



CASE STUDY



KEY TAKEAWAYS

Class I Railroad
+ **BIOKINETIX**[®]

CLIENT NAME: Confidential,
Major Class I Railroad

INDUSTRY: Railroad/Freight
Transportation

CASE STUDY LOCATIONS:
Six divisions across Georgia,
Virginia, Pennsylvania,
Alabama, Indiana, and
Kentucky

EMPLOYEES: 20,000+
across 20 states

PROGRAM START: April
2022 (three-month pilot);
ongoing and expanding



500 days without a reportable injury at
the pilot division following program launch



50%+ injury reduction in the
second division within the first year



42% injury reduction across all
active divisions from 2024-2025

When a major Class I railroad asked BLOKINETIX to update a 30-year-old warm-up program, what followed was one of the most far-reaching injury prevention partnerships in BLOKINETIX history. A three-month pilot with a single engineering department has grown into a six-division, three-department program serving more than 20,000 railroad workers.



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THE CHALLENGE

Maintaining thousands of miles of freight railroad is among the most physically demanding work in any industry. Workers in the engineering department build and maintain track almost entirely at ground level, navigating uneven ballast, heavy tools, and constantly changing environmental conditions. The physical demands are unrelenting, and the injury risk reflects that.

The railroad's primary tool for injury prevention was a passive stretching program that hadn't been updated in 30 years. It wasn't built for the actual demands of railroad work, and frontline employees felt it. Overexertion injuries and slips, trips, and falls were the two leading injury categories across the system. With a workforce spread across 20 states, many in remote locations far from medical centers, there was no proactive, accessible resource for early intervention. Employees were routed into the formal healthcare system for issues that could have been addressed on-site before they became reportables.

The railroad's operations leadership recognized the need for something different: a partner who could meet their people where they work, understand the physical realities of the job, and help build a culture of proactive wellness across one of the most complex workforce environments in American industry.



THE BIOKINETIX APPROACH

Laying the Groundwork: A Three-Month Pilot

The partnership began in April 2022 with a facility tour and on-site assessment of the engineering department. What our team found made clear there was a much larger opportunity than a warm-up refresh. Workers were navigating ballast, the crushed rock that forms the railroad's foundation, with restricted ankle and hip mobility that made even basic movements like stepping over a rail a meaningful injury risk. Spike maul use, identified in our first ergonomic assessment as the highest-risk activity in the system, was being performed without standardized technique coaching. If the heavy tool contacts the ground rather than the spike, the body absorbs the full reaction force.

BIOKINETIX designed a warm-up program from the ground up, grounded in sports medicine principles and built specifically around the physical demands of railroad work. The railroad agreed to a three-month pilot injury prevention program to support the implementation of the warm-up. The pilot division went 500 days without a reportable injury. That result made the case for everything that followed.

Embedded On-Site Industrial Athletic Trainers

Following the success of the Georgia pilot, BIOKINETIX expanded division by division as results proved the program's value. A second division based in Virginia came on in 2023, followed by Pennsylvania and Alabama in 2024. Indiana and Kentucky rounded out the

In the railroad, downtime is coaching time. When crews are waiting for the green light, BIOKINETIX trainers are right there with them, surfacing aches, building trust, and getting ahead of injuries before the work resumes.

THE SCIENCE OF MORE **UPTIME**



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system in 2026, bringing the total to six active divisions. Railroad operations don't concentrate workers in a single facility. Crews work at remote sites, move frequently, and operate across multi-state service areas. As the program grew, our team built schedules to ensure consistent coverage across both high- and low-frequency sites throughout a typical 22-day working month. On-site trainers led pre-shift warm-up routines, conducted ergonomic assessments across approximately 15 core job tasks, and developed best-practice coaching standards for the highest-risk activities: spike maul use, mount and dismount, and ballast navigation.

They also took advantage of a dynamic unique to railroad work. Transportation crews alternate between extended periods of sedentary waiting and sudden bursts of demanding physical activity. Rather than losing that downtime, BIOKINETIX trainers used it to engage workers one-on-one, surface aches and pains before they escalate, and turn rail-wait periods into coaching time.

The WOW Tool and Modernized Warm-Up Program

Central to the program is BIOKINETIX's upper body warm-up tool, the WOW. The resistance-based device guides employees through nine ranges of motion before every shift. Warm-up programs have been developed for the engineering, mechanical, and transportation departments, built around the specific tasks and physical demands of each crew. For transportation employees who work in confined rail cabs, BIOKINETIX developed an adapted routine that accounts for limited overhead clearance.

The warm-up design was directly informed by what our team observed on-site. Constantly stabilizing on uneven ballast restricts ankle mobility over time, creating a kinetic chain effect that limits hip mobility and increases risk during movements workers perform every day. The program was built to specifically counteract those patterns.

To support adoption across a workforce of 20,000 spread across multiple states, BIOKINETIX developed a biweekly micro-learning video series focused on proper WOW tool usage as well as best body mechanic practices for job task completion. The railroad integrated these videos into their existing internal communications system, ensuring every employee could build the technique and habits behind the warm-up program regardless of where they work.

New Hire Training Center Integration

In 2024, BIOKINETIX placed a full-time industrial athletic trainer at the railroad's primary training center in Georgia, where thousands of new hires come through each year before being deployed across the country. Getting to workers before they ever set foot on a job site is one of the highest-leverage opportunities in injury prevention. New hires are introduced to the WOW tool, coached on the movement patterns specific to their role, and trained from day one on proper spike maul technique, the system's highest-risk task. Building those habits at the start of a career is far more effective than correcting them years later.



THE IMPACT

What began as a request to refresh a 30-year-old warm-up program has become a six-division, three-department partnership touching thousands of railroad workers every year. From a single three-month pilot in Georgia in 2022, the program expanded to Virginia in 2023, Pennsylvania and Alabama in 2024, and Indiana and Kentucky in 2026. BIOKINETIX now has a full six-division footprint across the railroad's entire system.

The results told the story on their own. Across all active divisions, injuries fell 42% from 2024 to 2025. The only divisions that saw injury increases that same year were the two BIOKINETIX had not yet entered.

THE DATA

42% injury reduction across all active divisions from 2024 to 2025

500 days without a reportable injury (pilot division, Georgia)

50%+ injury reduction in the second division within year one

WHY IT MATTERS

This partnership started with frontline employees who knew there was a better way to take care of their bodies on the job and operations leaders who knew their people deserved better than a 30-year-old passive stretching routine. That initial ask opened the door to a program built for the actual physical realities of railroad work: the uneven terrain, the heavy tools, the unpredictable rhythms of on-call crews working across 20 states.

BIOKINETIX met a major Class I railroad where its people work and built something that scaled.

THIS IS THE SCIENCE OF MORE **UPTIME**

Interested in more information on how to implement an injury-prevention program and/or provide high-quality injury triage at your facility?

Contact us at info@biokinetix.com or 773-227-4447.