Southern Tier Railcar Industry Demand Analysis

Steuben and Chemung Counties, NY

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Three Rivers Development Corporation

Steuben County IDA Industrial Development Agency

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STEG Southern Tier Economic Growth

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Executive Summary

INTRODUCTION

The Southern Tier region has a longstanding opportunity to enhance its railcar production industry's competitiveness and growth. Three Rivers Development Corporation, a regional economic development organization, commissioned Camoin Associates to conduct a Railcar Industry Demand Study. This study examines the industry's current state and future demand, identifying key opportunities, challenges, and strategies for growth.

The study's objectives include assessing the region's competitive position, workforce, and supply chain needs and forecasting industry demand over the next decade. This analysis integrates national and regional market trends, workforce availability, and supply chain dynamics to provide actionable recommendations for manufacturers, suppliers, and training institutions.

Methodology
The Railcar Industry Demand Study includes the following tasks and analyses:

- **Industry and Workforce Experts**: Conducting interviews with railcar manufacturers, suppliers, and workforce training providers to gather insights on industry trends, technological changes, and workforce needs.
- **Industry Profile:** Analyzing market trends, opportunities, and challenges in the Southern Tier railcar production industry while comparing regional performance to national and global benchmarks.
- **Supply Chain:** Mapping key suppliers and buyers in the railcar manufacturing sector to identify vulnerabilities, opportunities for local integration, and supply chain efficiency improvements.
- **Workforce Programs Inventory and Needs**: Cataloging regional workforce training programs that prepare individuals for railcar-related occupations and evaluating their effectiveness in meeting industry labor demands.
- **Workforce Gap Index:** Assessing the availability of skilled workers for critical railcar industry roles by analyzing job growth, automation risks, retirement rates, and labor supply gaps.
- **Demand Forecast**: Developing a 5-year demand projection for the Southern Tier railcar industry, incorporating supply chain, workforce, and contract trends, and providing actionable recommendations for stakeholders.
- **Railcar Production Contracts**: Reviewing recent and upcoming public contracts for railcar manufacturing in the region to gauge future demand and industry positioning.

DEFINITIONS

The following pages will define industry terms used throughout the report.

Compound Annual Growth Rate (CAGR): The average annual growth rate of an industry's key performance indicators (such as revenue or employment) over a specified period, assuming a steady rate of growth each year. It smooths out fluctuations to provide a clearer long-term trend.

Revenue: The total income generated by an industry from the sale of goods and services before deducting costs. In the railcar production sector, this includes sales from freight and passenger railcars, components, and related services.

Domestic Demand: The total market demand for an industry's products within a specific country, calculated as the sum of domestic production and imports minus exports.

Value Added: The industry's total contribution to the economy, calculated as total revenue minus the cost of intermediate goods and services. It represents the industry's direct impact on GDP, reflecting labor compensation, business profits, and depreciation.

Value Added Share of Revenue: The proportion of an industry's total revenue that remains after subtracting intermediate input costs. A higher share indicates greater efficiency and profitability, while a declining share suggests rising input costs, competitive pressures, or weakened pricing power.

Exports: The total value of goods produced by the domestic railcar production industry and sold to foreign markets. A high export share indicates strong global demand and competitiveness, while fluctuations can reflect trade policies, currency exchange rates, or shifts in global supply chains.

Imports: The total value of railcar products purchased from foreign manufacturers and brought into the domestic market. A rising import share signals increased reliance on foreign suppliers, which can impact domestic production levels and competitiveness.

Trade Weighted Index (TWI): A measure of the value of the U.S. dollar against a basket of foreign currencies, weighted by trade volume. A higher TWI makes U.S. exports more expensive for foreign buyers, potentially reducing demand, while a lower TWI enhances export competitiveness by making U.S.-produced goods more affordable abroad.

Cross-Border Direct Investment (CBDI): Cross-border direct investment refers to capital investment in business operations that extends beyond national or state borders, including both foreign direct investment (FDI) from international entities and domestic investment that crosses state lines.

NATIONAL TRENDS

The U.S. railcar production industry—covering the manufacturing and refurbishment of locomotives, freight and passenger railcars, and related components—is a vital part of the nation's freight and public transit systems. Its output supports industrial logistics and commuter mobility alike, but its performance has been shaped by broader macroeconomic forces, public investment trends, and shifting market demands. Between 2015 and 2020, the industry endured a steep decline: revenue fell by 17.8% annually, while value-added and exports dropped by 9.2% and 10.5%, respectively. These losses were driven by structural changes, including reduced coal shipments, excess freight railcar capacity, and chronic underinvestment in passenger transit infrastructure.

The COVID-19 pandemic exacerbated these issues, delaying procurement and halting infrastructure projects, but it did not initiate the downturn. Rather, the industry's contraction reflected long-term shifts in freight composition, evolving energy markets, and a fragmented funding environment. Despite these challenges, the 2020–2025 period brought modest recovery. Federal and state infrastructure spending helped stabilize the market, with revenue growing at a 3.5% annual pace and exports and value-added increasing slightly. Imports rose more sharply—by 10.4% annually—underscoring continued reliance on foreign suppliers for specialized rail components.

Still, the recovery remains fragile. Ongoing supply chain constraints, rising costs, and global trade uncertainty continue to weigh on the industry. Freight rail segments are aging, but capital investment varies widely across regions. Meanwhile, the passenger rail market remains sensitive to policy direction and public transit demand. These headwinds underscore the need for strategic investment and industry adaptation to meet future infrastructure and sustainability goals.

The COVID-19 pandemic compounded the railcar production industry's existing challenges, triggering a sharp decline in capital investment. Freight rail operators, facing supply chain disruptions and economic volatility, chose to defer new railcar purchases and extend the life of existing fleets. Meanwhile, passenger rail agencies—already burdened by aging infrastructure and budget constraints—saw ridership collapse due to remote work trends and public health concerns. As a result, many procurement plans were delayed or canceled. This convergence of long-term structural issues and short-term shocks marked one of the most difficult periods in the industry's recent history.

Between 2020 and 2025, however, the sector began a modest recovery. Industry revenue grew at an estimated 3.5% annually, supported by federal infrastructure funding and renewed investment in both freight and public transit systems. Global demand for railcars also improved, contributing to a 2.5% increase in exports. Imports surged at an even faster rate—rising 10.4% annually—reflecting ongoing dependence on international suppliers for specialized components and advanced technology. Despite these gains, growth was tempered by lingering material cost inflation and a slow return to pre-pandemic investment levels.

Looking ahead to 2025–2030, the industry is expected to continue growing, albeit more gradually. Demand will be driven by industrial growth, the replacement of aging rail fleets, and pressure to reduce emissions. Manufacturers are responding with investments in hybrid-electric and lightweight technologies that align with decarbonization goals and long-term cost savings. However, trade policy uncertainty—including tariffs and Buy America requirements—may disrupt supply chains and raise costs. While federal initiatives like the Infrastructure Investment and Jobs Act (IIJA) have provided critical funding, their long-term future remains politically uncertain. Still, with global infrastructure investment rising and sustainability mandates gaining momentum, the industry outlook remains cautiously optimistic.

STATE AND REGIONAL TRENDS

New York Trends

New York has maintained a prominent position in U.S. railcar production over the past decade, consistently contributing around 9–10% of total national output. Anchored by firms such as Alstom in Hornell and CAF in Elmira, the state benefits from a legacy of passenger railcar manufacturing and long-term relationships with agencies like Amtrak and the MTA. However, the state has not been immune to the national industry's broader contraction. From 2015 to 2024, employment in the sector fell by just over 10%, a moderate decline compared to the 30%+ drop nationwide, but still indicative of growing market pressure and productivity expectations.

New York's Gross Regional Product (GRP) from railcar manufacturing has also declined over the same period, reflecting fewer large-scale domestic procurements and delayed investment from public agencies. This mirrors national patterns, where the post-2016 downturn in revenue and public-sector contract activity led to industry-wide pullbacks. While GRP has stabilized in recent years, it remains well below its mid-2010s peak. The state's job-to-output ratio rose from 4.24 in 2015 to 4.86 in 2024, suggesting that more workers are needed to generate the same level of output—a signal of declining labor productivity.

Looking forward, New York's competitiveness will depend on its ability to adapt to emerging challenges. While the Infrastructure Investment and Jobs Act (IIJA) and Buy America provisions could bring future demand, they are unlikely to reverse long-term trends without coordinated investment in modernized manufacturing capacity and workforce development. The state must also navigate rising international competition, evolving rail technology standards, and tighter procurement cycles. Without proactive planning, New York risks ceding ground in an industry where its historical leadership has already begun to erode.

Steuben and Chemung Trends

Steuben and Chemung counties have outperformed both state and national industry trends through much of the last decade. Between 2015 and 2020, the region's railcar production workforce grew by more than 40%, driven primarily by large contract awards to Alstom's Hornell facility. These contracts enabled the region to maintain production volume and employment even during national industry downturns. By 2020, the local workforce peaked at approximately 1,500 railcar manufacturing jobs, making the region a key production hub in New York.

However, since 2020, the region has experienced a softening of this growth. Employment fell to approximately 1,200 jobs by 2024, and regional GRP also began to decline. The area's job intensity (jobs per $1M in GRP) rose from 3.87 in 2015 to 4.76 in 2024, a sharper increase than both the state and national averages. While this higher ratio has helped support jobs in a slower investment environment, it also reflects declining productivity, which could become a liability as automation and cost efficiency become more central to procurement decisions.

The announcement of Siemens Mobility's new high-speed railcar facility in Horseheads adds a significant new factor to the region's outlook. While the project may introduce new investment and raise the region's profile, it also introduces competitive pressure for contracts and labor. If not carefully coordinated, Siemens' hiring could strain the local talent pool and create tension with existing employers like Alstom and CAF. Moving forward, the region's ability to retain and grow its workforce will hinge on securing long-term contracts, aligning training pipelines with evolving skill needs, and fostering collaboration rather than competition between major manufacturers.

WORKFORCE GAPS

Persistent Workforce Gaps in High-Skill Rail Occupations
Workforce gaps in Steuben and Chemung counties are expected to be most severe in a handful of skilled, production-related occupations central to the railcar manufacturing sector. First-Line Supervisors of Production and Operating Workers, Industrial Engineers, Mechanical Engineers, and Production Planning Clerks all show above-average gaps relative to the regional norm, driven by both supply shortages and sustained demand. These roles are essential to operations and will require targeted recruitment and training strategies over the coming decade.

Retirement Risk Threatens Institutional Knowledge
High retirement risk is a major contributor to future shortages. Occupations like Maintenance and Repair Workers, Machinists, and Industrial Engineers have large shares of workers over the age of 55, signaling a coming wave of retirements. These roles also tend to have lower replacement rates, meaning employers will have difficulty finding ready labor to step into vacated positions. Without proactive knowledge transfer and upskilling efforts, the region risks losing institutional expertise in key rail production functions.

Local Talent Pipeline Struggles to Meet Demand
The majority of high-gap occupations also face challenges sourcing local labor. Engineers, Welders, and Rail Car Repairers, for example, have far fewer resident workers than available jobs—suggesting heavy reliance on commuting or in-migration to fill open positions. Combined with specialized training requirements and limited automation potential, these supply-side pressures will likely intensify if new contracts and production activity increase.

Job Growth Plays a Lesser Role in Labor Gaps
Job growth is not the primary driver of workforce gaps in this region. In fact, many railcar-related occupations are projected to decline in overall employment, even while select roles like Production Clerks and Maintenance Workers see growth within the railcar sector. This points to broader structural labor shortages—not short-term hiring booms—as the key constraint on talent pipelines.

"At-Risk" Occupations Need Monitoring and Support
Several mid-gap occupations warrant close monitoring. Project Management Specialists, Welders, and Industrial Machinery Mechanics are not yet in severe shortage, but their moderate gap scores and high-skill profiles mean they could quickly become hard-to-fill if retirements accelerate or training capacity lags. These roles are foundational to maintaining operational reliability and productivity.

Cross-Sector Competition for Talent is Intensifying
Finally, competition from other industries poses a major risk to railcar sector employers. Occupations with the highest workforce gaps are often not specialized within railcar production—meaning employers must compete with other manufacturers, logistics firms, and industrial employers for the same talent pool. This makes it all the more critical to invest in strong regional workforce development partnerships and pipelines tailored to these high-need occupations.

INTERVIEW FINDINGS

As part of this study, a series of stakeholder interviews was conducted to assess the current and future demand for railcar manufacturing workforce and infrastructure in the Southern Tier region. The goal of the interviews was to capture a 360-degree perspective on industry needs, workforce readiness, and regional competitiveness in anticipation of major investment and job growth tied to recent federal infrastructure funding and the arrival of Siemens Mobility in Chemung County.

The individuals interviewed represent a cross-section of organizations that play a pivotal role in the region's railcar industry ecosystem. This includes:

- Educational institutions such as Corning Community College, Alfred State College, and Greater Southern Tier BOCES, which provide training programs in skilled trades like welding, machining, and mechatronics.
- Workforce development organizations like CSS Workforce NY, which administers federally and state-funded employment and training services across Chemung, Schuyler, and Steuben counties and works closely with employers to align labor market supply and demand.
- Industry support organizations such as the Alliance for Manufacturing and Technology (AMT), a regional Manufacturing Extension Partnership (MEP) center, which provides consulting, training, and supply chain development for small and mid-sized manufacturers across the Southern Tier.
- Economic and legislative partners, including representatives from Senator Schumer's office, who are directly involved in federal policy development and investment attraction efforts, and who have played a role in shaping the strategic vision for the rail industry in the region.
- Manufacturers themselves, including Alstom, CAF and Siemens Mobility. Alstom has long been a cornerstone of the Hornell economy and is positioned to grow with potential future Amtrak contracts. CAF has grown rapidly with contract-based hiring and is deeply engaged in local workforce partnerships. Siemens, the most recent entrant, is building the first high-speed rail manufacturing facility in the U.S. in Horseheads, NY, and expects to hire 300 employees as it ramps up production of Brightline West trainsets.

Interviewees brought forward both strategic and operational insights—ranging from skill shortages and training gaps to supply chain constraints, automation trends, and the effects of federal policy. While individual comments have been anonymized to preserve confidentiality and encourage openness, recurring themes and shared perspectives offer a holistic picture of a region undergoing significant industrial transformation. Railcar manufacturing is not just growing—it is rapidly becoming a defining pillar of the Southern Tier's economic future.

INTERVIEW FINDINGS

Key Themes

Strengthening Industry Clusters
The arrival of Siemens Mobility in Chemung County, alongside the longstanding presence of Alstom in Hornell and CAF USA in Elmira Heights, has transformed the Southern Tier into a legitimate railcar manufacturing cluster. This co-location of multiple manufacturers strengthens workforce development efforts, supply chain ecosystems, and regional marketing. Federal investments (such as the Infrastructure Investment and Jobs Act) have catalyzed this momentum, providing confidence to both public and private actors about the long-term viability of the railcar sector in Upstate New York.

Evolving Workforce Needs and Pipeline Gaps
There is near-universal agreement that the biggest challenge facing the industry is workforce availability—particularly for skilled trades such as welding, machining, electrical systems, and HVAC. While training programs do exist regionally, there are gaps in both the speed at which programs can be deployed and the volume of workers needed. Demand is expected to spike further by 2025–2026 as Siemens and CAF ramp up hiring for new projects. Concurrently, retirements among incumbent workers are intensifying the urgency to grow the pipeline.

Strong but Fragmented Workforce Ecosystem
The region boasts a wide range of training providers—community colleges, BOCES, and technical colleges—all with robust programs in welding, mechatronics, machining, and more. While employers and educators are generally aligned, a common concern is the "speed of industry vs. speed of academia." Degree programs move slowly due to institutional requirements, while short-term, non-degree programs and customized employer partnerships offer more flexible, fast-track pathways to fill urgent hiring needs.

Employer Engagement and Training Partnerships
Active partnerships exist between manufacturers and training institutions, though engagement levels vary. CAF has been a particularly proactive partner, requesting specific upskilling programs through BOCES and participating on advisory boards. Alstom has long-standing partnerships with regional colleges and recently worked with Alfred State to secure grant funding for a skilled trades program. Siemens, as a newer entrant, is still in early-stage discussions about leveraging local workforce services but is expected to expand hiring and training activities significantly by 2026.

Technology Adoption and Industry 4.0 Gaps
While the region's manufacturers are exploring automation and advanced manufacturing technologies, many small- and mid-sized suppliers face financial and knowledge barriers to adoption. Regional entities like AMT have launched mini-grant programs to support Industry 4.0 readiness, but uptake remains limited due to risk aversion and lack of awareness. There is a general sense that local firms are not fully capitalizing on their technology potential, particularly as competition intensifies nationally and globally.

Customized and On-the-Job Training is Key
Most training providers and workforce organizations see customized, employer-driven training and on-the-job training models (including apprenticeships) as the most effective tools to meet employer needs. Programs that pay student tuition in exchange for future job placement—such as Corning CC's technician pipeline or CSS's employer-funded training—were highlighted as best practices that could be scaled up.

INTERVIEW FINDINGS

Key Themes

Barriers to Workforce Participation
Beyond skills gaps, interviewees noted broader social and structural barriers that constrain workforce availability. These include transportation access (especially for 30+ minute commutes), affordable housing shortages, child care limitations, and mental health or substance recovery challenges. Several organizations are working on wraparound supports, including transition services for incarcerated individuals and soft skills training workshops.

Policy Alignment and Strategic Investment
Buy America provisions and long-term federal infrastructure funding were cited as critical to the continued presence and growth of railcar manufacturing in the region. However, concerns persist about future funding uncertainties and the need for better procurement standardization to reduce cost and complexity. Local stakeholders also emphasized the importance of aligning federal and state grants with workforce and supply chain readiness—especially for large opportunities like Amtrak's $7 billion long-distance fleet contract, which could anchor manufacturing in Hornell for over a decade. Interviewees also pointed to additional real-world procurement opportunities that could drive sustained growth. Alstom's active bid for Amtrak's new long-distance double-decker fleet and widespread expectations of major upcoming MTA transit investments were cited as pivotal. These contracts could translate into hundreds of new jobs and long-term stability for existing facilities in the region—if awarded locally. The presence of these large-scale opportunities underscores the importance of maintaining a skilled workforce and competitive manufacturing capacity.

Another important dynamic is the strategic investment by Alstom and CAF in domestic shell manufacturing. By bringing this part of the production process in-house, both firms are enhancing their ability to meet Buy America requirements—lowering costs, improving control over materials, and strengthening their bid competitiveness. With federal procurement increasingly emphasizing domestic content, these investments are expected to yield long-term advantages, especially as Buy America provisions continue to evolve and expand.

Supply Chain Development Still a Work in Progress
The Southern Tier benefits from a dense but underutilized supplier base. Manufacturers and regional support organizations are actively trying to strengthen local supplier linkages, but fragmented communication and a lack of visibility into supplier capabilities remain challenges. There's significant opportunity to build a stronger, more resilient local supply chain to support future demand.

The Southern Tier's railcar manufacturing ecosystem is at a pivotal point. Anchored by a growing cluster of major manufacturers and supported by a diverse network of educational institutions and workforce organizations, the region is well-positioned for continued growth. However, realizing this potential will require proactive, collaborative strategies to address workforce shortages, accelerate training responsiveness, and support technology adoption across the supply chain. Strategic policy, continued investment, and cross-sector collaboration will be critical to building a resilient and competitive railcar manufacturing hub in Upstate New York.

FUTURE DEMAND

The U.S. railcar production industry has undergone significant structural changes over the past decade, shaped by declining investment, fluctuating demand, and workforce reductions. National trends indicate a long-term contraction in railcar manufacturing, driven by shifts in transit funding, supply chain disruptions, and evolving transportation needs. These trends are particularly relevant as they provide insight into the competitive landscape, the challenges manufacturers face, and the opportunities that may arise with federal infrastructure funding and new investment.

At the state level, New York has historically played a crucial role in U.S. railcar production, housing key manufacturers like Alstom and now Siemens Mobility. However, New York has not been immune to the national decline, experiencing reduced employment and output in the sector. While Steuben and Chemung counties have outperformed state and national trends at certain points, the region now faces increasing uncertainty due to shifting market dynamics and potential competition for contracts.

The charts in this section examine critical aspects of the railcar production industry, including revenue, value-added contributions, domestic demand, exports, imports, employment, and regional economic performance. Analyzing these factors at the national, state, and regional levels provides a comprehensive understanding of how broader industry shifts may impact future railcar manufacturing activity in Steuben and Chemung counties.

- National Perspective: The U.S. railcar industry's long-term decline sets the backdrop for understanding regional market challenges, workforce needs, and investment risks.
- State-Level Analysis: Trends in New York reflect both opportunities and vulnerabilities in the industry, particularly as the state has maintained a key role in railcar manufacturing despite broader declines.
- Regional Outlook: Steuben and Chemung counties have demonstrated relative resilience, but long-term growth is uncertain. The arrival of Siemens Mobility's new facility in Horseheads introduces additional factors that could either stabilize or disrupt the existing employment and contract landscape. Federal infrastructure funding programs, such as CRISI, and upcoming large-scale contract bids (e.g., Amtrak's long-distance fleet and anticipated MTA upgrades) may also play a pivotal role in shaping future demand, particularly if awarded to regional manufacturers already investing in vertical integration to meet Buy America standards.

