engineering, Mechanical and Technical teams. We partner with skilled trade organizations, veterans groups, technical and trade schools, and affinity groups at multiple universities, sharing opportunities with hard-working women interested in pursuing a fulfilling career.

GENERAL CHAIRMAN HENDERSON TAKES OFFICE

Yardmaster Carla Henderson looks forward to new challenges, and after nearly 30 years of mastering her trade in Roseville Yard, California, she's stepped into a new role — general chairman. With her election to this senior union role, Henderson became one of the first female yardmaster general chairmen in Union Pacific's history.

Henderson is one of two officials representing all Union Pacific yardmasters: she is general chairman of Western Railway Supervisors Association-Transportation Communication Union (WRSATCU), while Robby Robelot, yardmaster, North Little Rock, represents the United Transportation Union-Yardmasters (UTUY). Both yardmasters unions are united under the United Supervisors Council of America.

As a union officer, Henderson has authority to negotiate and enter into agreements with our Labor Relations Department on behalf of all yardmasters. Other duties include attending meetings and special events with superintendents and yardmasters.

She is one of only 15 women currently qualified as a Union Pacific yardmaster.



Yardmaster and General Chairman Carla Henderson in her Roseville Yard office.

Keeping Employees Healthy, Happy and Well

We are determined to help employees stay healthy. Our wellness programs help employees take charge of their well-being with tools to manage physical and mental health. Available resources include coaching, access to fitness centers, health education programs and screenings, and flu shots.

The System Health Injury Protocol program assists employees who may be at risk for injury because of low fitness levels. It provides access to personal training and nutrition consultations, helping employees achieve their fitness goals. When employees sustain injuries, Union Pacific's Return to Work program offers meaningful work within their physical capabilities. We also provide education and assistance to help with substance abuse, staying alert and stress-related conditions.

Other employee wellness programs include:

- Personalized health coaching, helping employees and their spouses manage stress, depression, smoking, diabetes, nutrition education and weight management.
- Employee Assistance Program, offering all employees and their families counseling and referral services for personal or work-related problems.
- System health facility program, giving employees access to more than 5,000 gyms located near Union Pacific work sites.
- Incentives encouraging annual wellness assessments and physicals for non-union employees.

SPREADING BEST PRACTICE ON PEER SUPPORT

A central role in Union Pacific's approach to well-being is played by peer support networks, with trained employees offering confidential advice and guidance to their colleagues. This strengthens bonds and builds a sense of community within Union Pacific, providing support from those with an inherent understanding of the rail industry.

Peer support leadership conferences in California, Colorado and Texas enabled networking, sharing best practices and building momentum for a vital part of our well-being support structure. Union Pacific brought together 500 volunteers from regional peer support programs to provide invaluable support to those facing crises at home or work.

EMPLOYEE ASSISTANCE PROGRAM

We operate a 24/7 Employee Assistance Program helpline, providing access to trained employee volunteers. These volunteers are equipped to help colleagues work through the emotional impacts of life-changing events. Support is entirely confidential and can provide a bridge to professional support services, where needed.

FIGHTING BREAST CANCER ON-THE-GO

Union Pacific's ERG Lead, Educate, Achieve and Develop (LEAD) played a part in the fight against breast cancer by providing a mobile mammography van stationed outside Omaha, Nebraska's Harriman Dispatching Center. Employees scheduled short, 15-minute appointments around their busy work schedules.

"Opportunities like this remind people to take care of their bodies and ownership of their lives," said Jeanne Stromgren, senior analyst-Central Train Dispatch.

According to a national American Cancer Society study, 29 percent of women with insurance don't receive breast cancer screenings. The van gave employees the opportunity to help lower the number.

The railroad does its part keeping employees and their families healthy by providing preventive benefits through its medical plans.



Senior Analyst Jeanne Stromgren took advantage of the convenience the mobile mammography van provided.

EMPLOYEES ACTIVELY SERVING

Some of Union Pacific's first employees were Civil War veterans, and throughout our more than 155-year history, we've consistently supported the military – whether by moving troops and supplies, or by providing good jobs for veterans and active-duty soldiers. We recognize that members of the U.S. military are dedicated individuals who bring unique experience and skills to Union Pacific. More than 17 percent of employees have military experience, with some still active in the National Guard or Reserves. In the last five years, 24 percent of new hires were veterans.