Understanding these trends is crucial for anticipating the future trajectory of railcar production in the region. While federal infrastructure funding and transit investments may provide some stability, long-term growth is not guaranteed. Key considerations include the impact of new federal and state infrastructure investments, competitive pressures between existing manufacturers and new entrants, workforce availability and skill development in the region, and the potential for contract losses or gains in a shifting market.

FUTURE DEMAND

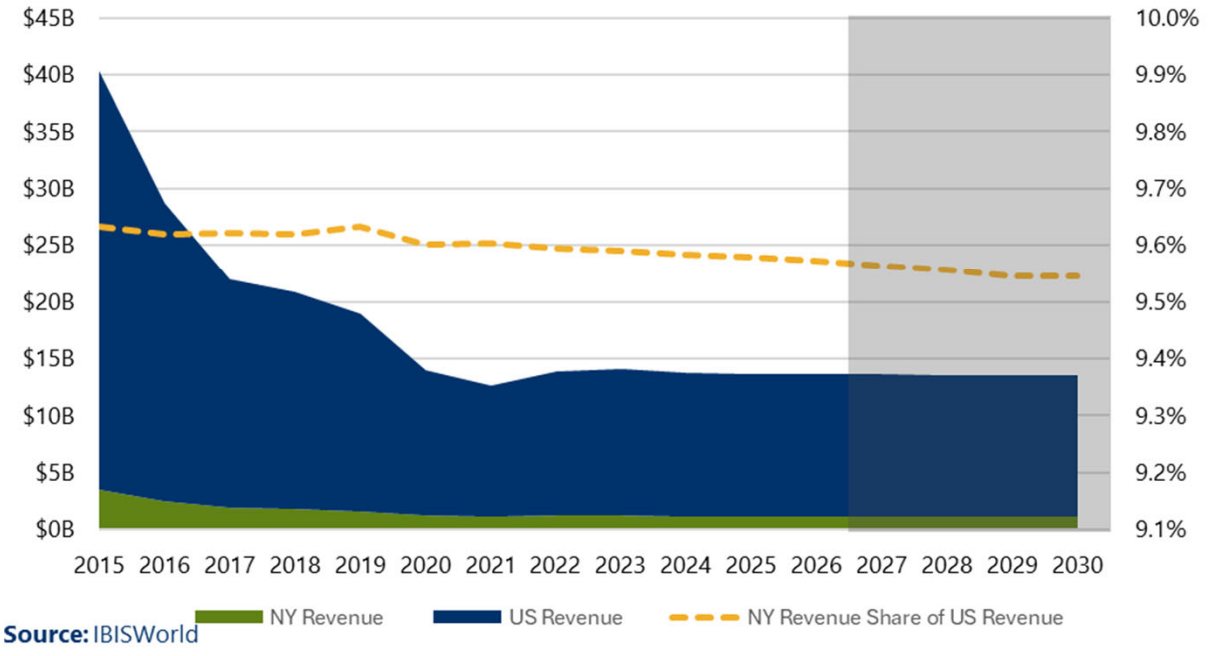
Railcar Production Industry Revenue Trends (US and NY, 2015-2030)

The US railcar production industry has experienced a prolonged contraction since 2015, with inflation-adjusted revenue falling from over $35 billion to approximately $12.5 billion by 2024. This steep decline reflects reduced demand for freight railcars, slower public transit procurement cycles, and intensifying international competition. The COVID-19 pandemic further exacerbated the downturn, disrupting supply chains and delaying key contracts.

Despite this contraction, national revenue has stabilized in recent years and is projected to remain relatively flat through 2030. New York's share of national railcar production revenue has held steady at just under 10%, reflecting the state's continued importance as a manufacturing hub—particularly through major employers like Alstom and CAF. However, the state's absolute revenue contribution has declined in tandem with national trends, underscoring the broader industry slowdown.

Future growth in both the US and New York will hinge on federal infrastructure investment, Buy America enforcement, and demand for high-speed and low-emission rail systems. Without a resurgence in large-scale procurement, the industry is likely to remain in a low-growth equilibrium.

Railcar Production Industry Revenue, 2015-2030, in inflation-adjusted 2024 $, US and NY



Source: IBISWorld

FUTURE DEMAND

Compound Annual Growth Rates in US Railcar Production (2015–2030)

The US railcar production industry experienced steep declines across all key measures between 2015 and 2020, led by a -19.1% annual drop in revenue and a -20.0% decline in domestic demand. These contractions were driven by reduced freight and transit orders, delayed infrastructure investment, and supply chain disruptions.

From 2020 to 2025, the rate of decline slowed considerably, signaling a new baseline for the industry. Revenue and value added remained flat or slightly negative, while domestic demand began to recover modestly. Imports grew during this period, reflecting reliance on foreign-built railcars and components amid domestic production constraints.

Looking ahead to 2025–2030, growth is expected to remain sluggish, with only slight improvements in value added and exports. Declining imports in this period could reflect the anticipated effects of Buy America enforcement and the expansion of domestic production capacity, such as Siemens Mobility's facility in Horseheads, NY.

The data highlights a critical shift: while the steep contraction has passed, the industry now faces a period of stagnation, with limited upside unless transformative investments and policy shifts materialize.

US Railcar Production Key Metrics

Compound Annual Growth Rate, inflation-adjusted 2024 $

	2015-2020	2020-2025	2025-2030
Revenue	-19.1%	-0.4%	-0.3%
Value Added	-10.6%	-2.2%	0.2%
Domestic Demand	-20.0%	0.6%	-0.6%
Exports	-11.9%	-0.9%	0.4%
Imports	-13.1%	6.3%	-1.4%

Source: IBISWorld

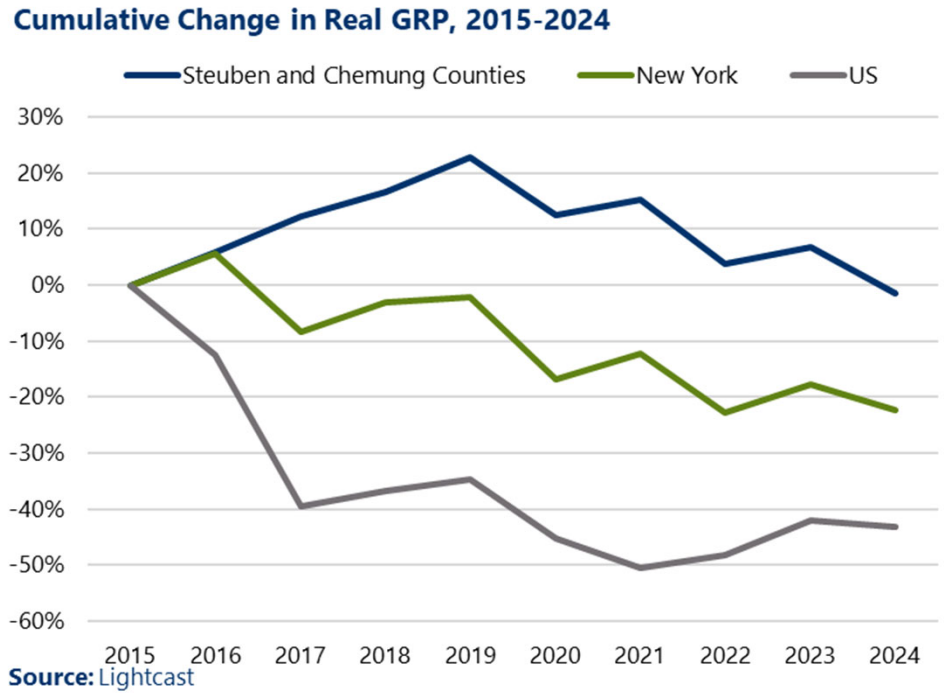
FUTURE DEMAND

Cumulative Change in Real GRP (2015–2024)

While the US railcar production industry saw Real GRP contract by nearly 50% between 2015 and 2024, Steuben and Chemung counties bucked the national trend—experiencing growth of over 20% at its peak before declining in more recent years. This resilience is largely attributable to the continued presence and contract wins of Alstom's Hornell facility, which has acted as a stabilizing force in the region.

New York State as a whole followed a more modest trajectory, avoiding the steep national losses but still seeing Real GRP decline by over 15% since 2015. This reflects a mix of short-term project cycles, fluctuating demand for passenger rail, and delays in capital investment at the state and agency level.

Recent Real GRP volatility in Steuben and Chemung counties suggests that the region may be entering a period of heightened risk. Future growth will depend on maintaining contract pipelines, leveraging federal infrastructure funding, and capturing new high-speed and green rail production opportunities.



Source: Lightcast

FUTURE DEMAND

Cumulative Change in Jobs (2015–2024)

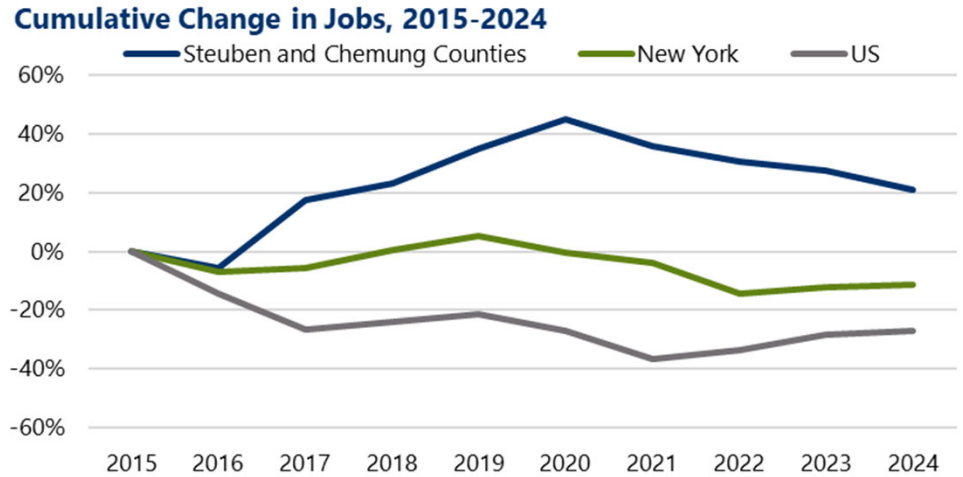
The U.S. railcar production industry has seen steep job losses over the past decade, with total employment declining by more than 30% nationally. This drop reflects industry contraction, increased automation, and the offshoring of component manufacturing, all of which have reduced labor demand even as procurement cycles begin to stabilize.

New York experienced more modest job losses—hovering around 10% below 2015 levels by 2024—largely due to the presence of established passenger rail manufacturers like Alstom and CAF, which have benefited from long-term contracts. Still, the state faces many of the same structural pressures as the nation overall, including inconsistent procurement cycles and gradual gains in production efficiency that reduce labor intensity.

In contrast, Steuben and Chemung counties experienced significant job growth through 2020, peaking at more than 40% above 2015 levels. This surge was primarily driven by major contract awards—especially at Alstom's Hornell facility—which helped sustain local employment even as national figures declined. While the region's job base has tapered in recent years, it remains substantially above 2015 levels.

However, this growth has come alongside declining productivity. Between 2015 and 2024, the number of jobs per million dollars in real Value Added increased from 3.44 to 6.51 in Steuben and Chemung counties. A similar trend was observed in New York, rising from 3.78 to 6.65, and nationally from 4.51 to 6.49. These increases suggest that more labor is being used per unit of economic output—supporting short-term job retention but signaling a longer-term risk as the industry inevitably shifts toward automation and leaner operations.

Although local employment remains strong, the recent softening signals growing pressure to secure future contracts, adapt to a changing labor environment, and prepare for technological shifts. This context is critical for understanding the employment scenarios presented on the following slide.



Source: Lightcast

FUTURE DEMAND

What's at Stake – Railcar Employment Scenarios for Steuben and Chemung counties (2024–2030)

The preceding slides highlight key trends shaping the future of railcar production:

- National and state-level contraction in revenue and GRP
- Decreasing labor productivity, which may not be sustainable in the long term
- Regional vulnerability, as Steuben and Chemung begin to mirror broader industry declines
- Increasing external competition from other regions and countries

In light of these trends, we model four potential scenarios for railcar industry employment growth in Steuben and Chemung counties through 2030. Growth potential will depend on the region's ability to grow its share of New York's industry activity amid projections for stagnant growth at the national and state levels. At the same time, anticipated advances in automation and labor productivity will moderate the potential for job growth. We model four scenarios that reflect changes in these two variables (Scenario projections do not account for major new contract wins (e.g., Amtrak long-distance or MTA) or innovation-driven expansions (e.g., CRISI-supported hybrid freight R&D), which could elevate demand beyond modeled scenarios):

1) Whether the region maintains (57%) or grows (70%) its share of New York's railcar jobs
2) Whether labor productivity remains constant (6.5 jobs per million in GRP) or increases (5.5 jobs per million of GRP)

If the region simply maintains its current share of New York's railcar production jobs and productivity remains flat, employment would increase marginally (+11 jobs, +0.9%).

If productivity improves, as is likely with technological upgrades and modernized facilities, employment could fall by as much as 14.3% despite stable demand.

However, if the region increases its share of statewide railcar jobs—through new contracts, expanded capacity, or workforce advantages—job growth could be significant:

- Up to +293 jobs (+23.9%) if productivity remains constant,
- Or a more modest +60 jobs (+4.9%) with expected productivity gains.

Railcar Production Employment Change in Steuben and Chemung Counties, 2024-2030, 4 Future Scenarios

	Labor Productivity Stays Constant	Labor Productivity Increase
Maintain Share of NY Railcar Production Jobs	+11, +0.9%	-176, -14.3%
Increase Share of NY Railcar Production Jobs	+293, +23.9%	+60, +4.9%

Source: Camoin Associates Modeling

National and Global Trends

NATIONAL TRENDS

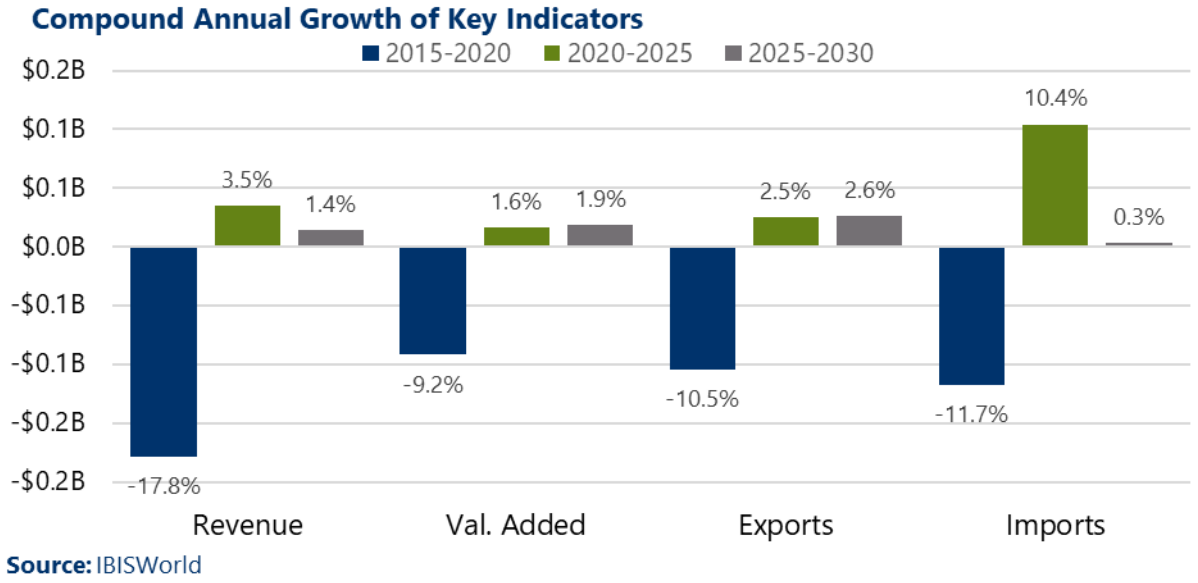
Railcar Production Industry Overview

The railcar production industry plays a critical role in supporting North America's freight and passenger transportation infrastructure. This industry includes the manufacturing and rebuilding of locomotives, freight and passenger railcars, streetcars, and related railway equipment and components. Key products include diesel and electric locomotives, boxcars, flatcars, and tank cars for freight transport, and light rail and commuter train cars for passenger transit. This industry excludes the manufacturing of locomotive engines, which falls under the Engine and Turbine Manufacturing sector. The industry is largely shaped by macroeconomic factors, industrial production trends, trade policies, and government infrastructure investments, all of which drive demand for rolling stock.

Between 2015 and 2020, the industry experienced a severe downturn, driven by declining coal shipments, overcapacity in freight rail, and stalled passenger rail investments. These structural challenges weakened demand even before the COVID-19 pandemic, which further disrupted the sector by halting capital investments and delaying new railcar purchases across both freight and passenger markets.

From 2020 to 2025, the industry has seen a modest recovery, supported by increased infrastructure spending, freight rail modernization, and renewed investment in public transit. However, lingering supply chain disruptions and rising material costs have tempered growth.

Looking ahead to 2025-2030, growth is expected to stabilize at a slower pace as the industry adapts to shifting federal funding priorities, evolving trade policies, and sustainability initiatives. Advances in electrification, automation, and alternative propulsion technologies will play a growing role in shaping future fleet modernization and procurement decisions.



Source: IBISWorld

NATIONAL TRENDS

Industry Performance: 2015-2030

Between 2015 and 2020, the U.S. railcar production industry faced severe declines across key performance indicators, with revenue contracting at a Compound Annual Growth Rate (CAGR) of -17.8%, value-added declining by -9.2%, exports falling by -10.5%, and imports dropping by -11.7%. By 2020, industry revenue had shrunk to just 37% of its 2015 level, marking one of the steepest downturns in the sector's history. While the COVID-19 pandemic accelerated this decline, it did not cause it. The industry had already been contracting significantly before 2020, with demand for new railcars weakening due to broader structural shifts in freight transportation and transit markets.

A key factor was declining coal shipments, which historically drove a large share of freight rail demand. As utilities moved toward natural gas and renewables, railroads reduced coal transport volumes, leading to fewer orders for hopper and gondola cars. Additionally, overcapacity in certain freight rail segments, particularly intermodal and tank cars, led to a buildup of idle rolling stock, dampening demand for new purchases. The passenger rail segment also struggled in the years leading up to the pandemic. Aging infrastructure, inconsistent federal funding, and shifting commuter trends had already slowed investment in new transit rolling stock. Many urban transit agencies faced budget constraints, delaying major procurement cycles even before the collapse in ridership caused by COVID-19. The pandemic exacerbated these pre-existing challenges, further weakening industry demand. Freight rail operators responded to supply chain disruptions and economic uncertainty by deferring capital investments, opting to extend the lifespan of existing fleets rather than purchasing new railcars. In passenger rail, work-from-home trends and public health concerns caused ridership to plummet, leading transit authorities to delay or cancel planned railcar purchases. This compounding effect of pre-pandemic structural shifts and the pandemic's immediate economic impact resulted in one of the most challenging periods for the railcar production industry, underscoring the sector's vulnerability to both long-term market transitions and short-term economic shocks.

However, from 2020 to 2025, the industry has experienced a modest recovery. Industry revenue is projected to grow at a CAGR of 3.5%, value-added is expected to increase by 1.6%, exports are forecasted to rise by 2.5%, and imports are anticipated to rebound significantly at 10.4%. Despite ongoing challenges such as supply chain constraints and rising input costs, this turnaround is driven by increased infrastructure spending, renewed investment in public transit, and stronger global demand for rolling stock.

Between 2025 and 2030, the railcar production industry is projected to recover, with revenue expected to grow at a CAGR of 1.4%, value-added increasing by 1.9%, and exports rebounding at 2.6%, while imports are projected to rise slightly by 0.3%. This anticipated turnaround is driven by infrastructure investments, rising demand for freight transportation, sustainability initiatives, and evolving trade conditions.

A major catalyst for growth is the Infrastructure Investment and Jobs Act (IIJA), passed in 2021, which allocated $1.2 trillion for infrastructure projects, including significant funding for rail. Federal programs such as the Federal-State Partnership for Intercity Passenger Rail Grants and the Rail Vehicle Replacement Grants are expected to support the procurement of new rolling stock, stabilizing demand in the passenger transit segment. However, the future of these programs remains uncertain, as discussions under the current administration and in Congress suggest potential shifts in transportation funding priorities. Some policymakers have called for reallocating infrastructure funds toward highway expansion, while others advocate for sustaining or increasing investment in passenger rail modernization to support emissions reduction goals. Trade conditions present a mixed outlook for the industry. While U.S. manufacturers may benefit from a declining Trade-Weighted Index (TWI), making exports more competitive, ongoing discussions about tariffs on steel, aluminum, and imported rail components could counteract these gains by raising input costs. Potential changes in U.S.-China trade relations, USMCA revisions, and shifting domestic content rules under Buy America provisions could further shape the industry's ability to compete globally.

NATIONAL TRENDS

Industry Outlook: Factors Driving Recovery

The railcar production industry has faced significant challenges over the past decade, experiencing sharp declines between 2015 and 2020, followed by a modest recovery from 2020 to 2025. Looking ahead to 2025-2030, steady but slower growth is expected, driven by freight rail expansion, sustainability initiatives, and evolving trade and policy landscapes.

The freight rail sector is set for expansion as industrial production increases and the demand for cost-effective long-haul transportation remains strong. Many railcars in North America are reaching the end of their service life, driving the need for replacements. Additionally, regulatory changes and corporate sustainability goals are accelerating the adoption of more fuel-efficient and hybrid-electric locomotives. Leading manufacturers are investing in lightweight, energy-efficient designs to align with decarbonization mandates and operational cost savings.

The federal Consolidated Rail Infrastructure and Safety Improvements (CRISI) program is one key mechanism supporting these goals. CRISI grants fund a wide range of freight and passenger rail projects, including infrastructure upgrades, emissions-reducing technologies, and safety enhancements. By enabling investments in advanced propulsion systems, modernization efforts, and research and development, the program plays a critical role in supporting the industry's transition toward cleaner, more efficient rail systems.

Trade conditions remain uncertain, as potential tariff adjustments and Buy America provisions could impact supply chains. While a weaker Trade-Weighted Index (TWI) may improve export competitiveness, continued policy shifts and global trade negotiations will shape market opportunities. Canada and Mexico's investments in rail infrastructure could create additional demand for U.S.-manufactured rolling stock.

The industry's trajectory will largely depend on federal infrastructure funding and regulatory stability. While long-term investment in passenger and freight rail modernization remains a priority, shifting political and economic conditions could alter funding allocations. Despite these uncertainties, modernization efforts, sustainability-driven innovation, and global rail infrastructure investments position the industry for measured but sustained growth.

NATIONAL TRENDS

Industry Structure, Major Players, and Competitive Landscape

The U.S. railcar production industry is highly concentrated, with Westinghouse Air Brake Technologies Corp (Wabtec), Trinity Industries Inc., Greenbrier Companies Inc., Siemens AG, and Alstom dominating the market. These companies specialize in different segments, including freight railcars, locomotives, transit rail, and high-speed passenger rail, and account for 85.6% of industry revenue.

1. **Wabtec (30.6%)** is the market leader, specializing in freight and transit railcars, locomotive components, and braking systems, with a strong emphasis on automation and sustainability. The 2019 acquisition of GE Transportation significantly expanded its footprint in the diesel-electric locomotive sector, and the company continues to lead in hybrid and battery-electric locomotive innovations.

2. **Trinity Industries (20.1%)** focuses on freight railcars, producing tank cars, covered hoppers, boxcars, and flatcars, while also offering railcar leasing and fleet management services. Trinity's leasing division gives it a competitive edge, allowing operators to rent rolling stock instead of purchasing outright, while its investments in smart rail technology are enhancing fleet efficiency.

3. **Greenbrier Companies (17.0%)** is a key freight railcar manufacturer with expertise in tank cars, intermodal solutions, and railcar refurbishment services. The company has a strong international presence and is a leader in hazardous material railcars, ensuring compliance with stringent safety and environmental regulations.

4. **Siemens AG (16.9%)** dominates the passenger rail market, manufacturing high-speed railcars, commuter trains, subway cars, and light rail vehicles (LRVs). The company has invested heavily in sustainable transit solutions, including hydrogen-powered and battery-electric trains, and is expanding U.S. production to meet growing demand.

5. **Alstom (1.0%),** though a smaller player in the U.S., Alstom is a global leader in passenger transit and high-speed rail. It has secured contracts for Amtrak's next-generation Acela trains and produces urban transit vehicles, light rail, and metro systems. Alstom is also expanding its presence in sustainable rail technologies, integrating hybrid propulsion and smart rail solutions to align with future infrastructure investments.

Top 5 Companies in the Railcar Production by Revenue in the US, 2023

Company	Approximate Market Share
Westinghouse Air Brake Technologies Corp	30.6%
Trinity Industries Inc.	20.1%
Greenbrier Companies Inc.	17.0%
Siemens AG	16.9%
Alstom	1.0%
All other companies	14.4%

Source: IBISWorld, Camoin Associates

NATIONAL TRENDS

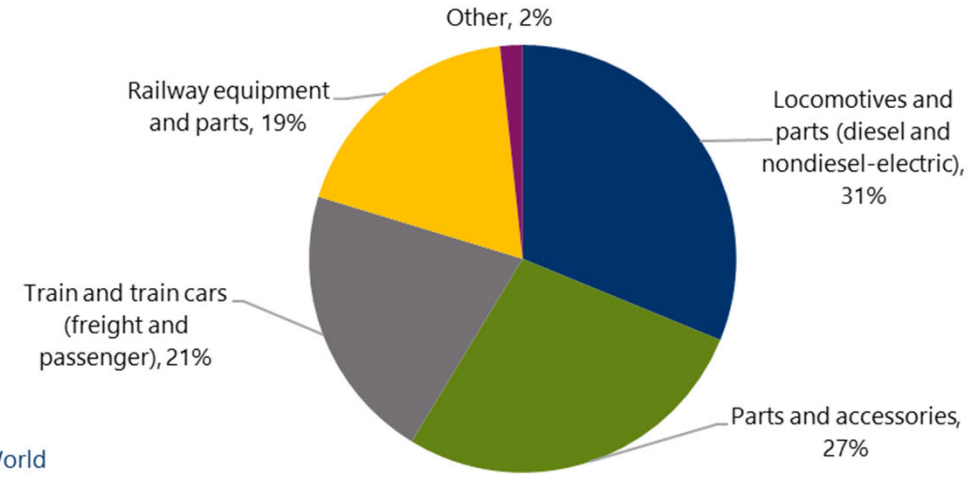
Product Segments in the Railcar Production Industry

The railcar production industry is divided into several key product segments, with locomotives, parts, and train cars being the primary revenue drivers. Demand for these products fluctuates based on freight activity, passenger rail expansion, infrastructure investments, and regulatory changes. The following breakdown details the top five segments, market performance, and potential future growth.

1. **Locomotives and Parts (Diesel and Nondiesel-Electric) – Largest Segment, Evolving Toward Sustainability**
   Locomotives and their associated parts represent the largest revenue-generating segment, accounting for over $3.9 billion in 2023. This category includes diesel-electric and emerging alternative fuel locomotives and replacement parts like engines, bogies, traction motors, and braking systems. The diesel-electric locomotive market is largely stagnant as freight operators extend the lifespan of existing fleets rather than invest in costly replacements. However, growth is expected in hybrid-electric, battery-electric, and hydrogen-powered locomotives, driven by federal decarbonization policies and sustainability mandates. Investments in zero-emission rail technologies, particularly in the passenger sector, are expected to increase demand for next-generation locomotives over the next decade gradually.

2. **Parts and Accessories – Steady Demand for Maintenance and Upgrades**
   Railcar parts and accessories generated $3.5 billion in 2023, making this the second-largest segment. This category includes wheels, axles, couplers, braking systems, lighting, seating, HVAC units, and safety features for both freight and passenger railcars. Unlike full railcar manufacturing, the parts and accessories market benefits from consistent demand, as operators must repair and upgrade existing fleets to comply with safety regulations and efficiency standards. The increased use of railcars' automation and digital monitoring systems drives demand for sensor-based diagnostics, predictive maintenance tools, and software-integrated components. Future growth is expected as operators invest in modernization rather than full replacements.

Product Segments by 2023 Revenue ($ Millions), US Railcar Production Industry



Source: IBISWorld

NATIONAL TRENDS

Product Segments in the Railcar Production Industry

3. **Train and Train Cars (Freight and Passenger) – Moderate Growth with Market Recovery**
   Train cars, including freight railcars and passenger transit vehicles, accounted for $2.7 billion in revenue in 2023. This category encompasses boxcars, flatcars, tank cars, covered hoppers, gondolas, well cars, subway cars, commuter trains, and light rail vehicles. The freight railcar market experienced a decline between 2018-2023, primarily due to reduced coal shipments, supply chain disruptions, and lower export activity. However, demand is expected to gradually recover as intermodal shipping expands and rail operators replace aging fleets with modern, more fuel-efficient rolling stock. The passenger rail segment is expected to grow strongly, driven by federal transit investments, high-speed rail expansion, and increasing urban mobility projects. The Infrastructure Investment and Jobs Act (IIJA) is set to accelerate railcar orders, particularly for electric commuter rail and high-speed trains.

4. **Railway Equipment and Parts – Steady Growth with Infrastructure Investment**
   Railway equipment and parts generated $2.3 billion in 2023, covering track maintenance vehicles, rail grinding machines, track inspection cars, signal and communication systems, and track construction materials. This segment benefits from ongoing investments in rail network maintenance and expansion, particularly as transit agencies and freight operators modernize infrastructure to improve efficiency and safety. The adoption of automated track inspection and AI-driven maintenance is also expected to drive demand for high-tech railway equipment. With state and federal agencies prioritizing track reliability and accident prevention, this segment is projected to experience steady growth in the coming years.

5. **Other – Niche Market, Minimal Growth**
   The "Other" category accounts for $217 million in revenue, representing small-scale services, consulting, and specialty rail applications that do not fit into the core manufacturing segments. This includes heritage rail restoration, aftermarket software solutions, and specialized engineering services. While this category is unlikely to see significant expansion, it remains a steady but minor contributor to industry revenue.

NATIONAL TRENDS

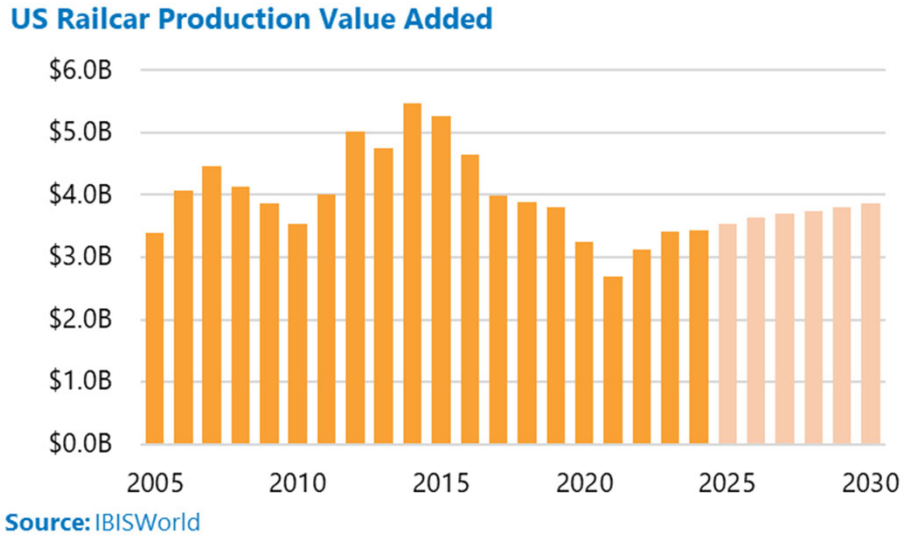
Value Added

Value added represents the industry's economic contribution, measured as the difference between total revenue and the cost of intermediate inputs (such as raw materials and components). A higher value-added share of revenue indicates greater efficiency and industry profitability, while a decline suggests rising input costs, weakened demand, or productivity challenges.

Value added for the railcar cluster declined from $5.27 billion in 2015 to $3.26 billion in 2020 before partially recovering to $3.54 billion by 2025. Several factors contributed to this downturn:

- Pre-pandemic reduced coal shipments, overcapacity in intermodal and tank cars, and stagnant transit funding led to weaker demand before COVID-19.
- COVID-19 disruptions severely impacted passenger rail investment and delayed procurement of new rolling stock, leading to lower production output.
- Supply chain constraints increased steel, aluminum, and electronic components costs, reducing profitability and weighing down value added.
- Falling freight demand in 2019-2020—partially driven by declining coal shipments and trade uncertainty—further weakened industry output.
- Projections indicate that value-added will recover to $3.87 billion by 2030, driven by:
- Increased government infrastructure spending, particularly for passenger rail modernization and transit fleet expansion under the IIJA.
- Improved supply chain conditions, stabilizing raw material costs and reducing production delays.
- Expansion in intermodal freight, driving new orders for railcars and components.

Despite this recovery, value added is unlikely to reach the 2015 peak of $5.27 billion, reflecting structural shifts in freight transport and increased competition from foreign manufacturers.



NATIONAL TRENDS

Revenue

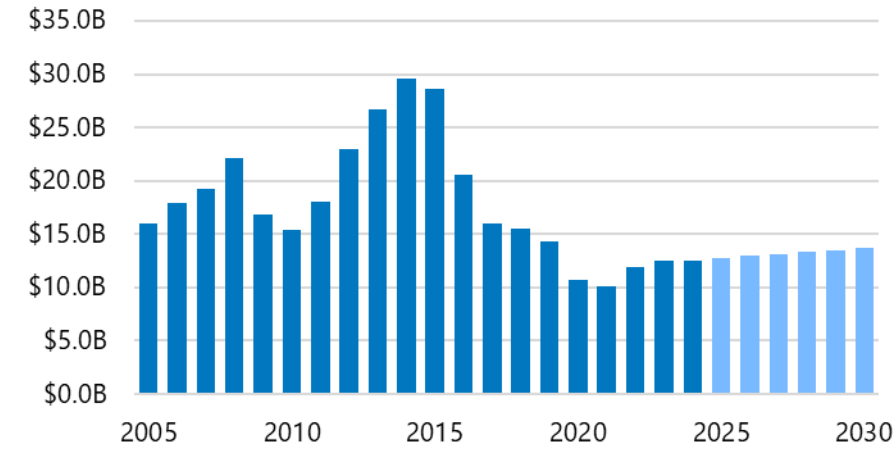
Revenue for the railcar cluster followed a similar pattern, declining from $28.63 billion in 2015 to $10.74 billion in 2020, marking a significant drop-off in just five years. This was the steepest decline in recent industry history, driven by reduced demand for freight railcars and disruptions in rail supply chains.

Between 2020 and 2025, revenue has shown signs of recovery, reaching $12.74 billion by 2025 and projected to grow further to $13.67 billion by 2030. However, despite this modest rebound, the industry remains well below its mid-2010s peak, when demand for freight railcars was significantly higher. Key factors influencing recovery include:

- Freight Rail Modernization: Investments in intermodal rail and bulk freight transport are supporting new railcar demand.
- Passenger Rail Expansion: Increased federal and state funding for transit systems is driving procurement of new commuter and intercity railcars.
- Export Market Stability: Demand for U.S.-manufactured railcars from Canada, Mexico, and Latin America is gradually recovering, aided by a weakening Trade-Weighted Index (TWI) that makes U.S. exports more competitive.

Despite these positive indicators, the pace of recovery remains slow, constrained by high interest rates affecting capital investments, ongoing labor shortages in manufacturing, and lingering supply chain inefficiencies.

US Railcar Production Revenue



Source: IBISWorld

NATIONAL TRENDS

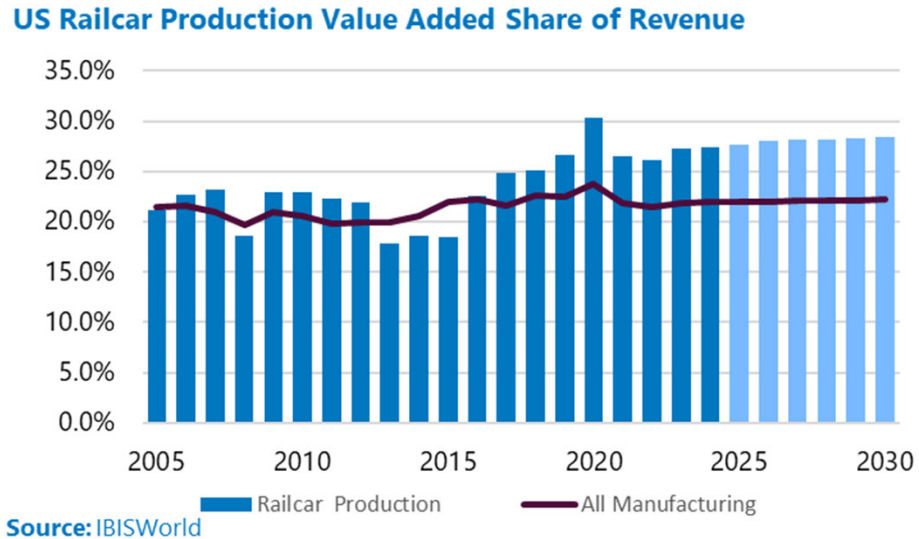
Value Added Share of Revenue

The railcar production cluster has experienced significant fluctuations in value-added share of revenue, reflecting economic cycles, industry challenges, and external disruptions. The sector declined during the late 2010s and COVID-19 pandemic, but a gradual recovery is expected through 2030.

While absolute value added declined, its share of revenue rose from 18.4% in 2015 to 30.3% in 2020, stabilizing at 27.7% in 2025 and projected to reach 28.4% by 2030. This reflects improved per-unit productivity, driven by efficiency gains, cost management, and technological advancements.

Despite a smaller industry size, railcar production is becoming more competitive and resilient, particularly in high-tech manufacturing and service-oriented contracts. Investments in automation, lightweight materials, and digital systems are helping firms sustain profitability despite revenue volatility. However, freight market shifts, trade policy uncertainty, and supply chain disruptions continue to pose challenges, and revenue is unlikely to return to mid-2010s highs.

Future growth will depend on freight and passenger rail investments, export opportunities in Canada and Mexico, and supply chain stabilization to reduce cost pressures and enhance production efficiency. As the industry adapts to new technologies and sustainability mandates, success will hinge on its ability to modernize and diversify revenue streams.



NATIONAL TRENDS

Exports and Imports

In 2023, U.S. railcar production exports remained highly concentrated in North America, with Mexico (40.9%) and Canada (31.5%) as the top destinations—highlighting the strong trade integration under USMCA and the flow of freight railcars, locomotives, and components across the continent.

Beyond North America, the Middle East and Africa (10.8%) and Asia (9.3%) emerged as key growth markets. Egypt (6.1%) led exports in the Middle East, where large-scale rail infrastructure projects are driving demand. In Asia, China (1.1%), India (0.7%), and South Korea (0.4%) are expanding their purchases of U.S. rail technologies. Australia and Oceania (3.8%), led by Australia, remains a steady and reliable market.

On the import side, North America (56.8%), Asia (24.3%), and Europe (16.7%) accounted for nearly all U.S. railcar imports. Canada (39.1%) and Mexico (16.7%) supply key rolling stock and components, reinforcing regional supply chain integration.

Imports from Asia are growing, with China (8.5%) and South Korea (6.9%) leading in high-tech rail components. Japan (3.9%) remains a major supplier of advanced propulsion and electrical systems. From Europe, Germany (7.7%), Austria (3.7%), and Spain (2.2%) dominate, providing high-performance rail equipment and technologies. European firms like Siemens and Alstom continue to play a central role in U.S. urban and regional rail markets.

Top Export Countries (2023)

Country	Share of Total Cluster Exports
Mexico	41%
Canada	31%
Egypt	6%
Australia	4%
Kazakhstan	2%
All Others	16%

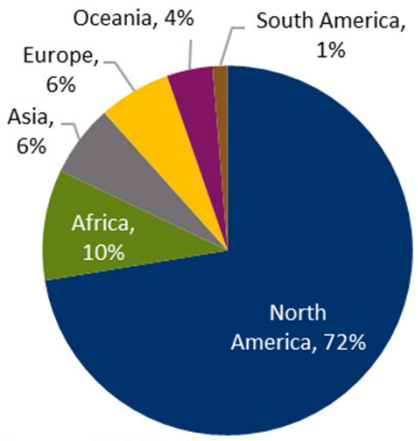
Source: USA Trade Online

Top Import Countries (2023)

Country	Share of Total Cluster Imports
Canada	39%
Mexico	17%
China	8%
Germany	8%
South Korea	7%
All Others	21%

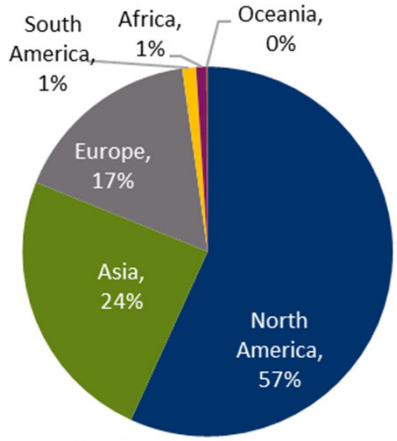
Source: USA Trade Online

Share of Exports by World Region, 2023



Source: USA Trade Online

Share of Imports by World Region, 2023



Source: USA Trade Online

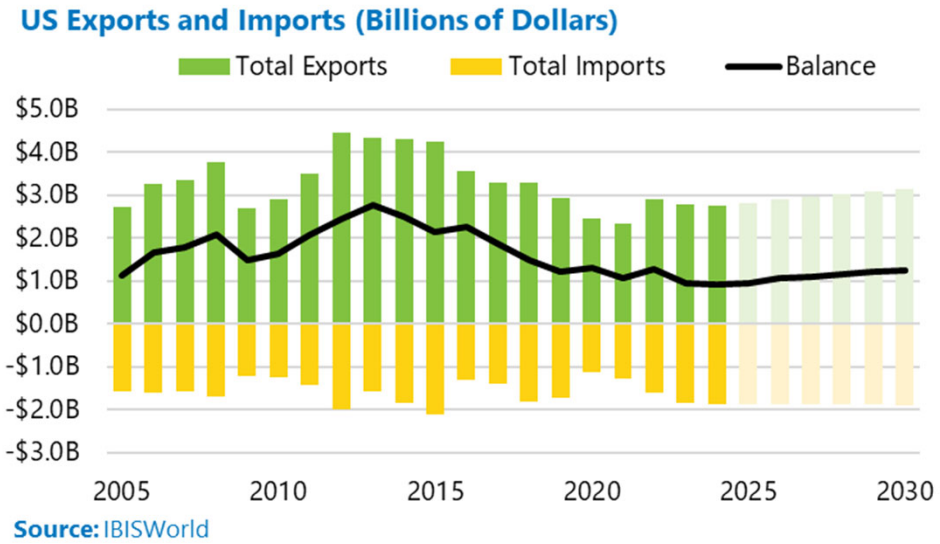
NATIONAL TRENDS

Exports and Imports and Export Countries

The current trade patterns highlight the deeply regionalized structure of U.S. railcar trade, with North America leading in both exports and imports, while Asia and Europe play key roles in supplying advanced components and transit railcars. As policy shifts and investments in domestic rail manufacturing take effect, future trade dynamics may see a shift toward greater domestic production, reducing reliance on foreign-sourced rolling stock while maintaining strong North American trade partnerships.