Union Pacific complies with the Uniformed Services and Reemployment Rights Act (USERRA), which provides leave and reemployment rights for veterans, reservists, National Guard members and others serving in the armed forces. Every month, between 52-57 agreement and 7-10 nonagreement employees are deployed. We have a military liaison who serves as a point of contact for employees and their families during deployments, answering questions and handling any concerns.

Union Pacific's *Support our Troops* initiative encourages employees to send messages to our railroad's uniformed soldiers on active duty around the world. We sent an American flag, messages and care packages to our employees stationed overseas on Memorial Day. This marked the 15th year we supported troops in this way.



From right, Carman Welder Robley McIntosh, Dupu, Illinois, and a fellow Air National Guardsman holding a Union Pacific flag while deployed in Afghanistan

HONORING OUR HEROES

Each year, Union Pacific pauses on Veterans Day to honor the men and women who have served or who are currently serving our nation in the armed forces. This year's ceremony at Union Pacific Center included remarks from Chairman, President and CEO Lance Fritz, a local high school ROTC drill team and a special check presentation - \$110,000 to the Wounded Warrior Project.

Union Pacific participates in the [Vow to Hire Heroes Act](#) tax credit program, receiving a federal tax credit for hiring veterans. In recognition of the veterans who served our nation in an effort to help others, we donate one-half of the net value of any credit received to the Wounded Warrior Project



Chairman, President and CEO Lance Fritz meets members of the Bellevue East High School ROTC drill team, from Bellevue, Nebraska, who performed during the special Veterans Day event.

WHAT'S AHEAD

An engaged workforce is critical to our success, and we will continue working with employees to understand what's important to them. We plan to deploy quarterly engagement surveys, as well as smaller, pulse surveys to help gauge our progress. One area we are focused on is building manager effectiveness. Employee focus groups will be held, helping us identify the best ways to improve effectiveness as a direct result of employee feedback.

Protecting the Environment

A healthy environment is an essential foundation for a strong country – and a vibrant economy. Our vision of Building America involves protecting and strengthening this foundation.

Railroads are one of the most fuel efficient means of transportation. On average, trains are four times more fuel efficient than trucks. That means moving freight by rail instead of truck reduces greenhouse gas emissions by 75 percent. Those emissions are directly related to fuel consumption. On average, Union Pacific moved a ton of freight 444 miles on a gallon of diesel fuel. If 10 percent of freight moved by the nation's largest trucks was transported by rail, fuel savings would be more than 1.5 billion gallons per year and annual greenhouse gas emissions would fall by more than 17 million tons – equivalent to removing 3.2 million cars from highways for a year or planting 400 million trees.

We move freight in an environmentally responsible way, enabling sustainable economic growth, and we still recognize the importance of not being complacent about our operations' impact. As the world seeks to improve sustainability, we are working to reduce our carbon footprint and help our customers do the same.

57	Our Approach to Environmental Management	63	Waste Management
58	Climate Change and Environmental Risks	64	Water Management
60	Fuel Efficiency	65	Biodiversity and Land Preservation
61	Incorporating Technology	65	What's Ahead
62	Energy Conservation		

Electrician Everett Parks works on equipment in the Fort Worth, Texas, locomotive shop.



¹ Source: [Association of American Railroads](#)

² Source: [Association of American Railroads](#)

Our Approach to Environmental Management

Union Pacific's goal is to be a leader in moving goods in a fuel-efficient and environmentally responsible manner. Environmental Management policies and procedures provide a pathway for the company to meet or exceed applicable environmental laws and regulations.

Union Pacific's Environmental Management System improves processes and tracks performance. We strive to improve our performance by investing in technology, maintaining equipment and training employees in environmentally friendly behaviors.

Every Union Pacific employee must commit to preventing pollution, continuously improving and complying with all regulations, according to the company's [environmental policy](#) signed by Chairman, President and CEO Lance Fritz.

Our Environmental Management team oversees environmental compliance and is integrated into daily operations. The team rigorously plans, coordinates and communicates environmental requirements and best practices. It also engages employees in our Environmental Management mission and vision.



Union Pacific tracks traverse some of our country's most beautiful natural wonders, including Corona Arch in Moab, Utah.

ENVIRONMENTAL RISK MANAGEMENT

Union Pacific's assistant vice president of Fuel and Environmental Management is directly responsible for the company's progress regarding environmental compliance. Additionally, this position annually reports directly to the board of directors on environmental issues.

Continuous improvement in achieving the company's fuel efficiency goals, which directly impacts our emissions, is tied to our performance review process.

COMPLIANCE

Union Pacific is subject to federal and state environmental statutes and regulations related to public health and environment, which are administered and monitored by the U.S. Environmental Protection Agency (EPA) and other federal and state agencies. Primary laws affecting rail operations include:

- Resource Conservation and Recovery Act, regulating solid and hazardous waste management and disposal.
- Comprehensive Environmental Response, Compensation and Liability Act, governing contaminated property cleanup.
- Clean Air Act, regulating air emissions.
- Clean Water Act, protecting the country's waters.

Union Pacific is committed to following applicable laws and regulations in all areas of our operations. From time to time, we are involved in legal proceedings, claims and litigation that occur in connection with our business. For example, we received notices from the EPA and state environmental laws for remediation costs at various sites throughout the United States, including sites on the Superfund National Priorities List or state superfund lists. We cannot predict the ultimate impact of these proceedings and suits because of the number of potentially responsible parties involved, the degree of contamination by various wastes, the scarcity and quality of volumetric data related to many of the sites, and the speculative nature of remediation costs. Where we are found in violation of specific rules or regulations, we seek remedy through the appropriate channels. More information on these notices can be found in our [Annual Form 10-K](#).

OUR ENVIRONMENTAL PARTNERS

We collaborate with a range of partners to identify opportunities to reduce our environmental impact and manage our land responsibly. Organizations with which Union Pacific collaborates include:

- GreenBiz Network, a peer-to-peer learning forum for sustainability executives from a diverse group of some of the world's largest companies.
- The California Council for Environmental and Economic Balance, a nonprofit, nonpartisan coalition of industry, labor and public leaders working to solve the most pressing environmental policy problems facing California.
- The Association of American Railroads Environmental Affairs Committee, a rail industry forum sharing best practices.

Climate Change and Environmental Risks

We understand the Earth's climate is changing. As one of the nation's largest freight railroads, it is our responsibility to act as environmental stewards, working to reduce fuel consumption and greenhouse gas (GHG) emissions.

Railroads move approximately one-third of all U.S. exports and intercity freight volume in the United States. Despite the large volume, EPA data shows freight railroads only account for 0.5 percent of total U.S. GHG emissions and just 2 percent of emissions from transportation-related sources.

At Union Pacific, we moved a ton of freight 444 miles on a single gallon of diesel fuel in 2018, and we can do better. We are committed to investing in technology that helps us identify fuel saving opportunities and increase locomotive productivity. For example, new software helps us predict potential locomotive failures. It runs while a train is traveling our network, rather than requiring the locomotive to operate in a static position inside our yard, burning fuel.

While working to improve our environmental footprint, we also have robust processes in place to respond to climate change impacts. Union Pacific acts to strengthen our network's resiliency from potential effects of extreme weather events, such as blizzards, floods and hurricanes, which could lead to slower train speeds, service interruptions, track damage and recovery costs. We have emergency response procedures, which include moving required resources to regions likely to be affected. We also are pursuing improvements that further increase our infrastructure's resiliency, including mitigating the impact of potential sea level rise.

For additional information on how climate change could have a material adverse effect on operations results, financial condition and liquidity, see the risk factors in Union Pacific's [Annual Form 10-K](#) and [CDP Filings](#).

Union Pacific earned an A- rating on the CDP's Climate Change Survey. We are proud of our achievements, resulting from the 11th consecutive year submitting climate change data to CDP.

FIGHTING THE CAMP FIRE

North of Sacramento, California, the Camp Fire devastated the city of Paradise, destroying an estimated 11,800 buildings and burning 140,000 acres of land in Butte County. More than 5,600 emergency management personnel responded, and so did Union Pacific. We provided hrrailing vehicles – which can operate on rail and conventional road surfaces – and water car support in remote locations. The water supplied helped proactively battle the wildfire, keeping rail ties and bridges wet.

While the fire had minimal impact on our rail operations, many employees were significantly affected, including several who lost their homes. Signal Maintainer Rod Nijim, an 18-year employee working out of Chico, called the response overwhelming. His family, and others, received clothing, personal hygiene products, financial assistance and temporary housing.

"I'm blown away by the generosity, so many railroaders came forward, and the railroad gave me a place to go," said Nijim.

In addition to supporting our employees, The Community Ties Giving Program donated \$15,000 to relief efforts through the American Red Cross.