The U.S. railcar production cluster has historically maintained a trade surplus, with exports consistently exceeding imports. However, this surplus has gradually declined over the past decade, reflecting shifts in domestic production capacity, increasing reliance on imported rolling stock, and competition from foreign manufacturers.

The long-term outlook suggests that while U.S. railcar exports will continue to play a vital role in global markets, the industry faces structural challenges, including increased foreign competition, shifting domestic procurement policies, and evolving supply chain dynamics. Maintaining a positive trade balance will require strategic investments in domestic rail production, stronger trade partnerships, and policies that support U.S. manufacturers in both freight and passenger rail sectors.



NATIONAL TRENDS

Trade Dynamics in the Railcar Production Cluster

The railcar production cluster has seen notable shifts in trade dynamics over the past decade, reflecting evolving supply chain strategies, domestic production capacity, and international competitiveness. Compared to the broader U.S. manufacturing sector, railcar production is less reliant on imports but more engaged in exports, particularly in freight railcars and rolling stock components.

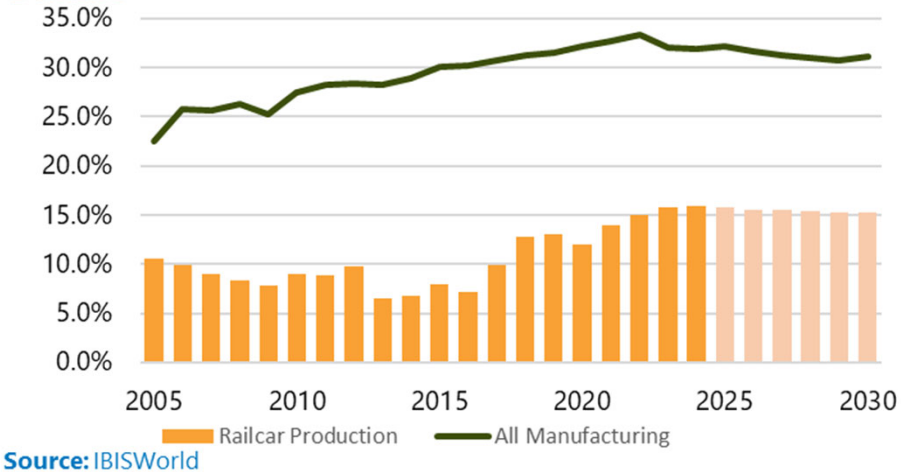
The import share of domestic demand in railcar production has increased significantly, rising from 8.0% in 2015 to a projected 15.8% in 2025. While this signals a growing dependence on foreign-built railcars, it remains well below the broader U.S. manufacturing sector, where imports account for 30% of domestic demand. Unlike many industries that primarily import raw materials and components, railcar imports consist largely of fully or semi-assembled passenger railcars, which have become more prevalent due to the presence of foreign manufacturers in the U.S. transit market. However, the projected slight decline to 15.2% by 2030 suggests that policy incentives, Buy America provisions, or domestic manufacturing investments may stabilize import reliance.

Exports have become an increasingly important revenue driver for the railcar industry. The export share of revenue has grown from 14.9% in 2015 to a projected 22.2% in 2025, exceeding the 20% average for the broader U.S. manufacturing sector. This growth highlights the industry's expanding role in global markets, particularly in supplying freight railcars and components to Canada, Mexico, and Latin America. Projections indicate a modest increase to 23.0% by 2030, suggesting that U.S. manufacturers remain competitive internationally, especially for high-quality freight rolling stock and specialized rail components.

Despite steady export growth, the industry faces ongoing trade challenges. A strong U.S. dollar in recent years has made American railcars more expensive for foreign buyers, while trade barriers and domestic production initiatives in other countries limit export opportunities. However, currency fluctuations, shifting trade policies, and new agreements could influence future export growth.

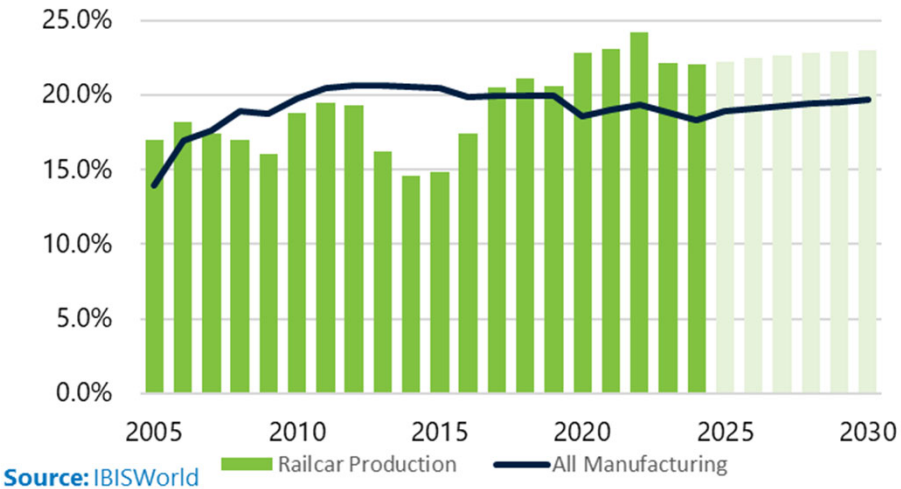
Overall, the railcar production industry is becoming more trade-dependent but remains less reliant on imports than the manufacturing sector as a whole, while maintaining a strong presence in international freight markets. Looking ahead, domestic policy incentives, shifting supply chains, and global trade conditions will be critical factors shaping the industry's trade landscape.

US Railcar Production Imports Share of Domestic Demand



Source: IBISWorld

US Railcar Production Exports Share of Revenue

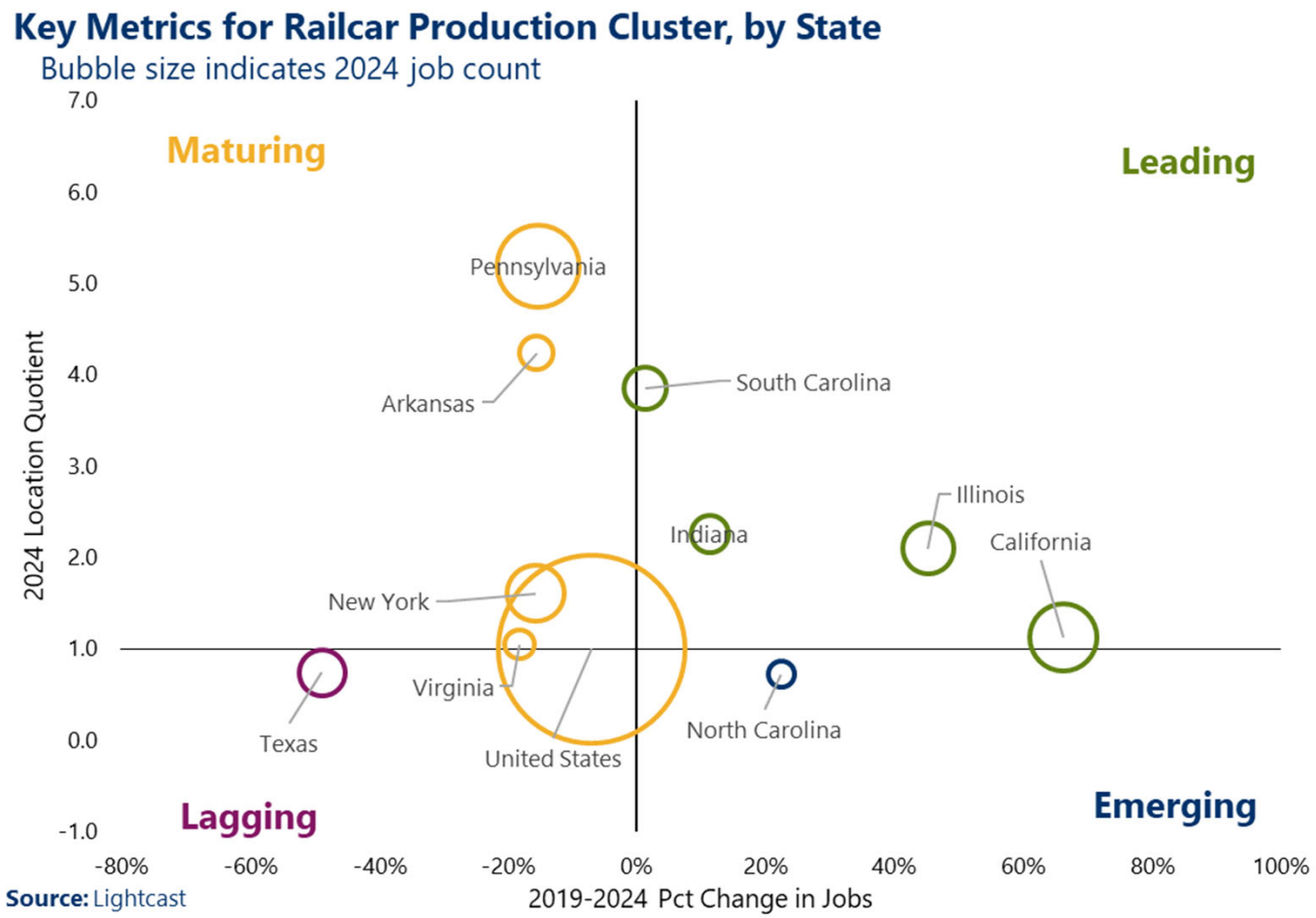


Source: IBISWorld

NATIONAL TRENDS

Key Metrics

The graphic below shows the performance of railcar production cluster across states for the Top 10 states in terms of railcar production jobs in 2024. The industry has the heaviest concentration in Pennsylvania, Arkansas, and South Carolina, all with a location quotient 3x the US average. Job gains were seen over the last five years in half of the top ten states (California, Illinois, North Carolina, Indiana, and South Carolina). Among the top ten states, Texas is the only one to see a job decline and also not have a location quotient above 1.0 (the US Average).



This chart displays how these sectors compare. Each sector is classified as **leading, emerging, maturing**, or **lagging**.

Leading states experienced job growth over the last five years and have a location quotient greater than 1.

Emerging states saw positive job growth over the last five years but have a location quotient of less than 1.

Maturing states have a location quotient greater than 1 but had negative job growth over the last five years.

Lagging states have a location quotient of less than 1 and saw negative job growth over the last five years.

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Foreign Direct Investment by Company

Since 2014, Alstom, CAF USA, and Siemens Mobility have made several foreign direct investments (FDI) in the United States railcar production sector, spanning manufacturing, headquarters, and sales operations. These investments have contributed to job creation and capital investment across multiple states, strengthening the country's rail infrastructure and production capacity.

Manufacturing has been the primary focus, with three major projects: CAF USA's 2014 investment in Elmira, NY ($22.6 million, 183 jobs), Siemens Mobility's 2023 investment in Lexington, NC ($220 million, 500 jobs), and its planned 2024 investment in Horseheads, NY ($60 million, 300 jobs). These projects highlight continued growth in domestic railcar production facilities.

Beyond manufacturing, Siemens established its U.S. headquarters in Sacramento, CA in 2016, investing $2.3 million and creating 30 jobs. Sales and marketing operations have also seen investments, including Siemens Mobility's 2019 project in Sterling Heights, MI ($2.6 million, 10 jobs) and Alstom's planned 2024 project in Philadelphia, PA ($900,000, 15 jobs).

Overall, these investments underscore the strategic expansion of foreign railcar manufacturers in the U.S., focusing on production capabilities, market presence, and workforce growth to support both passenger and freight rail development.

Alstom, CAF, and Siemens Foreign Direct Investment in the United States since 2014 by Project

Project date	Investing company	Destination state	Destination city	Activity	Jobs created	Capital investment ($ Millions)
3/1/2014	CAF USA	New York	Elmira (NY)	Manufacturing	183	$22.60
2/1/2016	Siemens	California	Sacramento (CA)	Headquarters	30	$2.30
5/1/2019	Siemens Mobility	Michigan	Sterling Heights (MI)	Sales, Marketing & Support	10	$2.60
3/1/2023	Siemens Mobility	North Carolina	Lexington (NC)	Manufacturing	500	$220.00
9/1/2024	Alstom	Pennsylvania	Philadelphia (PA)	Sales, Marketing & Support	15	$0.90
9/1/2024	Siemens Mobility	New York	Horseheads (NY)	Manufacturing	300	$60.00

Source: fDi Markets

NATIONAL TRENDS

In addition to foreign direct investments made by Alstom, CAF USA, and Siemens Mobility, several other railcar manufacturing and headquarters projects have been announced in recent years, further expanding the presence of international companies in the US market.

These projects, driven by growing transit agency contracts, increasing demand for modernized rail infrastructure, and overall company growth, have resulted in significant job creation and capital investment. The following sections outline recent headquarters and manufacturing expansions, highlighting the continued commitment of global rail manufacturers to strengthening the US rail sector.

Headquarters Project Announcements: 2019-2025

- **Schwiag (Switzerland) – Wichita, KS**
  Schwiag, a Swiss company, announced in January 2025 that it would establish its US headquarters and manufacturing operations in Wichita, Kansas. The project includes a 20,000-square-foot facility and initial job creation of 15. Investment details were not publicly available. The location is expected to open in late Q1 2025. The expansion is driven by increasing demand for the company's products in North America.

- **TTX Company (United States) – Charlotte, NC**
  In July 2023, TTX Company announced it was relocating its headquarters from Chicago, Illinois to Charlotte, North Carolina. The project involved a 70,000-square-foot facility, with an investment of $14.5 million, creating 150 jobs (100 relocations, 50 local hires). The decision to relocate was driven by Charlotte's strategic location and strong transportation network, which support the company's long-term growth strategy. The new location opened in September 2024.

- **Robel North America Corporation (RNAC) (Germany) – Chesapeake, VA**
  Robel North America Corporation (RNAC) announced in June 2019 that it would establish a US headquarters subsidiary in Chesapeake, Virginia to support expansion in the US market as demand for rail infrastructure solutions grows. The company projected 85 jobs (not officially confirmed) for this location. Facility size and investment details were not publicly available.

- **Pandrol USA (France) – Memphis, TN**
  In May 2019, Pandrol USA announced it would relocate its US headquarters and manufacturing operations from New Jersey to Memphis, Tennessee. The $12 million investment included a 223,000-square-foot facility and created 82 jobs. The move was part of a consolidation effort to streamline operations and improve efficiency.

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Production Expansion Project Announcements: 2019-2025

- **Siemens Mobility (Germany) – Horseheads, NY**
  Siemens Mobility announced in September 2024 that it would establish its first high-speed rail production facility in Horseheads, New York. The 300,000-square-foot plant, representing a $60 million investment, will manufacture the American Pioneer 220 trainsets designed for Brightline West's high-speed rail line connecting Las Vegas to Southern California. The facility is expected to commence operations in 2026, creating approximately 300 jobs.

- **Alstom (France) – Kanona, NY**
  In October 2024, Alstom announced a new initiative in Kanona, New York, to convert two traditional Tier 0 diesel locomotives into hybrid battery-diesel locomotives in partnership with Norfolk Southern. The project is supported by a $15.9 million grant from the Federal Railroad Administration's Consolidated Rail Infrastructure and Safety Improvement (CRISI) program, awarded to the Steuben County Industrial Development Agency. Alstom's Kanona facility will lead the rebuild, positioning Steuben County at the forefront of next-generation freight engine innovation.

- **Hyundai Rotem (South Korea) – Riverside, CA**
  In March 2024, Hyundai Rotem announced a new railcar manufacturing facility in Riverside, California to support a major contract from the Los Angeles County Metropolitan Transit Authority to modernize its aging fleet of vehicles. This is the company's first US plant announcement in 16 years and its first US plant dedicated to railcar production. The $15.5 million investment included a 44,650 square foot facility. The company has not publicly disclosed how many jobs were created. The facility was projected to open by the end of 2024.

- **Siemens Mobility (Germany) – Lexington, NC**
  Siemens Mobility announced in March 2023 that it would invest $220 million in a new 200-acre rail manufacturing facility in Lexington, North Carolina. The project is expected to create 500 jobs by 2028, with the facility projected to open by mid-2025. The expansion is designed to complement and expand the company's existing production capabilities in the United States, particularly supporting current contracts managed by the Sacramento, California facility and to meet the growing demand for passenger rail across the US.

- **Hitachi Rail (Japan) – Hagerstown, MD**
  Hitachi Rail announced in March 2022 the development of a 307,000-square-foot rail manufacturing facility in Hagerstown, Maryland, with an investment of $70 million. The facility was expected to open in 2024 and create 460 jobs. The project was driven by a contract with the Washington Metropolitan Area Transit Authority (WMATA) to build new railcars for the DC Metro system.

- **Bombardier (Canada) – Pittsburg, CA**
  Bombardier announced in June 2019 that it would expand its manufacturing operations in Pittsburg, California to fulfill existing railcar production contracts in North America. The facility is 122,750 square feet, with an estimated investment of $22.6 million (not confirmed). The project created 50 jobs, though the company already had 500 jobs in the state prior to expansion. The facility opened in September 2019.

NATIONAL TRENDS

In recent years, railcar manufacturers have adjusted their US operations in response to shifting market demand, cost pressures, and evolving supply chain dynamics. While many companies have expanded their presence, others have made strategic decisions to consolidate or relocate production. These facility closures reflect broader industry trends, including efforts to optimize operations, reduce costs, and adapt to changing industry conditions. While these changes have resulted in job losses in certain regions, they also highlight the industry's ongoing transformation as companies position themselves to remain competitive in a rapidly evolving rail market.

Facility Closure Announcements: 2019-2025

- **FreightCar America – Shoals, AL**
  In 2019, FreightCar America announced the closure of its manufacturing operations in Roanoke, Virginia, consolidating production to its Shoals facility in Alabama, citing the need for operational efficiency and cost reduction. However, just a year later, in October 2020, the company made the decision to shut down its Shoals facility and relocate all manufacturing to Castaños, Mexico. The move was driven by declining railcar demand, intensified by the COVID-19 pandemic. FreightCar America continued operations in Alabama through the end of 2020, with the full closure of the Shoals facility completed by the first quarter of 2021. The company said the move was expected to result in savings of more than $20 million in annual fixed costs.

- **Greenbrier – Portland, OR**
  In January 2023, Greenbrier announced the permanent closure of its Portland, Oregon rail car production facility, a decision driven by shifting supply chain flows, including more freight moving to East Coast ports, and their ability to compete for business. The company temporarily suspended production in 2020 due to the impacts of COVID-19 on freight railcar demand. While the move was part of the company's strategy to optimize its production footprint, Greenbrier clarified that it did not intend to shut down all of its operations, nor relocate to Mexico, remaining optimistic about a potential rebound in rail demand.

GLOBAL TRENDS

Cross-Border Direct Investment by Source Country

Between 2020 and February 2025, global cross-border direct investment (CBD) in the railcar production sector totaled $4.7 billion across 154 projects, generating 33,643 jobs around the world. Germany and France led the way, with Germany investing $1.1 billion across 32 projects and France following closely with $964 million across 42 projects. China ranked third, contributing $861 million in six projects, while Switzerland added $618.65 million through 18 projects.

The United States is also included in this data, as cross-border direct investment in the railcar production sector accounts for both international investment and domestic projects that cross state lines. The U.S. saw $368 million invested across 26 projects (14 interstate and 12 global), creating 2,813 jobs, demonstrating the role of interstate investment in expanding domestic railcar manufacturing capacity. Smaller yet notable investments came from Spain, the Czech Republic, and Japan, each exceeding $100 million in capital investment, with job creation ranging from 607 in Japan to 1,974 in the Czech Republic.

While Germany and France dominated in both investment value and number of projects, China and Switzerland also made substantial contributions. The presence of investment from multiple countries—as well as cross-state investment within the U.S.—underscores the critical role of cross-border direct investment in the railcar production sector, supporting manufacturing expansion, job creation, and infrastructure modernization.

Global Cross-Border Direct Investment by Source Country, 2020-2025

Country	Projects	Capital Investment (Millions)	Jobs Created
Germany	32	$1,074	5,138
France	42	$964	8,122
China	6	$861	7,959
Switzerland	18	$619	2,098
United States	26	$368	2,813
Spain	7	$171	1,460
Czech Republic	2	$146	1,974
Japan	3	$116	607
All Others	18	$416	3,472
Total	**154**	**$4,735**	**33,643**

Source: fDi Markets

GLOBAL TRENDS

Cross-Border Direct Investment by Destination Country

Between 2020 and 2025, cross-border direct investment (CBDI) in the railcar production sector by destination country totaled $4.7 billion across 154 projects, generating 33,643 jobs. Mexico attracted the highest level of investment, receiving $672 million across seven projects, which created 6,629 jobs. Spain followed with $582 million in 18 projects, generating 2,762 jobs, while the United States ranked third with $497 million in 25 projects, supporting 2,268 jobs.