Northern California Service Unit employees between James and Pulga, California, use one of many "water cars" staged across the service unit to spray surrounding track.

RESPONDING TO MOTHER NATURE

A muddy spring or geyser in Imperial County, California, near the Salton Sea, is impacting Union Pacific tracks connecting the Inland Empire to Yuma, Arizona. The exact cause is a mystery; however, it's believed to be partially due to historic earthquake activity, which allows underground gases to reach the earth's surface. In the last decade, geologists believe the muddy spring has moved more than 240 feet.

We're used to dealing with the aftereffects of Mother Nature. In this case, we're also on the defensive. We built a 100-foot long wall with boulders and steel, burying it more than 75 feet deep. Despite this effort, the spring continues its movement, leaving unstable ground in its wake. This summer, we installed a shoefly, or temporary track, that moves trains away from potentially unstable land. As we continue monitoring the situation, we also are considering alternative solutions, such as a bridge to completely bypass the area. Union Pacific remains in close contact with its local partners and we are prepared to respond as the geyser continues its slow march.



A shoefly was constructed to route train traffic away from the geyser.

USING CHAINSAWS AND HELICOPTERS TO TRIM VEGETATION

Innovative ideas can come from anywhere, whether while watching TV or brainstorming with co-workers. The Mid-America Service Unit is known for trying new things. Kristina Stonner is in charge of vegetation control. When she suggested cutting brush and canopies with 24-inch blades on an 80-foot pole hanging from a helicopter, the service unit gave it a try. Their average cost dropped more than 70 percent, while productivity rose from half a mile to 5 miles per day.

From the St. Louis-area to North Little Rock, Arkansas, the idea took off. Now, helicopters equipped with saws are being used to eliminate canopies along our rights of way. Using this method eliminates the need to re-cut vegetation for five years, and maybe longer. A clear right of way also provides greater visibility and improves safety for train crews, as well as drivers and pedestrians traversing the tracks at designated crossings. Stonner is working on another process, equipping a train to spray the cut brush, weeds and vegetation along the mainline more efficiently and at reduced cost.



A 10-bladed saw suspended from a helicopter trims limbs and brush on rail rights of way.

GREENHOUSE GAS (GHG) EMISSIONS PERFORMANCE

Union Pacific locomotives produced 10,874,731 metric tons of GHG emissions, up from 10,216,978 metric tons in 2017 due to increased freight volume. Biomass source emissions were 122,692 metric tons, including 36,757 metric tons or 30 percent from renewable fuels. This is a decrease from 125,359 metric tons in 2017, which included 41,456 metric tons or 33 percent from renewable fuel.

Scope 3 emissions from employee travel totaled 17,138 metric tons, a decrease from 18,466 metric tons in 2017. Employee travel includes rental car fuel and commercial air travel.

VERIFICATION OF UNION PACIFIC GHG

Union Pacific worked with independent organizations to ensure an accurate annual GHG and emissions calculation. Cadmus Group assisted with methodology to accurately measure and calculate GHG inventory. GHD Limited will verify our GHG emissions inventory

Fuel Efficiency

We strive to appropriately balance financial returns, environmental performance and social commitment. Fuel efficiency is a critical part of Union Pacific's sustainability approach. We have employees dedicated to finding ways to reduce consumption as diesel fuel accounts for approximately 17 percent of our operating expenses.

Fuel efficiency and carbon emission reductions fluctuate based on business volumes and commodity mix. Fuel efficiency improves when trains move heavier shipments. Unfortunately, we experienced heavy congestion across our system for much of the year. As we addressed these issues by streamlining process with Unified Plan 2020, our fuel efficiency improved in the fourth quarter. However, we ended the year with a 3 percent worse fuel consumption rate than 2017's best-ever performance. While we missed the first year of our 2018-2020 fuel goal, we remain steadfast in our commitment to further reduce locomotive consumption by 1.5 percent. From 2009-2018, our fuel consumption rate was essentially flat, however we saved more than 160 million gallons of fuel.

INNOVATIVE LOCOMOTIVE SOFTWARE CHANGES HELP SAVE FUEL AND PREDICT FAILURES

A software system in Union Pacific's high horsepower locomotives is helping predict locomotive failures and reduce fuel consumption. The program automatically captures a digital snapshot of a unit's engine parameters as it operates on a train, sending readouts to Mechanical employees for analysis. Previously, engines needed to be tested at a locomotive facility, burning roughly 35 gallons of diesel fuel. In addition to fuel savings, obtaining data while the locomotive is pulling freight helps us better predict potential failures and improve shop processes, increasing productivity. The concept was designed by our Engineering team, in partnership with external locomotive manufacturers. The software is installed on the majority of Union Pacific's high horsepower units.

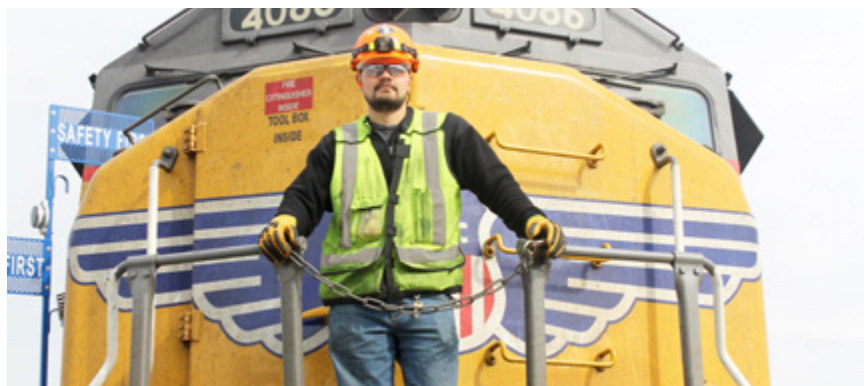
WORKING WITH CUSTOMERS TO REDUCE AND MEASURE EMISSIONS

Customers seeking to reduce carbon emissions can calculate savings from rail by using Union Pacific's online [Carbon Emissions Estimator](#). Many also receive annual emissions savings estimates compared to moving goods by truck. Our customers eliminated an estimated 33 million metric tons of GHG emissions by choosing rail over truck transportation.

INVESTING IN NEW LOCOMOTIVES

Union Pacific acquired 51 new locomotives that meet the EPA's stringent Tier 4 emissions standards. Tier 4 standards reduce particulate emissions from diesel locomotives by as much as 90 percent and nitrogen oxide emissions by as much as 80 percent. We do not plan to purchase additional Tier 4 locomotives in 2019.

We invested roughly \$3.8 billion in purchasing more than 1,500 new locomotives since 2008. These locomotives all meet the EPA's tier standards. Union Pacific retired more than 1,950 older, less fuel efficient locomotives over the same period. As a result of new locomotive and refurbishment programs, about 98 percent of Union Pacific locomotives meet EPA emissions standards.



Mechanical Service Operator Camron Cox works to keep locomotives running at the Kansas City Locomotive Shop in Missouri.

Incorporating Technology

Technology plays a fundamental role in Union Pacific's fuel efficiency performance, supporting the train crews responsible for the daily movement of goods Americans rely on. The following technologies help drive fuel efficiency across the system.

Trip Optimizer and LEADER are energy management systems that work like cruise control. They automatically control a locomotive's throttle and dynamic brake to reduce fuel usage, minimize GHG emissions and optimize train handling. The systems calculate the most efficient way of operating a train by considering such factors as train length, weight, grade, track conditions and locomotive performance.

Our more than 1,500 LEADER- and Trip Optimizer-enabled locomotives completed more than 3.5 million trip miles. We deployed enhancements that allow the systems to integrate with PTC, providing increased efficiency opportunities.

Process improvements reduce fuel consumption and GHG emissions by optimizing how we manage and maintain locomotives. For example, Union Pacific's cross-functional Fuel Mizers Load Testing Reduction Team implemented a more efficient process for locomotive tests that ensures engines and generators produce enough horsepower to pull loaded rail cars. The process reduces fuel consumption by more than 3.5 million gallons annually and improves reliability.

NEW LOCOMOTIVES DESIGNED TO REDUCE EMISSIONS

The Sacramento Metropolitan Air Quality Management District and the Bay Area Air Quality Management District awarded approximately \$15 million in grants to repower 10 diesel-electric switching locomotives into new EPA-certified Tier 4 single-engine switching locomotives. Switching locomotives operate within rail yards, assembling and disassembling trains. Because they remain in a concentrated area, improving switching locomotive emission levels can improve the air quality regionally.

Funding was made possible through California's Proposition 1B: Goods Movement Emission Reduction Program, a partnership between the California Air Resources Control Board and local air districts. The program is aimed at incentivizing freight-moving equipment owners to upgrade to cleaner technologies.