The United Kingdom and Germany were also major destinations, with the UK securing $359 million in 12 projects and Germany receiving $347 million across 10 projects. Other key recipients included Saudi Arabia ($266 million, 2,031 jobs), India ($239 million, 4,857 jobs), and Egypt ($221 million, 1,852 jobs), demonstrating a broad geographic spread of railcar-related cross-border investment. France, Hungary, Kazakhstan, and Poland each attracted over $100 million in capital investment, contributing to job creation across their respective railcar manufacturing and supply chain sectors.

The United States' inclusion in this dataset reflects both international CBDI and cross-state investments within the domestic railcar sector, reinforcing its role as a key destination for railcar production expansion and modernization. The distribution of investment across multiple countries highlights the global nature of cross-border direct investment in rail manufacturing, with infrastructure needs, transit expansion, and freight modernization driving capital inflows into key markets.

Global Cross-Border Direct Investment by Destination Country, 2020-2025

Country	Projects	Capital Investment (Millions)	Jobs Created
Mexico	7	$672	6,629
Spain	18	$582	2,762
United States	25	$497	2,268
United Kingdom	12	$359	1,707
Germany	10	$347	768
Saudi Arabia	3	$266	2,031
India	9	$239	4,857
Egypt	2	$221	1,852
France	8	$205	1,401
Hungary	6	$141	778
Kazakhstan	6	$135	700
Poland	7	$131	1,151
All Others	41	$940	6,739
Total	**154**	**$4,735**	**33,643**

Source: fDi Markets

GLOBAL TRENDS

Cross-Border Direct Investment by Activity

Between 2020 and 2025, cross-border direct investment (CBDI) in the railcar production sector into the U.S. totaled $497 million across 25 projects, creating 2,268 jobs. Manufacturing accounted for the majority of investment, with $426 million spread across nine projects, generating 1,933 jobs—highlighting the industry's focus on expanding railcar production capacity.

Beyond manufacturing, sales, marketing, and support activities attracted $29 million in 12 projects, creating 125 jobs, while headquarters investments totaled $15.7 million across two projects, adding 165 jobs. Research & development (R&D) saw $25 million in a single project, supporting 36 jobs, signaling growing innovation efforts in rail technology.

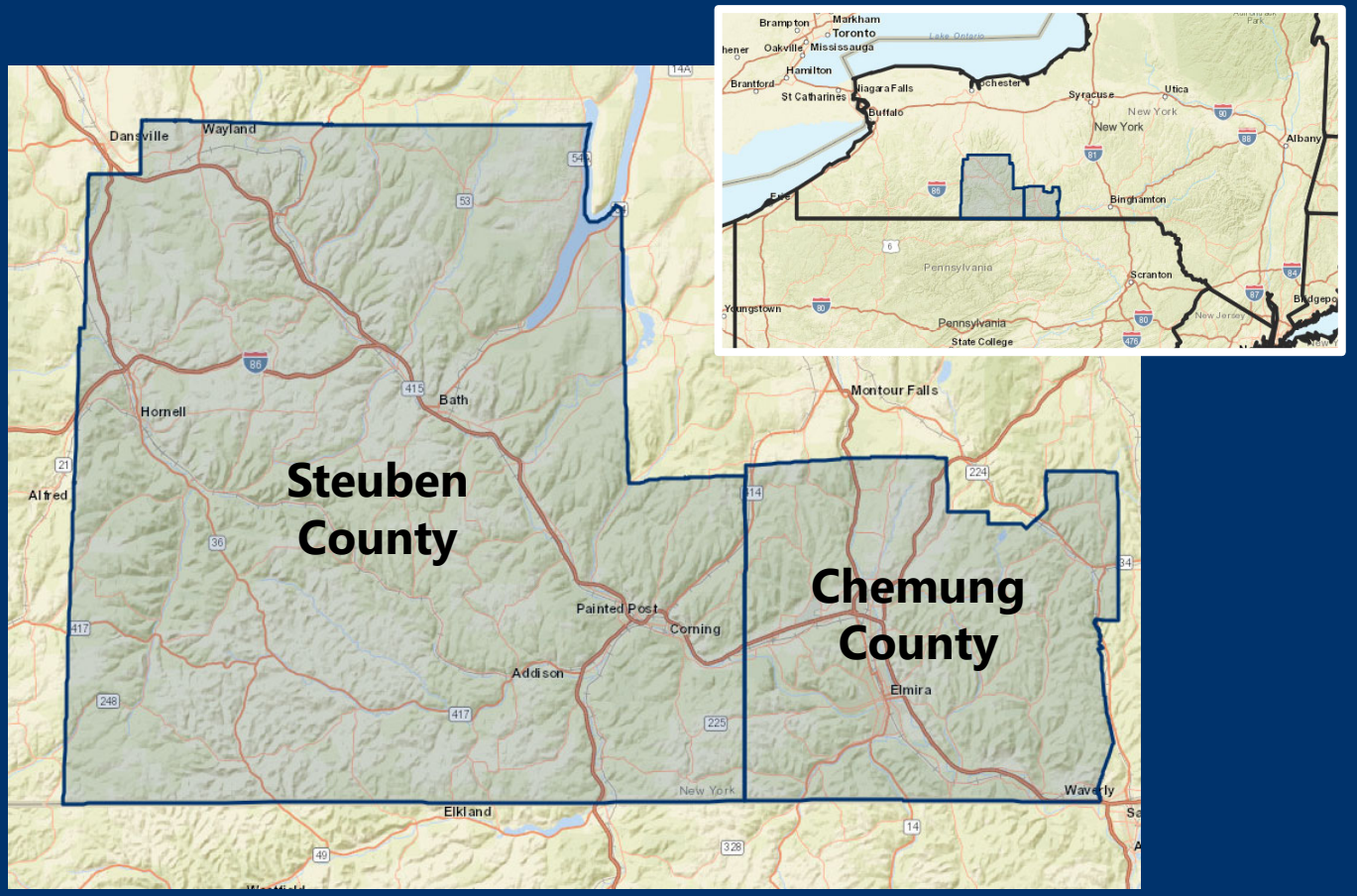
Other segments, such as maintenance and servicing, received $1 million in one project, creating nine jobs. The concentration of CBDI in manufacturing and commercial operations underscores the sector's priority on production scalability and market expansion, reinforcing the U.S. as a key hub for railcar production and development.

In parallel, R&D initiatives funded by programs such as CRISI are helping advance freight sector innovation, including the development of hybrid propulsion systems that could shape the future of emissions-reducing rail technologies.

Cross-Border Direct Investment into the US by Activity, 2020-2025

Activity	Projects	Capital Investment (Millions)	Jobs Created
Manufacturing	9	$426	1,933
Headquarters	2	$16	165
Sales, Marketing & Support	12	$29	125
Research & Development	1	$25	36
Maintenance & Servicing	1	$1	9
Grand Total	**25**	**$497**	**2,268**

Source: fDi Markets



Source: Esri

Steuben and Chemung County Industry Trends

STEUBEN AND CHEMUNG COUNTY TRENDS

Railcar Production Economic Performance

Steuben and Chemung counties in New York's Southern Tier serve as a vital hub for U.S. railcar production, with major manufacturing operations from Alstom, CAF USA, and Siemens Mobility. These companies collectively play a crucial role in supporting national rail infrastructure, fulfilling high-profile contracts with transit agencies across the country. Their ongoing and planned investments in facility expansions, workforce development, and manufacturing capabilities reinforce the region's status as a key player in domestic railcar production.

Alstom's Hornell facility in Steuben County is the largest railcar manufacturing site in the region and has been central to rolling stock production for over a century. Spanning over 135,000 square feet, the facility includes a 105,000-square-foot manufacturing floor, an 18,000-square-foot warehouse, and a 12,000-square-foot office space. Alstom is currently executing several major contracts, including a $2.5 billion agreement with Amtrak to produce 28 Avelia Liberty high-speed trainsets for the Northeast Corridor. The facility is also manufacturing 130 customized Citadis light rail vehicles for the Southeastern Pennsylvania Transportation Authority (SEPTA), with an option for 30 more, and supplying Multilevel III commuter rail cars for New Jersey Transit. Additionally, Alstom is fulfilling a $1.8 billion contract for Chicago's Metra to produce up to 500 new railcars. In addition to its passenger railcar work, Alstom is leading a significant innovation effort at its facility in Kanona, focused on developing a hybrid freight locomotive, funded in part by a CRISI grant. If successful, this R&D effort could establish Steuben County as a national center of excellence for hybrid freight engine development, expanding the region's capabilities beyond passenger rail and positioning it at the forefront of rail decarbonization technologies.

CAF USA operates a significant railcar production facility in Elmira (Chemung County) specializing in the manufacture and refurbishment of light rail vehicles and streetcars. Although precise details on the facility's size remain limited, it is a well-established component of the region's industrial landscape. CAF's ongoing contracts include an $810 million deal to supply 102 light rail vehicles for the Massachusetts Bay Transportation Authority (MBTA), which will modernize Boston's Green Line fleet between 2026 and 2031. Additional contracts include streetcars for the Kansas City Streetcar Authority and a $54 million agreement with the Omaha Streetcar Authority to deliver six trams by 2027, with an option to expand the order by 29 additional units.

Siemens Mobility is making a significant investment in Chemung County with the construction of a new $60 million railcar manufacturing plant in Horseheads. Expected to open in 2026, this 300,000-square-foot facility will be the first in North America dedicated to high-speed rail production. Siemens has already secured a major contract for the plant, which will manufacture 10 seven-car American Pioneer 220 (AP220) trainsets for Brightline West's Las Vegas-to-Southern California route, with deliveries expected by 2028. The Horseheads facility is projected to create approximately 300 jobs and establish the region as a key supplier of next-generation passenger rail technology, further diversifying the area's railcar manufacturing capabilities.

Collectively, these three manufacturers reinforce the strategic importance of Steuben and Chemung counties in the U.S. rail sector. Alstom's legacy production, CAF's specialization in light rail vehicles, and Siemens' investment in high-speed rail manufacturing position the region as a critical force in advancing national transit infrastructure. Emerging opportunities—including Alstom's hybrid freight initiative in Kanona, major contract bids with Amtrak and MTA, and recent investments in domestic shell production—underscore the region's growing role in national rail innovation and manufacturing competitiveness. With a steady pipeline of contracts and continued investment in facility expansion, workforce development, and production capacity, these facilities ensure long-term economic stability and growth for the Southern Tier.

STEUBEN AND CHEMUNG COUNTY TRENDS

Railcar Production Economic Performance

The railcar production industry in Steuben and Chemung counties remains a key manufacturing hub, supporting high-wage employment despite broader state and national job declines. With Alstom, CAF USA, and Siemens Mobility operating major facilities, the region plays a critical role in the U.S. rail manufacturing supply chain. Ongoing contracts and planned investments reinforce the industry's long-term economic significance.

In 2024, the industry supported 1,229 jobs, reflecting a 20% decline since 2004 and a 10% decline since 2019—trends that align with the 18% contraction of the railcar production industry nationally over the past two decades. Despite these losses, the region maintains a strong industrial base, with higher-than-average wages helping to offset employment declines. The 2024 location quotient of 129.80 highlights the industry's extreme specialization in the region, far surpassing New York State's 1.62 and the national baseline of 1.0, reinforcing its importance in the local economy.

The competitive effect indicates a decline of 45 jobs from 2019 to 2024, suggesting that market shifts and supply chain challenges have contributed to employment losses despite the region's historical strength in railcar production. The cluster operates with five payrolled business locations, significantly fewer than New York State's 31, yet it remains highly productive, contributing 2.6% of the region's gross regional product (GRP). With 76% of cluster sales generated from exports, the industry heavily relies on external markets, exceeding New York State's export share of 65%. This reliance on exports helps sustain the regional economy by bringing in external revenue.

From a wage perspective, the region offers competitive earnings, with an average salary of $109,778 in 2024—higher than both New York State's $105,016 and the national average of $104,365. These figures highlight the industry's emphasis on high-value, skilled labor.

While employment has declined, the industry's strategic role in railcar manufacturing, combined with its high wages and stable industrial presence, positions it for future growth, especially as federal and state investments in rail infrastructure expand

Railcar Production Cluster Economic Performance Comparison by Region

Geography	2019	2024	2019-2024 Pct. Change in Jobs	2024 Avg. Earnings Per Job	2024 Location Quotient	2019-2024 Competitive Effect	2024 Payrolled Business Locations	2024 % Exported Sales	2024 Total Sales	2024 GRP ($ Millions)	Cluster Share of Regional Jobs	Cluster Share of Regional GRP
Steuben and Chemung Counties	1,369	1,229	(10%)	$109,778	129.80	(45)	5	76%	$963.4M	$258.2M	1.68%	2.60%
New York	2,601	2,195	(16%)	$105,016	1.62	(580)	31	65%	$1,644.5M	$440.7M	0.02%	0.02%
US	24,035	22,353	(7%)	$104,365	1.00	0	393	10%	$15,279.4M	$4,095.0M	0.01%	0.02%

Source: Lightcast

STEUBEN AND CHEMUNG COUNTY TRENDS

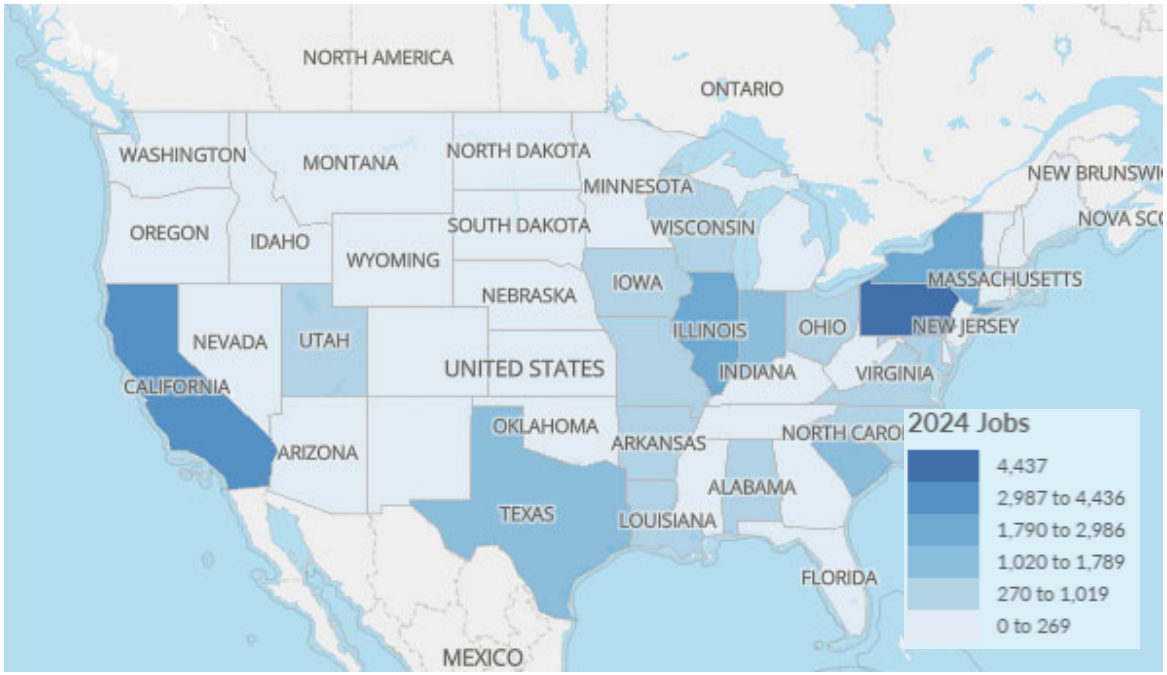
Regional Job Concentration

The following table illustrates the number of Railcar Production jobs in New York state by county, illustrating how the industry's primary concentration is in the Southern Tier. Steuben County leads with 1,034 Railcar Production jobs, followed by Clinton (336) and Chemung (195). The map provides an overview of the most concentrated states in Railcar Production jobs in 2024.

Top 10 New York Counties in Railcar Production Jobs in 2024

County	Jobs
Steuben	1,034
Clinton	336
Chemung	195
Jefferson	154
Tompkins	115
Westchester	105
Erie	100
Rensselaer	51
Dutchess	32
Livingston	16
All Others	56
Total	**2,195**

Source: Lightcast



Source: Lightcast

STEUBEN AND CHEMUNG COUNTY TRENDS

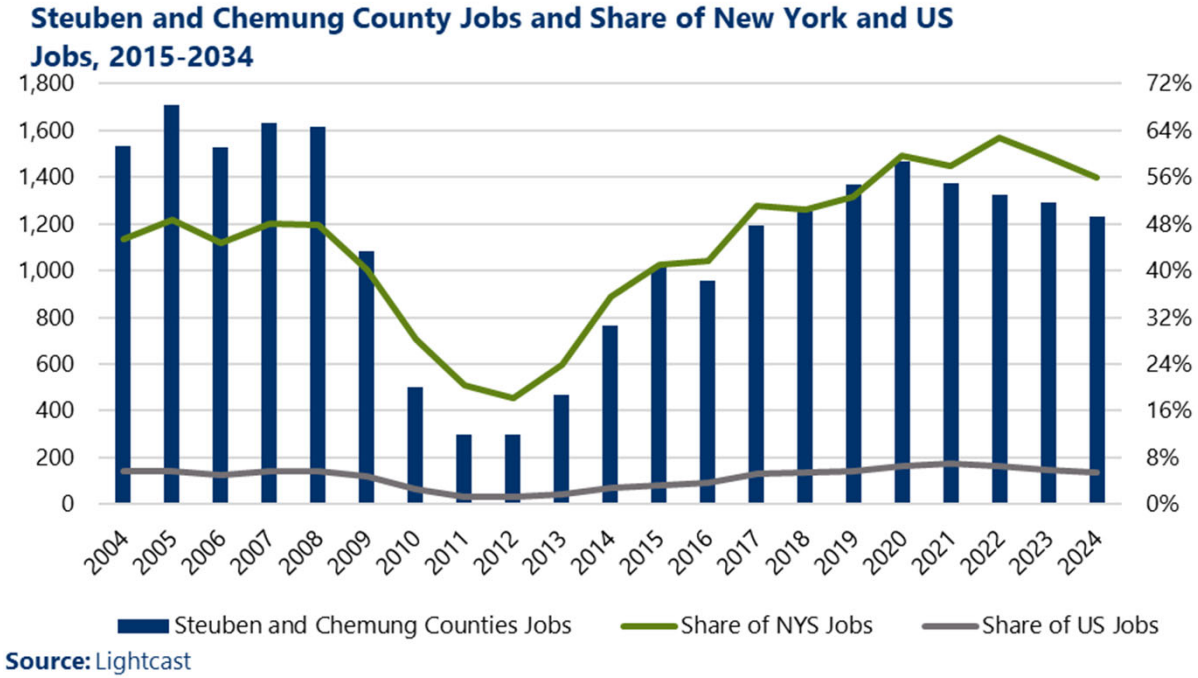
Steuben and Chemung Jobs and Share of New York and US Jobs by Year

The graph illustrates railcar production employment trends in Steuben and Chemung counties from 2004 to 2024, along with their share of total jobs in New York State and the United States.

Between 2004 and 2008, employment remained relatively stable, fluctuating around 1,500 to 1,700 jobs. However, between 2009 and 2013, the sector saw a significant decline, with job numbers falling below 300, reflecting broader industry downturns and shifting market conditions. From 2014 onward, employment rebounded, with growth through 2020, peaking at 1,469 jobs before stabilizing in recent years.

The county's share of New York State jobs in railcar production, declined sharply from 2008 to 2013 before experiencing a strong recovery, reaching a peak of 63% in 2022 before slightly declining. Over this time period, the counties' share of U.S. railcar production jobs fluctuated between 1% and 7%, reflecting the localized concentration of employment within New York State rather than a dominant role at the national level.

Overall, the data highlights periods of industry contraction and recovery, with Steuben and Chemung counties maintaining a strong share of New York State's rail manufacturing employment despite fluctuations in total job numbers. The recent stabilization suggests sustained industry presence and regional resilience.