The repowered locomotives will reduce particulate matter and nitrogen oxide emissions by more than 90 percent. Union Pacific is the only Class 1 railroad operating Tier 4 Genset switchers and is the first Class 1 to pursue Tier 4 single-engine repowers. A single engine means the locomotives should be more reliable and easier to repair.

"The use of this technology will improve air quality, and in the long-term reduce regional ozone levels," said Kristian Damkier, an air quality engineer with the Sac Metro Air District. "Union Pacific is stepping up to the plate and working with us to make these projects happen."

The new switchers operate exclusively in California.



A stripped-down switcher locomotive waits to be repowered into a new Tier 4 switcher.

Energy Conservation

Union Pacific's utility conservation projects reduced energy consumption by 3.1 million kWh, which is enough to annually power more than 280 U.S. homes. Many projects were employee-driven solutions, such as retrofitting lights with LED bulbs and upgrading air compressor systems. These solutions also provide guidance for future initiatives.

ENERGY CONSUMPTION*	2016	2017	2018
Diesel	979.9 GALLONS	1,010.6 GALLONS	1,075.1 GALLONS
Gasoline	11.5 GALLONS	11.5 GALLONS	10.7 GALLONS
Other fuel	11.4 GALLONS	10.9 GALLONS	15.2 GALLONS
Electricity	648.9 KILOWATT HOURS	682.9 KILOWATT HOURS	899.37 KILOWATT HOURS
Natural gas	573.6 STANDARD CUBIC FEET	606.9 STANDARD CUBIC FEET	637.094 STANDARD CUBIC FEET

*Estimated in millions

A BRIGHT SOLUTION REDUCES ENERGY USE

Union Pacific is working to reduce its carbon footprint by using solar power and LED light bulbs. In addition to saving financial resources, these options place less demand on the nation's energy grid, and, ultimately, the natural resources used to power it.

We implemented LED lighting at a number of facilities, including five new solar LED yard lights at Provo Yard in Wendover, Utah. The new lights improve safety, security and visibility for train crews working in the yard at night. In Long Beach, California, crews replaced 91 high-mast tower lights at our Intermodal Container Transfer Facility (ICTF) ramp. We also began switching out indoor light fixtures and will continue to make updates until the yard is 100 percent LED. Already, we estimate the energy savings at ICTF will be more than 2.7 million kWh per year. That's enough power to charge 83,000 2018 Tesla Model S vehicles for 100 miles each.

Union Pacific installs solar signals capable of powering our signal system in areas where traditional power sources are difficult to reach. So far, more than 130 locations are using the technology, including Gila Bend, Arizona, and Sentinel, California. In 2018, they generated an estimated 318,000 kWh, which is enough to power an additional 9,600 Teslas.



New solar LED lights help train crews safely build trains at night in Utah's Provo Yard.

Waste Management

Union Pacific generated an estimated 2.09 million tons of waste and diverted approximately 71 percent of this waste from landfills.

We annually recycle about 300,000 tons of scrap metal, the most energy efficient recyclable material. It is the second largest contributor – behind rail ties – to our success diverting recyclable materials from landfills. Steel, aluminum and copper are the most recycled materials on the planet and found in a variety of unexpected products. From appliances to cell phones, buildings and highways, recyclable materials are globally transforming construction and consumer products.

We provide steel recycling bins for employee use at fixed facilities, along our right of way and at off-site locations. Recyclable track material and railroad equipment include rail, tie plates, spikes, anchors, locomotives, rail cars and retired Engineering Maintenance of Way roadway equipment.

THE PARAMOUNT IN WASTE DISPOSAL

A new waste disposal process implemented in three California locomotive shops is paying off. Previously, dumpsters were trucked to and emptied at a local landfill. Now, containers are loaded onto a train and taken to Paramount, California, where waste is sorted, consolidated and sent by train to East Carbon Development Company landfill in Utah. The employee-led initiative required collaboration between the Operating and Environmental teams. They looked for opportunities to further refine the process, performing detailed sampling of waste materials, which consisted mainly of track sand, rags and cardboard.

DISPOSING OF E-WASTE

Union Pacific recycles electronics no longer in use, commonly known as e-waste. We recycled or distributed about 274,000 pounds of electronic equipment and more than 1.1 million pounds of signal batteries. We also invite employees to drop off obsolete and unwanted electronics at our Omaha headquarters.