Source: Lightcast

STEUBEN AND CHEMUNG COUNTY TRENDS

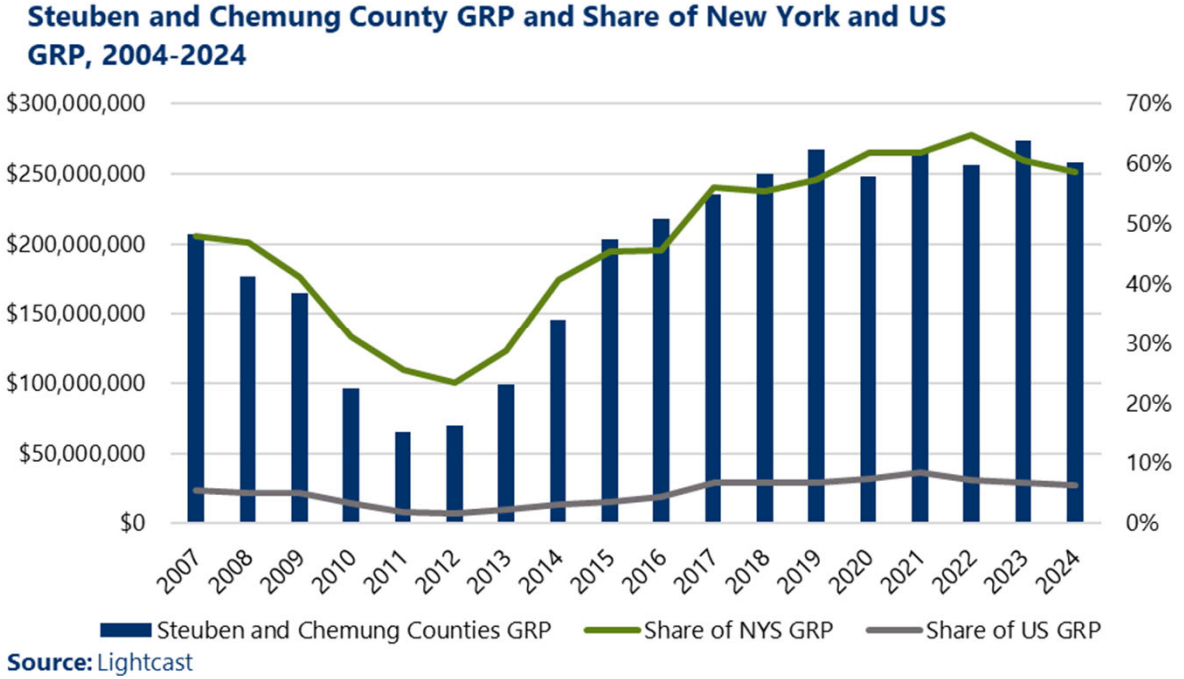
Steuben and Chemung GRP and Share of New York and US GRP by Year

The graph illustrates gross regional product (GRP) trends for Steuben and Chemung counties' railcar production sector from 2004 to 2024, along with the counties' share of total GRP in New York State and the United States.

Between 2007 and 2011, GRP declined, reflecting industry downturns and reduced production activity. By 2013, the sector began to recover, with steady growth through 2019, peaking at $267 million before slightly declining in the most recent years.

The counties' share of New York State's GRP in railcar production saw a sharp decline from 2007 to 2012 before rebounding, reaching 65% in 2022, highlighting the region's increasing dominance in the state's rail manufacturing economy. Meanwhile, the counties' share of U.S. railcar production GRP fluctuated from lows of 2% in 2011 to 8% in 2021, emphasizing the region's strong impact within New York but with a more limited national footprint.

Overall, the data reflects periods of contraction and recovery, with Steuben and Chemung counties maintaining a strong and growing share of New York's rail manufacturing output, even as overall GRP fluctuated. The recent stabilization suggests continued industry resilience and economic importance to the region.



Source: Lightcast

Supply Chain Analysis

NATIONAL TRENDS

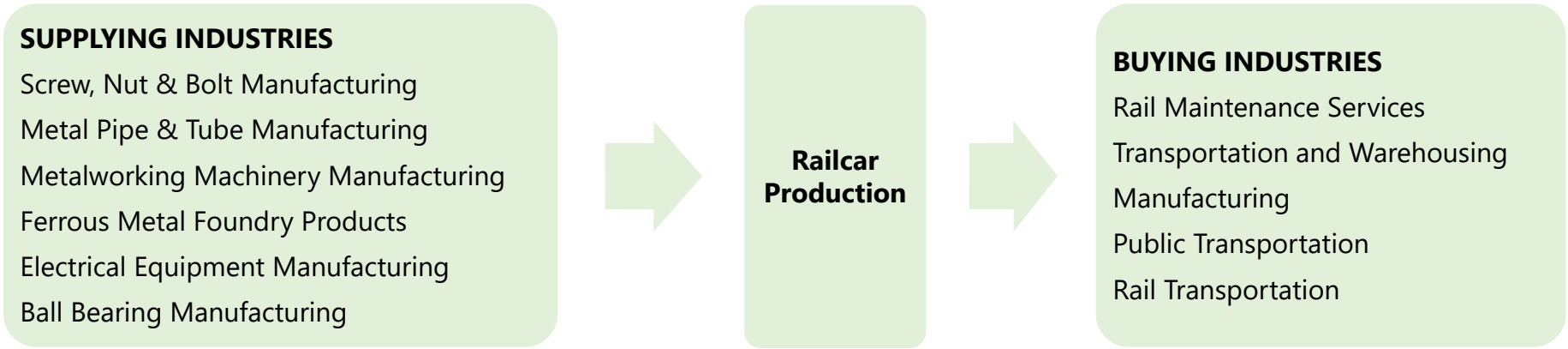
Value Chain and Supply Chain Challenges in the Railcar Production Cluster

Supply Side: Key Inputs and Challenges

Railcar manufacturers depend on a range of component and material suppliers, including Screw, Nut & Bolt Manufacturing, Metal Pipe & Tube Manufacturing, and Metalworking Machinery Manufacturing, which provide structural and mechanical parts. Additionally, Ferrous Metal Foundry Products and Electrical Equipment Manufacturing supply essential raw materials and electrical systems, while Ball Bearing Manufacturing contributes precision components.

However, supply chain disruptions during the pandemic exposed vulnerabilities in railcar component sourcing, leading to delays, rising costs, and production bottlenecks. Several key challenges emerged:

- **Steel and Aluminum Shortages**: Railcar production heavily relies on steel and aluminum, and price volatility and shortages during the pandemic caused cost spikes and production slowdowns. While prices have stabilized somewhat, reliance on imported specialty metals remains a challenge.
- **Electronic and Electrical Component Delays**: The global semiconductor shortage impacted electronic systems in modern railcars, delaying production for transit railcars that rely on digital controls, monitoring sensors, and signaling systems.
- **Increased Dependence on Foreign Suppliers**: The industry has become more reliant on imported components, especially for passenger railcars and high-tech electrical systems. This is reflected in the rising share of imports in meeting domestic demand, which increased from 12.8% in 2018 to 15.8% in 2023. The reliance on European and Asian suppliers for rail electronics, braking systems, and propulsion units adds risks to supply chain stability.



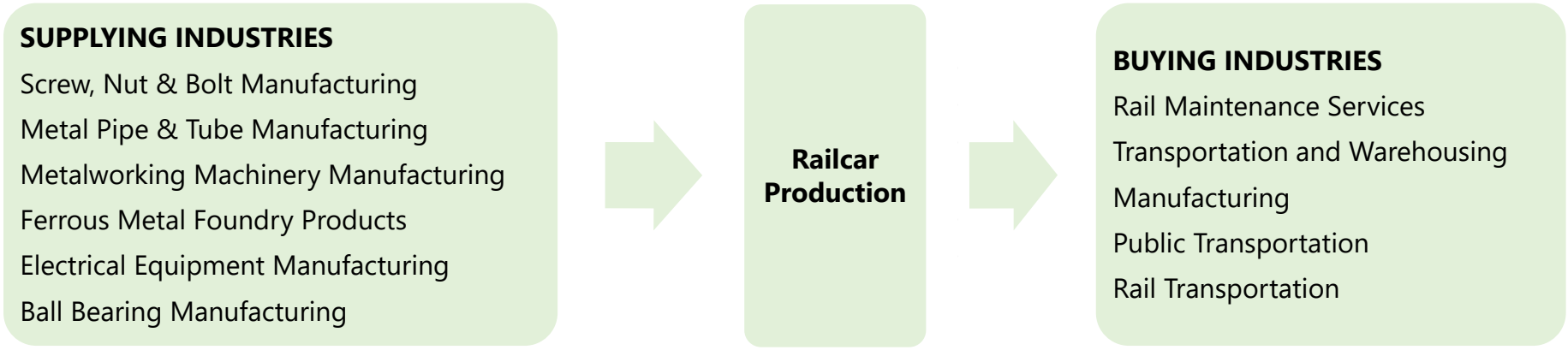
NATIONAL TRENDS

Value Chain and Supply Chain Challenges in the Railcar Production Cluster

Demand Side: Buying Industries and Market Shifts

The railcar production industry serves a wide range of buying industries, including Rail Maintenance Services, Transportation and Warehousing, and Public Transit and Rail Operators. These industries experienced shifts in demand during the pandemic and continue to face uncertainties tied to market and policy changes:

- **Freight Rail Operators Delaying Purchases:** Due to economic uncertainty and fluctuating trade volumes, freight rail companies deferred investments in new railcars. However, demand is slowly rebounding as supply chains stabilize.
- **Public Transit Railcar Orders Increasing**: With federal funding from the Infrastructure Investment and Jobs Act (IIJA), transit agencies are investing in new railcars, especially low-emission electric and hybrid models. However, procurement timelines remain lengthy due to supply chain constraints.
- **Rail Maintenance and Refurbishment Demand Growing**: Many operators are extending the lifespan of existing fleets rather than ordering new railcars, boosting demand for replacement parts and refurbishment services.



NATIONAL TRENDS

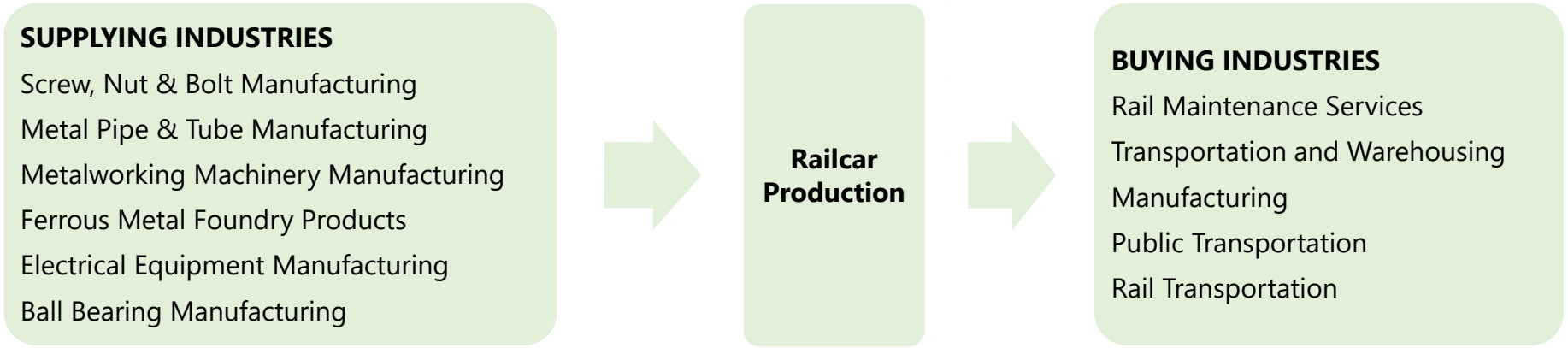
Value Chain and Supply Chain Challenges in the Railcar Production Cluster

Tariff Uncertainty and Trade Policy Risks

Ongoing tariff discussions and trade tensions pose significant risks to the railcar industry's supply chain. Potential new tariffs on imported steel, aluminum, and industrial components could further increase material costs, impacting both freight and passenger railcar manufacturing. The current U.S.-China and U.S.-Europe trade negotiations could also affect the availability and pricing of key railcar parts, particularly electronics, braking systems, and specialized steel components. If tariffs are implemented or expanded, railcar manufacturers may be forced to:

- Seek alternative suppliers, increasing costs and production lead times.
- Pass higher costs to buyers, making U.S.-produced railcars less competitive.
- Invest in domestic supply chains, which could take years to scale up.

The railcar production cluster faces a dynamic supply chain landscape, with ongoing risks related to foreign sourcing, pandemic-induced shifts, and trade policy uncertainties. While domestic investments and infrastructure funding are helping stabilize demand, challenges in material sourcing, component availability, and tariff threats will continue to shape the industry's competitiveness. Addressing these issues through supply chain diversification, domestic production incentives, and workforce development will be key to ensuring long-term industry stability and growth.



STEUBEN AND CHEMUNG COUNTY TRENDS

Industry Purchases

The railcar production sector in Steuben and Chemung counties relies on a mix of local and imported inputs, with significant variation across industries. Key metal manufacturing sectors (NAICS 331), such as Iron and Steel Mills (34.8% in-region) and Iron Foundries (19.6% in-region), show a high dependence on imports, suggesting opportunities to expand local production capacity to strengthen supply chain resilience. Similarly, the fabricated metal sector (NAICS 332) exhibits gaps in regional sourcing, with Fabricated Structural Metal Manufacturing (21.1% in-region) and Plate Work Manufacturing (79.3% in-region) showing mixed levels of local integration. However, industries such as Bolt, Nut, Screw, Rivet, and Washer Manufacturing and Other Fabricated Wire Product Manufacturing are entirely dependent on external suppliers, presenting a clear opportunity for targeted investment in regional production capabilities.

Top 20 Industries the Railroad Production Sector Purchases From in Steuben and Chemung Counties, 2024

NAICS	Purchases from	In-region Purchases	% In-region Purchases	Total Purchases
221122	Electric Power Distribution	$5,409,049	100.0%	$5,409,440
331110	Iron and Steel Mills and Ferroalloy Manufacturing	$10,161,523	34.8%	$29,186,268
331511	Iron Foundries	$916,648	19.6%	$4,672,070
332312	Fabricated Structural Metal Manufacturing	$1,773,526	21.1%	$8,400,659
332313	Plate Work Manufacturing	$3,151,426	79.3%	$3,972,278
332613	Spring Manufacturing	$846,787	15.4%	$5,487,495
332618	Other Fabricated Wire Product Manufacturing	$0	0.0%	$8,302,866
332710	Machine Shops	$201,979	3.1%	$6,497,868
332721	Precision Turned Product Manufacturing	$11,145	0.1%	$10,169,205
332722	Bolt, Nut, Screw, Rivet, and Washer Manufacturing	$0	0.0%	$10,141,174
335313	Switchgear and Switchboard Apparatus Manufacturing	$0	0.0%	$4,551,348
423610	Electrical Apparatus and Equipment, Wiring Supplies, and Related Equipment Merchant Wholesalers	$601,646	14.6%	$4,129,380
423830	Industrial Machinery and Equipment Merchant Wholesalers	$1,015,626	11.7%	$8,697,475
423990	Other Miscellaneous Durable Goods Merchant Wholesalers	$173,094	4.3%	$3,986,200
482110	Rail transportation	$5,680,458	73.6%	$7,717,704
484121	General Freight Trucking, Long-Distance, Truckload	$3,254,326	82.4%	$3,947,845
523150	Investment Banking and Securities Intermediation	$1,970,049	29.7%	$6,635,925
523940	Portfolio Management and Investment Advice	$4,615,102	94.5%	$4,882,387
533110	Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)	$5,094,766	66.0%	$7,724,503
551114	Corporate, Subsidiary, and Regional Managing Offices	$8,401,996	87.6%	$9,592,638

Source: Lightcast

STEUBEN AND CHEMUNG COUNTY TRENDS

Industry Sales

The railcar production sector in Steuben and Chemung counties primarily serves major transit agencies and rail operators across the U.S., manufacturing passenger railcars, streetcars, and other rolling stock for urban and regional transportation systems. Recent Alstom and CAF USA contracts highlight the industry's broad national reach.

Key customers in recent years include:

- NJ Transit – Orders for multilevel and single-level passenger railcars to support fleet modernization.
- Connecticut Department of Transportation (CTDOT) – Contract for 60 single-level coach cars to enhance statewide rail service.
- Southeastern Pennsylvania Transportation Authority (SEPTA) – Agreement for 130 streetcars to expand Philadelphia's transit network.
- Washington Metropolitan Area Transit Authority (WMATA) – Procurement of new railcars to replace aging fleets.
- Pittsburgh Regional Transit – Potential future order for new passenger railcars under consideration.
- Kansas City Streetcar Authority – Ongoing deliveries of modern streetcars to expand the city's streetcar system.
- Amtrak – Long-term investments in high-speed trainsets and infrastructure improvements.

The region's railcar manufacturers are deeply integrated into the national transit supply chain, securing contracts that span commuter, intercity, and urban rail systems. This underscores the sector's dependence on sustained infrastructure investments, transit agency procurement cycles, and federal funding programs such as the Infrastructure Investment and Jobs Act (IIJA).

While the local supply chain supports production, final sales overwhelmingly occur outside the region, reinforcing Steuben and Chemung counties' global competitiveness as a rail manufacturing hub.

Education and Workforce Programs Inventory

INTRODUCTION

Introduction

The railcar production sector requires various credentials and educational backgrounds to sustain its diverse occupational needs. This sector encompasses a spectrum of roles that vary in complexity, from entry-level positions requiring no formal education or a high school diploma to highly specialized jobs necessitating advanced degrees in engineering, project management, and other technical disciplines. As the industry evolves to integrate new technologies and meet growing transportation demands, the need for a skilled and adaptable workforce has never been more critical.

At the foundational level, roles such as welders, machinists, and railcar repairers demand specific technical proficiencies typically acquired through vocational training programs or community college courses. These positions form the sector's backbone, ensuring railcars' production, maintenance, and repair are carried out efficiently and precisely. Beyond these roles, mid- and upper-level positions, such as industrial engineers, project management specialists, and supervisors, require bachelor's degrees or higher. These roles involve overseeing complex systems, optimizing production processes, and ensuring quality standards are met across the value chain.

To meet the workforce needs of this dynamic industry, the region is supported by a robust and collaborative network of educational institutions and workforce development programs. Community colleges, universities, and technical training centers provide targeted programs and certifications to prepare individuals for immediate employment or career advancement within the railcar production sector. Workforce development programs further enhance this support by offering hands-on training, apprenticeships, and professional development opportunities tailored to the industry's evolving requirements.

The collaboration between education providers, workforce programs, and industry partners ensures that workers have the knowledge and skills to thrive in a competitive labor market. Moreover, these programs help foster innovation and sustainability within the railcar production sector, making it a vital contributor to the region's economic growth and technological progress. If the region wants to continue to be well-positioned to remain a leader in railcar production, it will need to ensure that the education and training programs align with industry demands

EDUCATIONAL INSTITUTIONS

The region's educational institutions play a vital role in equipping individuals with the skills and credentials necessary for employment in railcar production. These institutions offer programs tailored to meet this sector's technical and professional requirements.

SUNY Corning Community College
Located in Corning, NY, SUNY Corning provides technical and industrial training programs, particularly valuable for positions like welders, machinists, and multiple machine tool operators, which typically require a high school diploma and moderate-term on-the-job training. The institution also supports lifelong learning and skill-building for individuals looking to enter or advance in the railcar production field.

SUNY Erie Community College
Located in Williamsville, NY, SUNY Erie offers certificates and degree programs in CNC Precision Machining and Industrial Technology, preparing individuals for roles such as machinists and metal/plastic workers. The institution also provides essential courses in blueprint reading and welding, which are critical for maintaining quality and precision in railcar production.

Monroe Community College
Located in Rochester, NY, Monroe Community College offers a range of technical and industrial education programs, including training in mechatronics and solid mechanics. These programs make it ideal for careers in railcar repair and equipment maintenance.

Genesee Community College
Located in Batavia, NY, Genesee Community College's BEST Center focuses on technical programs such as mechatronics and FANUC simulator training. These courses are critical for entry-level and specialized positions like machinists, repairers, and assembly workers.

Alfred State College of Technology
Located in Alfred, NY, Alfred State College is a leader in preparing students for railcar production roles. It offers programs in CNC Manufacturing and Machining, Heavy Equipment Maintenance, Welding Technology, and Electrical Technology. Its strong partnership with Alstom ensures alignment with industry requirements, directly benefiting graduates aiming for technical roles in the sector.

WORKFORCE DEVELOPMENT

Workforce development and apprenticeship programs in New York State offer hands-on training and job-specific skills to bridge the gap between education and employment. Strategically located across key manufacturing hubs, these programs ensure a skilled and prepared workforce for the railcar production sector.

CSS Workforce New York (Chemung, Schuyler, Steuben Counties)
Located in Corning, NY, CSS Workforce New York offers comprehensive training and development programs for occupations such as railcar repairers and assemblers, which require moderate-term on-the-job training. The Emerging Workforce Program also provides targeted assistance for young workers entering the industry.

Greater Southern Tier Board of Cooperative Educational Services (GST BOCES)
Located in Elmira, NY, GST BOCES specializes in workforce training for advanced manufacturing, including precision machining. These programs are critical for developing skills required for roles like machinists, metal/plastic workers, and inspectors.

Northland Workforce Training Center
Located in Buffalo, NY, the Northland Workforce Training Center provides career training in advanced manufacturing and energy. Programs in mechatronics, welding, and machine tool technology prepare workers for mid-level roles such as machinists and assemblers, which require moderate- to long-term on-the-job training.

Rochester Technology & Manufacturing Association (RTMA)
Located in Rochester, NY, RTMA offers apprenticeships in advanced manufacturing trades, including machining and welding. These apprenticeships are essential for roles such as multiple machine tool setters and welders, ensuring workers acquire the hands-on experience needed for success in the railcar production sector.

Manufacturers Association of Central New York (MACNY)
Located in Syracuse, NY, MACNY delivers various training and apprenticeship programs, including the Manufacturers Intermediary Apprenticeship Program (MIAP). These initiatives are tailored to upskill individuals for technical positions, such as industrial engineers and project managers, which require extensive preparation and higher education.

Buffalo Niagara Manufacturing Alliance
Located in Buffalo, NY, the Buffalo Niagara Manufacturing Alliance offers professional development programs to upskill workers in industrial safety, lean manufacturing, and precision techniques.

Genesee Valley BOCES
Located in Le Roy, NY, Genesee Valley BOCES offers career and technical programs, including mechatronics and manufacturing fundamentals, designed to meet the requirements of occupations like assemblers and repairers.