RECYCLING FUEL AND OIL

We recycled more than 5.2 million gallons of oil and fuel at our facilities. Union Pacific facilities have systems to catch spills and extract engine oil from wastewater. Facilities also use fuel nozzles that shut off automatically, preventing locomotive fuel tank overflow.



A speed swing operator compiles clips for recycling on the Marysville Subdivision in Nebraska.

Water Management

Many parts of the country experience water stress in local and regional watersheds. The U.S. Global Change Research Program notes widespread stress in much of the Southwest, western Great Plains and parts of the Northwest. We operate in many of these areas, and while managing thousands of utility accounts across our network can be challenging, we take our conservation responsibility seriously. Union Pacific used an estimated 1.2 billion gallons of water, a decrease from 1.4 billion in 2017. We continue exploring ways to conserve.

We analyzed the accounts, researched irregularities and identified opportunities to conserve millions of gallons. We made changes and repairs, eliminating unnecessary water use. Our team is focused on using data to identify and address consumption changes, which might suggest a leak or other issue.

Union Pacific helps protect water resources from our operations through spill prevention controls and countermeasure plans at more than 130 facilities. Ninety-nine wastewater treatment facilities capture and treat water from equipment washing and maintenance. We also treat captured wastewater to comply with government regulations and wastewater discharge permits.

REPORTING WATER TO CDP

Union Pacific was the first Class 1 railroad to report water consumption to CDP, which we submitted for the fifth consecutive year. The company's B rating reflects our awareness of the impacts of business activities on the environment, people, ecosystems and vice versa. The CDP results help our efforts to measure, monitor and report water consumption.

LEAK REDUCTION INITIATIVE

We analyzed water accounts and researched consumption irregularities, as well as identified opportunities to conserve millions of gallons of water.

We made multiple changes and repairs eliminating unnecessary water use. We saved an estimated 6.9 million gallons by fixing identified leaks in Oakland and Truckee, California; Salt Lake City, Utah; and Big Springs, Houston and Marion, Texas.

A SCIENTIFIC APPROACH TO FLOOD RISK MANAGEMENT

Union Pacific is working with scientists at the U.S. National Oceanic and Atmospheric Administration (NOAA) to determine which spots along our 32,000-mile network are most vulnerable to catastrophic water flows from storms and build a plan to ensure their resiliency. For example, the Houston area was devastated by Hurricane Harvey in 2017. At the height of the storm, we had 1,750 miles of track out of service. The dedication of our employees and successful implementation of our Hurricane Response Plan allowed us to repair 97 percent – all but 50 miles of track – in just 10 days.

Our NOAA partnership helps us identify at-risk areas and determine what steps should be taken to prevent the impacts from another "Harvey." That could mean creating culverts or raising the railroad tracks – whatever it takes to maintain traffic flow. Despite these efforts, we continue our vigilance monitoring extreme weather and are ready to act, whether that means dispatching emergency response teams, modifying our train schedules, preparing surge resources (ie. Engineering work crews, pumps, generators, locomotives and ballast) or moving equipment to higher ground.



Extreme weather events, such as the devastation left by Hurricane Harvey in 2017 at Houston's Englewood Yard, make flood risk management critical.

Biodiversity and Land Preservation

Biodiversity refers to the variety of living organisms in a particular habitat or ecosystem. Our footprint touches many diverse ecosystems, and we are committed to being a responsible steward of the land we own. We work to preserve our ecosystems, improve our resiliency and reduce our impacts. This is fundamental to ensuring a healthy environment and supporting vibrant local economies.

Union Pacific implements habitat conservation plans to protect ecosystems and endangered species in various locations. Plans in the western half of our network will impact species including the desert tortoise, endangered southwestern willow flycatcher and valley elderberry longhorn beetle.

RESTORING THE PERSIMMON GULLY PRESERVE

At the start of the 20th century, longleaf pine forests, woodlands and savannas covered 90 million acres, throughout the Coastal Plain and stretching from southeast Virginia to east Texas. The highly valued wood was harvested and used to build homes in Philadelphia, Baltimore and New York and was delivered across the Atlantic to European cities. By the 1990s, only 3 percent of its original footprint remained.

The Nature Conservancy and a coalition of public and private partners, including Union Pacific through its Community Ties Giving Program, are working to conserve and restore the longleaf pine habitat. Persimmon Gully Preserve, near DeQuincy, Louisiana, is a longleaf-dominated flatwoods savanna. Prescribed fire and selective herbicide work are being used to continue the restoration and health of these diverse ecosystems. Clearing the understory of brush also provides important habitats for many wildlife species, such as the southern fox squirrel, eastern screech owl and red-cockaded woodpecker.



Persimmon Gully Preserve near DeQuincy, Louisiana, where excess brush was removed, allowing grasses and wildlife to once again flourish. (Courtesy: The Nature Conservancy)

WHAT'S AHEAD

Leveraging efficiencies gained under our Unified Plan 2020 initiatives, we will continue diligently working toward achieving our 3-year fuel consumption goal – reducing locomotive consumption by 1.5 percent in total through 2020. One way we plan to optimize fuel consumption is expanding the use of our energy management system (EMS), by equipping most of our high-horsepower locomotive fleet with the technology. EMS equipped locomotives will be able to use the system, similar to cruise control, in all locations utilizing Positive Train Control (PTC). PTC provides the two-way communication and data needed to optimize EMS technology.



Appendix

Appendix

FEEDBACK

For questions on this report or to provide feedback, contact Union Pacific via email at sustainability@up.com.

ADDITIONAL RESOURCES

For ongoing updates on our citizenship and sustainability efforts, visit www.up.com.

- [Media](#) – Up-to-date information about Union Pacific.
- [Environment](#) – Sustainability commitments and progress.
- [Employees](#) – Programs and services available to our workforce.
- [Customers](#) – Product offerings and business groups.
- [Investors](#) – Annual report, proxy statements and other SEC filings.
- [Communities](#) – News, photos and video about Union Pacific and the communities where we operate.
- [Careers](#) – Career opportunities and benefits to joining Union Pacific's workforce.

CAUTIONARY INFORMATION

Our 2018 Building America Report provides additional explanatory information regarding Union Pacific that may not be available, included or directly derived from information in the company's Annual Report.

This report includes statements and information regarding future expectations or results of the company that are not historical facts. These statements and information are, or will be forward looking as defined by federal securities laws. Forward-looking statements and information can be identified by use of forward-looking terminology (and derivations thereof), such as "believes," "expects," "may," "should," "will," "would," "intends," "plans," "estimates," "anticipates," "projects" and other words or phrases of similar intent. Forward-looking statements and information generally include the following: the company's expectations or forecasts with respect to general economic conditions in the United States and the world; the company's financial and operational performance; increases of the company's earnings; demand for the company's rail service; improving customer service; enhancing profitability; volume and revenue growth; efficiency

improvements and increasing returns; and improving asset utilization. Statements also include the effectiveness or growth of new and newer services; management of network volumes; increasing shareholder value; total amount of capital investments; completion and effectiveness of capacity expansion and other capital investments, and other investments in infrastructure improvements; returns on capital investments; improvements regarding safety of our operations and equipment; improving efficiencies in fuel consumption; preserving the environment and communities where the company operates; and effectiveness of plans, programs and initiatives to reduce costs and other efficiency improvements. Forward-looking statements and information should not be read as a guarantee of future performance or results and will not necessarily be accurate indications of the times that, or by which, such performance or results will be achieved. Forward-looking statements and information are subject to risks and uncertainties that could cause actual performance or results to differ materially from those expressed in the statements. Forward-looking statements and information reflect the good faith consideration by management of currently available information and may be based on underlying assumptions believed to be reasonable under the circumstances. However, such information and assumptions (and, therefore, such forward-looking statements and information) are or may be subject to variables or unknown or unforeseeable events or circumstances over which management has little or no influence or control.

The risk factors in Item 1A of the company's [Annual Form 10-K](#), filed Feb. 8, 2019, could affect our future results and could cause those results or other outcomes to differ materially from those expressed or implied in the forward-looking statements and information. This report should be read in consideration of these risk factors. To the extent circumstances require or the company deems it otherwise necessary, the company will update or amend these risk factors in subsequent Annual Reports, periodic reports on Form 10-Q or current reports on Form 8-K.

Forward-looking statements speak only as of the date the statement was made. We assume no obligation to update forward-looking information to reflect actual results, changes in assumptions or changes in other factors affecting forward-looking information. If we do update one or more forward-looking statements, no inference should be drawn that we will make additional updates with respect thereto or with respect to other forward-looking statements.