Broome-Tioga Workforce NY
Located in Johnson City, NY, Broome-Tioga Workforce NY provides manufacturing training programs that prepare individuals for employment in railcar production.

STEUBEN AND CHEMUNG COUNTY TRENDS

Top Occupations

Twelve of the 20 largest Railcar Production occupations shrunk between 2004 and 2024. Miscellaneous Assemblers and Fabricators are the largest occupation with 169 jobs but have seen a 23.1% decrease from the occupations 2004 employment. The largest growth was seen in Machinists (+44 Jobs, 169.1%), Industrial Engineers (+42 jobs, 135.9%), and Production, Planning, and Expedition Clerks Engineers (+23 jobs, 201.1%). All but two top 20 occupations require a high school diploma or higher for entry. The occupations paying the highest earnings tend to require additional experience and training, highlighting the importance of skill development and training for better-paying jobs within the sector.

Railroad Production Sector Top Occupations in Steuben and Chemung Counties

SOC	Description	Employed in Industry (2024)	% Change (2004 - 2024)	% of Total Jobs in Industry (2024)	Median Hourly Earnings	Typical Entry Level Education	Work Experience Required	Typical On-The-Job Training
51-2098	Miscellaneous Assemblers and Fabricators	169	-23.1%	13.8%	$20.75	High school diploma	None	Moderate-term
51-4121	Welders, Cutters, Solderers, and Brazers	74	-66.5%	6.1%	$22.44	High school diploma	None	Moderate-term
17-2112	Industrial Engineers	74	135.9%	6.0%	$41.71	Bachelor's degree	None	None
51-4041	Machinists	71	169.1%	5.8%	$24.46	High school diploma	None	Long-term
49-3043	Rail Car Repairers	70	-57.5%	5.7%	$30.01	High school diploma	None	Long-term
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	45	-15.2%	3.7%	$24.22	High school diploma	None	Moderate-term
51-1011	First-Line Supervisors of Production and Operating Workers	40	-26.0%	3.3%	$35.05	High school diploma	Under 5 years	None
53-7061	Cleaners of Vehicles and Equipment	36	74.3%	2.9%	$16.76	No formal education	None	Short-term
43-5061	Production, Planning, and Expediting Clerks	35	201.1%	2.8%	$24.48	High school diploma	None	Moderate-term
17-2141	Mechanical Engineers	27	-51.1%	2.2%	$41.99	Bachelor's degree	None	None
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	26	-8.9%	2.1%	$17.71	No formal education	None	Short-term
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	25	-26.3%	2.0%	$23.06	High school diploma	None	Moderate-term
13-1082	Project Management Specialists	21	175.0%	1.7%	$52.90	Bachelor's degree	None	None
49-9041	Industrial Machinery Mechanics	21	106.2%	1.7%	$29.97	High school diploma	None	Long-term
49-9071	Maintenance and Repair Workers, General	20	-28.2%	1.7%	$21.69	High school diploma	None	Moderate-term

Source: Lightcast

STEUBEN AND CHEMUNG COUNTY TRENDS

Skills Breakdown for Railcar Production Occupations

Across all occupations in the Railcar Production cluster in Steuben and Chemung counties, 94% of jobs require at least a high school diploma or equivalent, with 23% requiring a bachelor's degree or higher. 9% of occupations require some level of work experience, and 72% require some level of on-the-job training, with the most prevalent training being moderate-term on-the-job training.

Overall, 55% of the jobs in the cluster require some preparation, 20% require medium preparation, 23% require considerable preparation, and 1% require extensive preparation. As a result of all occupations requiring some level of preparation, workforce training, and education programs will be important to maintaining and supporting the Railcar Production cluster workforce.

Skill Breakdown for the Railcar Production Sector in Steuben and Chemung Counties

	Jobs	% of Total Jobs
Typical Entry Level Education		
No formal educational credential	62	6%
High school diploma or equivalent	657	67%
Some college, no degree	10	1%
Associate's degree	26	3%
Bachelor's degree	225	23%
Postsecondary nondegree award	0	0%
Master's degree	0	0%
Doctoral or professional degree	0	0%
Work Experience Required		
None	892	91%
Less than 5 years	40	4%
5 Years or more	48	5%
Typical On-The-Job Training		
None	271	28%
Short-term on-the-job training	91	9%
Moderate-term on-the-job training	447	46%
Long-term on-the-job training	161	16%
Apprenticeship	11	1%
Internship/residency	0	0%
Total Jobs in Sector	**980**	**100%**

Source: Lightcast

Job Zone Breakdown for the Railcar Production Sector in Steuben and Chemung Counties

	Jobs	% of Total Jobs
One: Little or No Preparation Needed	0	0%
Two: Some Preparation Needed	540	55%
Three: Medium Preparation Needed	199	20%
Four: Considerable Preparation Needed	229	23%
Five: Extensive Preparation Needed	12	1%

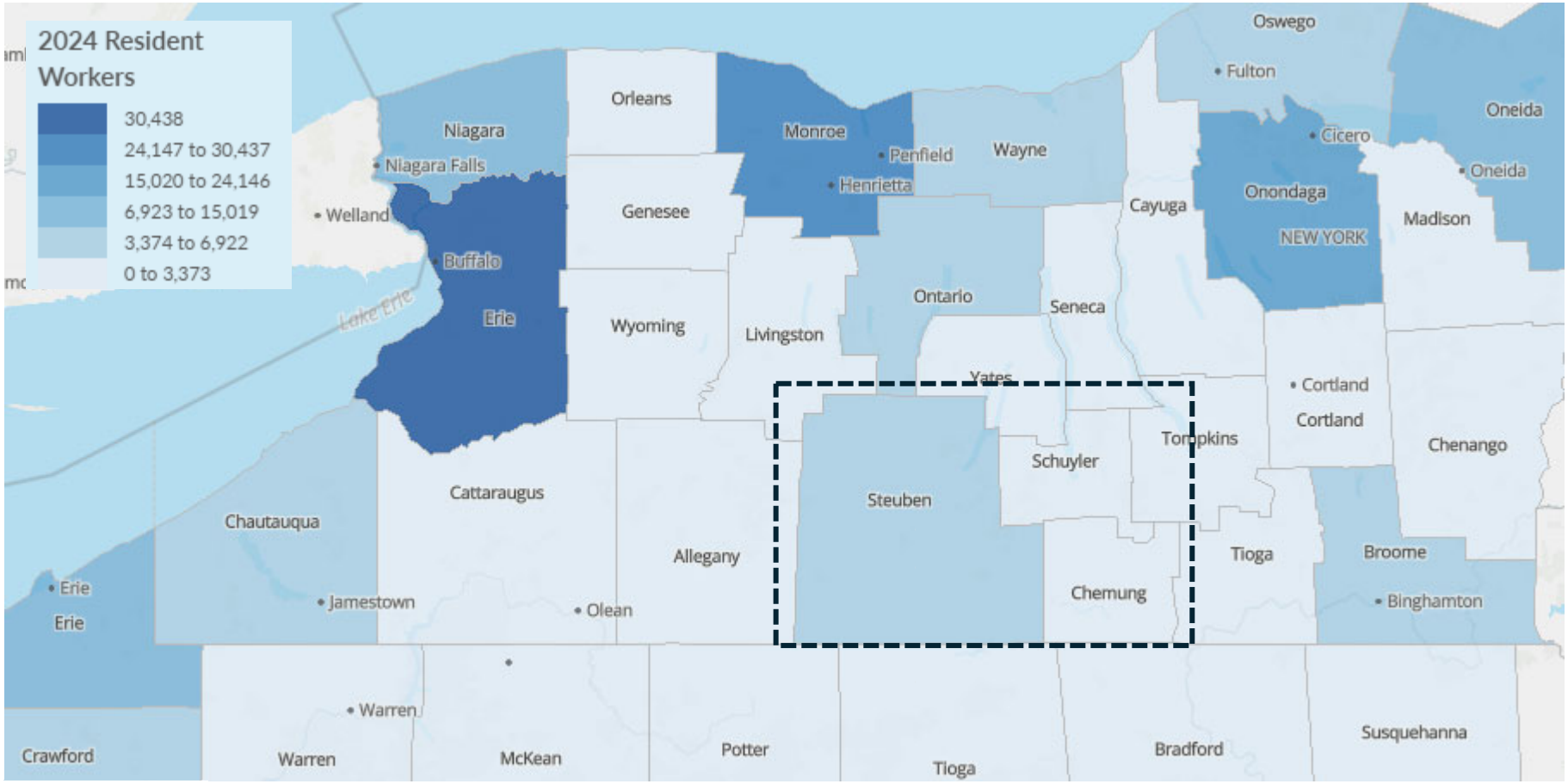
Source: Lightcast, O*Net

A Job Zone is a group of occupations that require similar levels of education, experience, and training.

STEUBEN AND CHEMUNG COUNTY TRENDS

Resident Worker Concentration Regional Comparison

The following map shows the concentration of resident workers in the top occupations within the Railcar Production cluster. This is important to note as it illustrates where the workforce may come from to fill the industry jobs over the next decade. Resident workers in the top 15 Railcar Production occupations total 3,374 in Steuben and 2,612 in Chemung.



Source: Lightcast

Workforce Gap Assessment

STEUBEN AND CHEMUNG COUNTY TRENDS

Workforce Gap Index Methodology

The Workforce Gap Index measures the relative workforce shortages expected for each target occupation in Steuben and Chemung counties between 2024 and 2034. It compares these projected gaps to the overall workforce gap in the regional economy, providing a clearer picture of which occupations may face the most significant labor shortages. The index is based on six key data points, incorporating both supply-side and demand-side factors to assess upcoming workforce opportunities and challenges. While these projections are informed by recent trends, they may underestimate or overestimate demand due to evolving economic conditions and industry shifts. As a result, the index should be used as a guiding tool rather than a definitive forecast, helping stakeholders anticipate workforce needs and develop targeted strategies to address labor gaps.

DEMAND-SIDE FACTORS

Openings per Job Index: This is a measure of average annual job openings in the study period (2023-2033) divided by the number of jobs in 2023. Total job openings account for the gap between job growth and the replacement rate, as identified by Lightcast. This means that job openings are equal to job growth plus job replacement, providing an estimate of unfilled demand in each given occupation.

Job Growth Index: This component measures the job growth rate for the Railcar Production sector employees compared to job growth for all workers in the occupation, regardless of sector. This component accounts for the Railcar Production Sector's unique job growth expectations.

Automation Index: This is an adjusted index value of Lightcast's US Automation Index, which analyzes the potential level of automation that occupations have based on that occupation's job tasks. Occupations with high levels of automation may face fewer workforce challenges in the next decade, as automation may mitigate tight labor conditions.

SUPPLY-SIDE FACTORS

Resident Workers Index: The total number of resident workers, or workers in an occupation that live in Steuben and Chemung counties, compared to the total number of jobs. If there are fewer resident workers than jobs, the two-county region has a worker shortage and needs to import workers from other regions.

Retirement Risk Index: This index accounts for the share of workers in an occupation who are aged 55+. If the occupation has a higher share of workers aged 55+ compared to the overall average for all occupations, the occupation is likely to face tighter workforce needs due to the likelihood of more retirements in the near term.

Replacement Rate Index: The rate of workers leaving an occupation permanently, for example, due to career change, that will need to be replaced by new hires. If the occupation has a higher replacement rate, it will face tighter workforce needs than average.

WORKFORCE GAP INDEX > 100: That occupation's workforce gap is greater than Steuben and Chemung counties' workforce gap across all occupations. Filling positions in that occupation group will be relatively challenging.

WORKFORCE GAP INDEX < 100: That occupation's workforce gap is less than Steuben and Chemung counties' workforce gap across all occupations. Employers will face relatively few challenges to fill those positions.

STEUBEN AND CHEMUNG COUNTY TRENDS

Summary of Total Workforce Gap Index

Occupations in Railcar Production and Related Sectors face varying degrees of workforce shortages. Those scoring above 100 on the Workforce Gap Index will be particularly challenging to fill over the next decade, including roles in supervision, engineering, machining, maintenance, and production planning.

A second tier of "cusp occupations" (99-100), such as assemblers, inspectors, rail car repairers, and machine tool operators, are at risk of more severe shortages if demand increases or supply declines.

Finally, occupations scoring below 99, including project management, industrial mechanics, welding, and material movers, currently face lower workforce pressures but could still experience tightening labor availability depending on labor market shifts.

Occupations by Workforce Gap Index Value

SOC Code	Description	Total Workforce Gap Index
51-1011	First-Line Supervisors of Production and Operating	103
17-2112	Industrial Engineers	102
43-5061	Production, Planning, and Expediting Clerks	102
17-2141	Mechanical Engineers	101
49-9071	Maintenance and Repair Workers, General	101
51-4041	Machinists	101
51-2098	Miscellaneous Assemblers and Fabricators	100
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	99
49-3043	Rail Car Repairers	99
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	99
13-1082	Project Management Specialists	98
49-9041	Industrial Machinery Mechanics	97
51-4121	Welders, Cutters, Solderers, and Brazers	97
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	95
53-7061	Cleaners of Vehicles and Equipment	93

Source: Lightcast

STEUBEN AND CHEMUNG COUNTY TRENDS

Workforce Gap Index by Components

For occupations with a high Workforce Gap Index, labor shortages in railcar production stem from both demand and supply-side factors. On the demand side, low automation rates drive sustained employer needs, particularly for precision-based roles like welders, machinists, and railcar repairers that cannot be easily automated. On the supply side, workforce constraints are driven by an aging labor force, high retirement risk, and a lack of local workers. Many high-gap occupations, including industrial machinery mechanics and machine tool operators, have a large share of workers nearing retirement, creating a labor shortfall. Additionally, roles like welders and industrial engineers face a limited local talent pool, making recruitment more difficult.

Addressing these shortages will require expanding workforce development programs for low-automation jobs, increasing recruitment in manufacturing, and strengthening training pipelines through apprenticeships and vocational programs. Reskilling initiatives and employer-sponsored training can help ensure a steady supply of skilled workers to meet future industry needs..

Summary of Workforce Gap Index Values by Component, Steuben and Chemung Counties Railcar Production Occupations, 2024-2034

		Demand Components			*Supply Components*			
SOC Code	**Description**	**Openings per Job Index**	**Job Growth Index**	**Automation Index**	**Resident Worker Index**	**Retirement Risk Index**	**Replacement Rate Index**	**Total Workforce Gap Index**
51-1011	First-Line Supervisors of Production and Operating Workers	98	101	111	104	103	98	103
17-2112	Industrial Engineers	95	98	108	113	104	94	102
43-5061	Production, Planning, and Expediting Clerks	99	107	106	97	103	99	102
17-2141	Mechanical Engineers	95	97	117	105	99	94	101
49-9071	Maintenance and Repair Workers, General	98	114	90	96	110	98	101
51-4041	Machinists	98	100	85	114	109	99	101
51-2098	Miscellaneous Assemblers and Fabricators	98	97	87	116	99	100	100
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	100	90	94	106	106	100	99
49-3043	Rail Car Repairers	96	93	86	125	96	97	99
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	98	96	81	118	101	99	99
13-1082	Project Management Specialists	96	90	113	91	101	96	98
49-9041	Industrial Machinery Mechanics	98	81	90	109	108	97	97
51-4121	Welders, Cutters, Solderers, and Brazers	99	96	79	117	93	99	97
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	102	94	83	99	94	102	95
53-7061	Cleaners of Vehicles and Equipment	103	89	76	93	94	102	93

Source: Lightcast

STEUBEN AND CHEMUNG COUNTY TRENDS

Openings Per Job Index

On the Openings per Job are a demand-side component of the Workforce Gap Index. A greater number of openings per job indicates that employers will need more new hires relative to current employment levels between 2024 and 2034.

If an occupation has an Openings per Job Index above 100, then demand for new hires in that occupation (regardless of sector) will outpace demand for new hires across all occupations. This makes hiring more competitive and can create an employer-side workforce gap.

In Steuben and Chemung counties, most occupations with a high Workforce Gap Index do not have high Openings per Job Index values. This suggests that high workforce gaps in key railcar production roles are driven more by supply-side constraints—such as an aging workforce, low automation potential, or limited local labor availability—rather than excessive demand for new hires. However, some occupations, like laborers and material movers, do show heightened demand, signaling potential hiring challenges in those roles.

Workforce Gap Index Component: Openings per Job

SOC Code	Description	2024 Jobs	2024-2034 Avg. Annual Openings	Openings per Job Index	Total Workforce Gap Index
51-1011	First-Line Supervisors of Production and Operating Workers	392	38	98	103
17-2112	Industrial Engineers	383	24	95	102
43-5061	Production, Planning, and Expediting Clerks	286	30	99	102
17-2141	Mechanical Engineers	186	12	95	101
49-9071	Maintenance and Repair Workers, General	933	85	98	101
51-4041	Machinists	326	32	98	101
51-2098	Miscellaneous Assemblers and Fabricators	1,101	110	98	100
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	441	49	100	99
49-3043	Rail Car Repairers	88	6	96	99
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	168	16	98	99
13-1082	Project Management Specialists	331	26	96	98
49-9041	Industrial Machinery Mechanics	298	28	98	97
51-4121	Welders, Cutters, Solderers, and Brazers	298	30	99	97
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	899	124	102	95
53-7061	Cleaners of Vehicles and Equipment	152	22	103	93

Note: These data are not specific to the Railcar Production Sector.

Source: Lightcast, Camoin Associates

STEUBEN AND CHEMUNG COUNTY TRENDS

Job Growth Index

Projected job growth is also a demand-side component of the Workforce Gap Index. Unlike the Openings per Job Index, this component accounts for the Railcar Production Sector's unique job growth expectations.

If an occupation has a Job Growth Index above 100, then job growth for Railcar Production sector employees will outpace job growth for all workers in that occupation, regardless of sector. This reflects an increasing new demand for Railcar Production workers in that occupation. While job growth indicates a strong economic outlook, it can also contribute to employer-side workforce gaps because hiring may become more competitive as demand for workers increases.

In Steuben and Chemung counties, only four occupations with high Workforce Gap Index values are experiencing stronger job growth within the Railcar Production Sector than across all industries. Most key railcar production occupations are seeing slower growth in this sector compared to the broader labor market. This indicates that job growth is not a primary driver of workforce gaps in the region, and other factors—such as automation rates, retirement risks, and the availability of resident workers—are playing a more significant role in shaping labor shortages.

Workforce Gap Index Component: Job Growth

SOC Code	Description	2024-2034 Job Growth	2024-2034 Railcar Production Job Growth	Job Growth Index	Total Workforce Gap Index
51-1011	First-Line Supervisors of Production and Operating Workers	2.3%	3.3%	101	103
17-2112	Industrial Engineers	5.1%	2.7%	98	102
43-5061	Production, Planning, and Expediting Clerks	0.5%	7.2%	107	102
17-2141	Mechanical Engineers	7.2%	4.1%	97	101
49-9071	Maintenance and Repair Workers, General	(0.2%)	13.3%	114	101
51-4041	Machinists	(0.9%)	(0.7%)	100	101
51-2098	Miscellaneous Assemblers and Fabricators	(13.3%)	(16.2%)	97	100
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	(7.4%)	(17.6%)	90	99
49-3043	Rail Car Repairers	(25.8%)	(33.2%)	93	99
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	(7.5%)	(11.4%)	96	99
13-1082	Project Management Specialists	6.2%	(4.3%)	90	98
49-9041	Industrial Machinery Mechanics	12.5%	(6.0%)	81	97
51-4121	Welders, Cutters, Solderers, and Brazers	1.2%	(2.5%)	96	97
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	4.7%	(1.7%)	94	95
53-7061	Cleaners of Vehicles and Equipment	6.2%	(4.6%)	89	93

Source: Lightcast, Camoin Associates

STEUBEN AND CHEMUNG COUNTY TRENDS

Automation Index

The Automation Index is the final demand-side component of the Workforce Gap Index. If an occupation has a high Automation Index (>100), it is more likely to face low levels of automation than other occupations.

Occupations with fewer opportunities for automation (indicated by a high Automation Index value) require human workers to do the job. This pushes up demand for those workers relative to other occupations in the economy that have more opportunities to use automation to do the work. This increased demand can create a workforce gap.

Nearly all occupations with high Workforce Gap Index values also have high Automation Index values, highlighting that low automation rates are a major driver of workforce shortages in key railcar production occupations in Steuben and Chemung counties. These roles often require specialized knowledge, making it more difficult to fill vacancies without targeted workforce development programs.

Additionally, while automation may not currently be a major factor in these occupations, future advancements could disrupt the labor market. As some jobs become automated, displaced workers may need reskilling to transition into roles with lower automation potential, impacting overall labor supply and industry workforce stability.

Workforce Gap Index Component: Automation

SOC Code	Description	Automation Index	Total Workforce Gap Index
51-1011	First-Line Supervisors of Production and Operating Workers	111	103
17-2112	Industrial Engineers	108	102
43-5061	Production, Planning, and Expediting Clerks	106	102
17-2141	Mechanical Engineers	117	101
49-9071	Maintenance and Repair Workers, General	90	101
51-4041	Machinists	85	101
51-2098	Miscellaneous Assemblers and Fabricators	87	100
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	94	99
49-3043	Rail Car Repairers	86	99
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	81	99
13-1082	Project Management Specialists	113	98
49-9041	Industrial Machinery Mechanics	90	97
51-4121	Welders, Cutters, Solderers, and Brazers	79	97
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	83	95
53-7061	Cleaners of Vehicles and Equipment	76	93

Note: These data are not specific to the Railcar Production Sector.

Source: Lightcast, Camoin Associates

STEUBEN AND CHEMUNG COUNTY TRENDS

Resident Worker Index

The Resident Worker Index is a supply-side component of the Workforce Gap Index. If an occupation has a Resident Worker Index above 100, then there are fewer resident workers than there are jobs, indicating that the two-county region has a worker shortage and is importing workers from other states.

Most occupations with a high Workforce Gap Index also have high Resident Worker Index values, reinforcing that worker shortages contribute to hiring challenges. The few exceptions suggest that other factors, such as retirement risks or automation limitations, are also influencing workforce gaps. Addressing these shortages may require targeted workforce development, including training programs and recruitment strategies to expand the local talent pool.

Additionally, the high Workforce Gap Index values in these occupations are driven, in part, by the lack of resident workers. This could indicate a need for more local skill development related to these occupations.

Workforce Gap Index Component: Resident Workers

SOC Code	Description	2024 Jobs	2024 Resident Workers	Resident Worker Index	Total Workforce Gap Index
51-1011	First-Line Supervisors of Production and Operating Workers	392	377	104	103
17-2112	Industrial Engineers	383	339	113	102
43-5061	Production, Planning, and Expediting Clerks	286	295	97	102
17-2141	Mechanical Engineers	186	176	105	101
49-9071	Maintenance and Repair Workers, General	933	971	96	101
51-4041	Machinists	326	286	114	101
51-2098	Miscellaneous Assemblers and Fabricators	1,101	948	116	100
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	441	415	106	99
49-3043	Rail Car Repairers	88	71	125	99
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	168	143	118	99
13-1082	Project Management Specialists	331	364	91	98
49-9041	Industrial Machinery Mechanics	298	274	109	97
51-4121	Welders, Cutters, Solderers, and Brazers	298	255	117	97
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	899	908	99	95
53-7061	Cleaners of Vehicles and Equipment	152	163	93	93

Note: These data are not specific to the Railcar Production Sector.

Source: Lightcast, Camoin Associates

STEUBEN AND CHEMUNG COUNTY TRENDS

Retirement Risk Index

The Retirement Risk Index is a supply-side component of the Workforce Gap Index. It accounts for the share of workers in an occupation who are aged 55+. If an occupation has a high Retirement Risk Index (>100), then that occupation has a higher share of workers aged 55+ than the average across all occupations in the two-county region.

Retirement risk is a strong indicator of future workforce constraints. Occupations with high Workforce Gap Index values (>100) also tend to have high Retirement Risk Index values. These occupations are likely to experience a future decline in worker supply.

Occupations with high Workforce Gap Index values also tend to have high Retirement Risk Index values, indicating that retirements will contribute significantly to workforce shortages.

As retirement-driven vacancies increase, industry stakeholders may need to prioritize knowledge transfer, targeted recruitment, and workforce development programs to mitigate potential gaps in skilled labor.

Workforce Gap Index Component: Retirement Risk

SOC Code	Description	2024 Share of Workers Aged 55+	Retirement Risk Index	Total Workforce Gap Index
51-1011	First-Line Supervisors of Production and Operating Workers	29%	103	103
17-2112	Industrial Engineers	30%	104	102
43-5061	Production, Planning, and Expediting Clerks	29%	103	102
17-2141	Mechanical Engineers	25%	99	101
49-9071	Maintenance and Repair Workers, General	36%	110	101
51-4041	Machinists	35%	109	101
51-2098	Miscellaneous Assemblers and Fabricators	25%	99	100
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	32%	106	99
49-3043	Rail Car Repairers	22%	96	99
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	27%	101	99
13-1082	Project Management Specialists	27%	101	98
49-9041	Industrial Machinery Mechanics	34%	108	97
51-4121	Welders, Cutters, Solderers, and Brazers	19%	93	97
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	20%	94	95
53-7061	Cleaners of Vehicles and Equipment	20%	94	93

Note: These data are not specific to the Railcar Production Sector.

Source: Lightcast, Camoin Associates

STEUBEN AND CHEMUNG COUNTY TRENDS

Replacement Risk Index

The Replacement Rate Index is a supply-side component of the Workforce Gap Index. The replacement rate is the rate of workers leaving an occupation permanently; for example, due to a career change, they will need to be replaced by new hires.

If an occupation has a Replacement Rate Index above 100, its annual replacement rate is greater than the average across all occupations in the two-county region. These occupations will face tighter workforce needs than average.

In Steuben and Chemung Counites, occupations with a high Workforce Gap Index tend to have Replacement Rate Index values below 100, with Laborers and Freight, Stock, and Material Movers, Hand and Cleaners of Vehicles and Equipment being the lone exception. This indicates that replacement rate is not a large driver of high Workforce Gap Index values in the two-county region's key Railcar Production occupations.

Workforce Gap Index Component: Replacement Risk

SOC Code	Description	Annual Replacement Rate	Replacement Rate Index	Total Workforce Gap Index
51-1011	First-Line Supervisors of Production and	9%	98	103
17-2112	Industrial Engineers	6%	94	102
43-5061	Production, Planning, and Expediting Clerks	10%	99	102
17-2141	Mechanical Engineers	5%	94	101
49-9071	Maintenance and Repair Workers, General	9%	98	101
51-4041	Machinists	10%	99	101
51-2098	Miscellaneous Assemblers and Fabricators	11%	100	100
51-9061	Inspectors, Testers, Sorters, Samplers, and	11%	100	99
49-3043	Rail Car Repairers	8%	97	99
51-4081	Multiple Machine Tool Setters, Operators, and	10%	99	99
13-1082	Project Management Specialists	7%	96	98
49-9041	Industrial Machinery Mechanics	8%	97	97
51-4121	Welders, Cutters, Solderers, and Brazers	10%	99	97
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	13%	102	95
53-7061	Cleaners of Vehicles and Equipment	13%	102	93

Note: These data are not specific to the Railcar Production Sector.

Source: Lightcast, Camoin Associates

STEUBEN AND CHEMUNG COUNTY TRENDS

WORKFORCE GAP INDEX AND OCCUPATION CHARACTERISTICS

The figure on the next slides displays key workforce data covered in this report, including supply and demand factors affecting future Workforce Gap Indexes, how specialized the occupation is in the Railcar Production Sector, the skills necessary to complete the job, and the overall number of job openings the occupation is projected to have in the next ten years. Connecting the Workforce Gap Index to other occupation characteristics, such as skill levels, helps better evaluate the opportunities and challenges for key Railcar Production Sector occupations. Key insights from the visualization on the next page include:

Occupations with high Workforce Gap Index values are not necessarily specialized in the Railcar Production Sector, making hiring for these workers competitive.

Workers in an occupation can be employed across various sectors. On average, about 10% of workers in occupations with high Workforce Gap Index values (>100) are employed in the Railcar Production Sector. In contrast, 24% of workers in occupations with low Workforce Gap Index values (<100) are concentrated in Railcar Production. This suggests that employers in Railcar Production face stronger hiring competition from other sectors when recruiting for high-gap occupations, potentially due to better wages, benefits, or more aggressive recruitment efforts in competing industries.

Occupations with high Workforce Gap Index values tend to have greater barriers to entry.

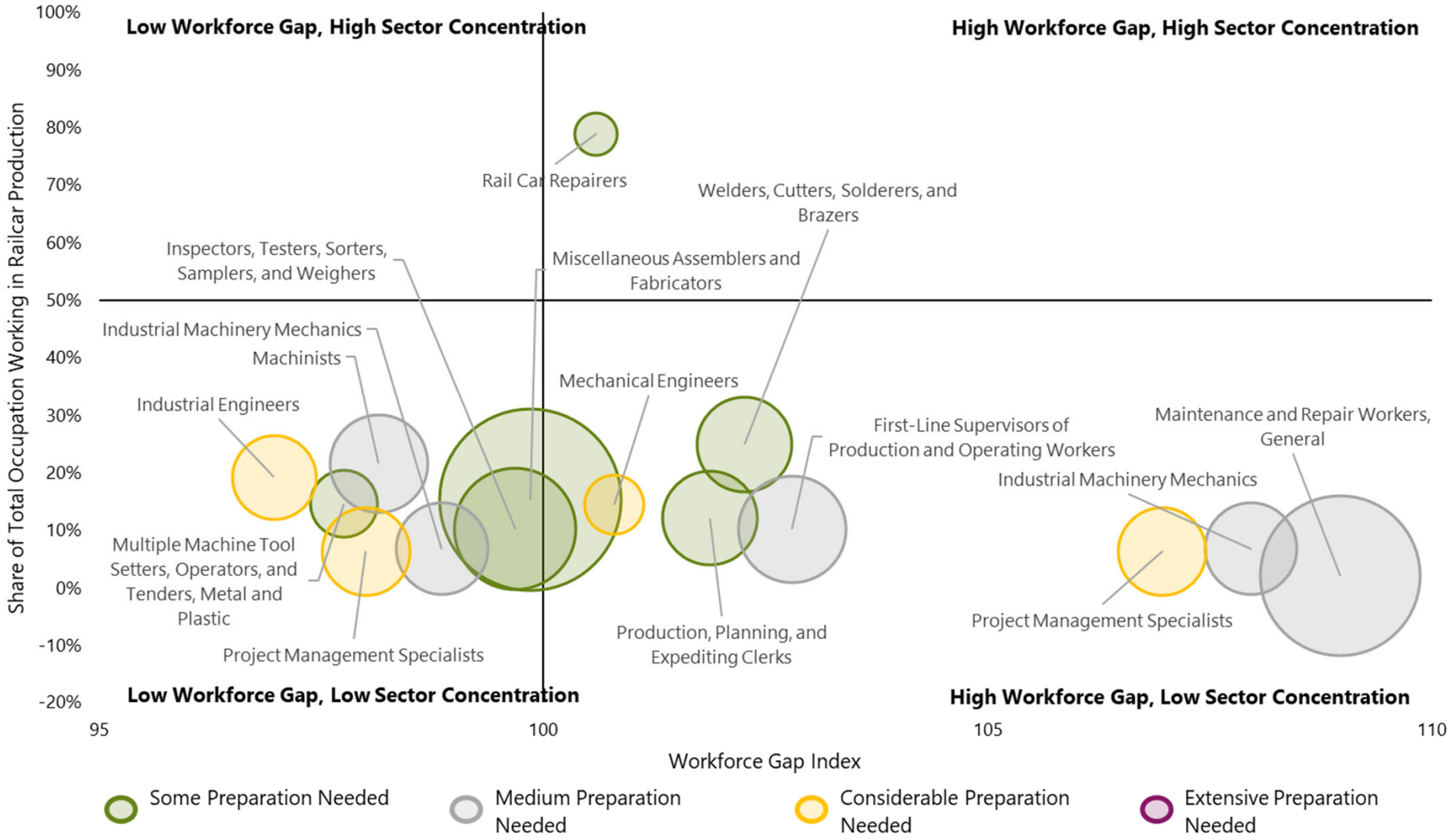
All occupations with a high Workforce Gap Index value require at least a medium level of preparation, typically involving several years of on-the-job training, certifications, or specialized skills. Some require even more extensive preparation, such as Mechanical Engineers and Industrial Engineers, which demand higher education and specialized training.

Occupations that have Workforce Gap Index scores near 99 require more skills. These occupations should also be given attention to ensure a future pipeline of workers.

Project Management Specialists, Welders, Cutters, Solderers, and Brazers, and Industrial Machinery Mechanics have moderate workforce needs (Workforce Gap Index values close to 99), yet they require more advanced preparation to perform the work. A shift in workforce dynamics, such as increased retirements or reduced training pipelines, could push these occupations into high Workforce Gap Index values, as they require specialized skills and are more difficult to train for quickly.

STEUBEN AND CHEMUNG COUNTY TRENDS

Workforce Gap Index and Occupation Characteristics



Bubble Size: Average Annual Job Openings, 2024-2034
Source: Lightcast, O*NET, Camoin Associates

Attachments

RAIL CONTRACTS

Types of Rail Manufacturing Contracts

Over the past ten years, Alstom, CAF USA, and Siemens Mobility have secured numerous railcar production contracts across the United States, with significant activity in commuter rail, high-speed rail, and light rail transit.

- **Commuter and Regional Rail Contracts:** All three manufacturers have been awarded multiple contracts for commuter rail systems, which typically include new rolling stock production, refurbishment, and modernization.
- **High-Speed Rail Expansion:** In 2024, Siemens secured a major high-speed rail contract for Brightline West to supply 10 trainsets for the Las Vegas–Southern California corridor while Alstom continues to support Amtrak's Avelia Liberty fleet.
- **Light Rail and Transit Vehicle Contracts:** Siemens has secured several light rail vehicle (LRV) contracts from Sacramento, St. Louis, Houston, Cleveland, Charlotte, Seattle, and Minneapolis, while CAF USA has provided LRVs for Boston's MBTA and Maryland's Purple Line.

Where Railcar Contracts Are Happening

The Northeast US has been the primary hub for much of the railcar contract activity, with states such as New York, New Jersey, Massachusetts, Connecticut, Pennsylvania, and Maryland awarding large-scale commuter and regional rail contracts. Amtrak's Northeast Corridor fleet upgrades (Alstom and Siemens) represent some of the largest contract values.

The West Coast and Midwest have also seen steady contract activity, particularly in Sacramento, California and Chicago, Illinois, where multiple transit agencies have placed orders for new rolling stock.

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Contract Trends Over Time and Future Contract Potential

Contract activity has steadily increased in recent years, particularly since the passage of the Bipartisan Infrastructure Law in 2021. Major awards include Amtrak's $3.4 billion contract with Siemens for intercity railcars and Metra's $1.8 billion order with Alstom for bilevel cars.

Contract activity is expected to remain strong, driven by increased federal funding, Buy America requirements, growth of high-speed rail initiatives, and increased public transportation usage.

In addition, all three companies are securing more long-term maintenance and support contracts as transit agencies upgrade and maintain their fleets. For example, Siemens has secured Technical Support and Spares Supply Agreements (TSSSAs) with Amtrak and North County Transit District (San Diego), while Alstom was awarded a five-year contract in 2023 for operations and maintenance of Maryland's MARC commuter rail system.

RAIL CONTRACTS

Rail Manufacturing in New York's Southern Tier Region

Alstom's Hornell facility manufactures Amtrak's Avelia Liberty fleet, Metra's bilevel cars, and NJ Transit's railcars.

- Investment and Expansion: Alstom has invested over $87 million in its Hornell, NY, manufacturing site to support the production of America's first high-speed rail trains and to comply with Buy America requirements.
- Federal Support: In 2020, the Hornell Industrial Development Agency received a $3.4 million federal grant to expand Alstom's facility at Shawmut Industrial park, adding 250 new jobs.
- Technological Advancements: In partnership with local research groups, Alstom secured $16 million to develop and test hybrid, battery-powered trains at its Hornell facility.

CAF USA's Elmira facility has produced Boston's MBTA Green Line LRVs and Maryland's Purple Line railcars.

- Investment and Expansion: In 2014, CAF USA expanded its manufacturing footprint in Elmira to support ongoing and future contracts. In 2018, the company hired around 100 new employees to help build rail cars for the Boston Green Line project and prepare for other contracts.

Siemens Mobility's new Horseheads facility (announced in 2024) will manufacture high-speed trains for Brightline West.

- New Facility Announcement: Siemens Mobility is investing $60 million to build a 300,000-square-foot high-speed rail manufacturing plant in Horseheads, NY. This facility, set to begin production in 2026, is expected to create around 300 jobs and will be the first of its kind in North America.

CONTRACTS - ALSTOM

Alstom - Current Contracts Filled in Steuben and Chemung counties					
Contract Year	**Amount of Contract**	**Estimated Delivery Date**	**Contract Client/Name**	**Contract Details**	**Link to News Article**
2024	not to exceed $170 million	2028	New Jersey Transit (NJ TRANSIT)	July 30, 2024 - The New Jersey Transit (NJ Transit) Board of Directors has approved the purchase of additional 36 Multilevel III rail cars that will offer increased seating capacity, mechanical reliability and improved customer amenities. This purchase is a part of NJ Transit's plan to phase out the oldest single level rail cars from the fleet.	https://tam-america.com/article/nj-transit-orders-additional-multilevel-iii-cars-from-alstom
2023	$315 million	2026	Connecticut Department of Transportation (CTDOT)	August 9, 2023 – Alstom and the Connecticut Department of Transportation (CTDOT) confirmed an order for 60 single-level rail coach cars with options to build an additional 313 cars, as part of CTDOT's coach renewal program for its statewide rail system.	https://www.alstom.com/press-releases-news/2023/8/alstom-supply-60-single-level-coach-cars-connecticut-department-transportation-its-statewide-rail-system
2023	$718.2 million	2027-2030	Southeastern Pennsylvania Transportation Authority (SEPTA)	June 8, 2023 - Alstom will produce Citadis light rail vehicles for SEPTA, tailored for the streets of Philadelphia. The Hornell workforce will build 130 fully customized low-floor electric streetcars, with an option to build 30 more.	https://www.eveningtribune.com/story/business/2023/06/08/hornell-alstom-will-build-130-streetcars-for-septa/70301296007/
2022	not to exceed $170 million	mid to late 2027	New Jersey Transit (NJ TRANSIT)	Feb 9, 2022 - The NJ TRANSIT Board of Directors today approved the purchase of 25 additional Multilevel III rail cars. The purchase exercises options on the original December 2018 contract with Alstom for the purchase of 113 new Multilevel III rail cars.	https://www.njtransit.com/press-releases/nj-transit-board-approves-purchase-additional-multilevel-rail-cars
2021	not to exceed $84.6 million	unknown	Virginia Railway Express (VRE)	May 17, 2021 - Virgina Railway Express (VRE) is purchasing 21 bilevel Coradia trailer cars from Alstom, with an option for an additional 44 trailers and 4 cab control cars. (This is part of a larger contract awarded to Alstom in January 2021 for $1.8 billion)	https://www.tam-america.com/article/vre-to-execute-a-purchase-contract-with-alstom-for-coradia-passenger-railcars

CONTRACTS - ALSTOM

Alstom - Current Contracts Filled in Steuben and Chemung counties					
Contract Year	**Amount of Contract**	**Estimated Delivery Date**	**Contract Client/Name**	**Contract Details**	**Link to News Article**
2021	$1.8 billion	2026-2029	Chicago's Metra Commuter Rail System	Jan 13, 2021 - Alstom was awarded a contract by Metra to replace its aging fleet of rail cars. The base order calls for Alstom to manufacture 200 cars in Hornell, with options for up to 300 more. The contract includes the car order, six-year warranty, engineering and design costs, spare parts and specialty tools training.	https://www.eveningtribune.com/story/news/local/2021/01/13/alstom-lands-metra-contract-250-jobs-hornell/4145752001/ https://www.mytwintiers.com/news-cat/corning-bureau/alstom-receives-3-4-million-grant-to-expand-hornell-facility/
2018	$670 million	2022-2023	New Jersey Transit (NJ TRANSIT)	Dec 13, 2018 - New Jersey Transit will order 113 new rail cars from Barbardier to replace the transit agency's 40-year-old Arrow III Electric Multiple Units (EMUs). The base order is for 58 multilevel power cars, 33 cab cars, 16 trailer cars and 6 trailer cars with restrooms. There are also options for an additional 636 cars to replace the remaining single-level cars and accommodate future growth.	https://www.masstransitmag.com/rail/vehicles/article/21036774/nj-transit-board-approves-purchase-of-new-rail-cars
2016	$2.5 billion	2025	Amtrak	Aug 30, 2016 - Amtrak has signed contracts with rolling stock manufacturer Alstom for the supply of 28 high-speed Avelia Liberty trains. Both parties also signed a long-term contract under which Alstom will provide Amtrak with long-term technical support and supply spare components and parts for the maintenance of the new trainsets.	https://media.amtrak.com/2016/08/amtrak-invests-2-4-billion-for-next-gen-high-speed-trainsets-infrastructure-upgrades/

Alstom – Potential Future Contracts to be Filled in Steuben and Chemung counties					
Contract Year	**Amount of Contract**	**Estimated Delivery Date**	**Contract Client/Name**	**Contract Details**	**Link to News Article**
TBD	**Unknown**	**TBD**	**Amtrak**	April 5, 2023 - The Bipartisan Infrastructure Investment & Jobs Law could lead to new opportunities for Alstom. The legislation included $16 billion for Amtrak to modernize its national network, including the procurement of new rail cars.	https://www.eveningtribune.com/story/business/2023/04/05/buy-america-new-policies-impact-hornell-alstom-us-rail-industry/70081386007/

CONTRACTS – CAF USA

CAF USA - Current Contracts filled in Steuben and Chemung counties					
Contract Year	**Amount of Contract**	**Estimated Delivery Date**	**Contract Client/Name**	**Contract Details**	**Link to News Article**
2024	$54 million	2027	Omaha Streetcar Authority, the city of Omaha, Neb. and Omaha Metro	July 9, 2024 - CAF's scope includes the initial supply of six trams, along with their corresponding depot parts and special tools. The contract also provides an option to increase the number of trams by up to 29 additional units in the future.	https://www.masstransitmag.com/rail/vehicles/press-release/55122196/caf-usa-inc-caf-to-supply-trams-for-omaha-streetcar-project
2022	$810 million	2026-2031	Massachusetts Bay Transportation Authority (MBTA)	Sept 5, 2022 - CAF USA will deliver 102 light rail vehicles (LRVs) to operate on the Green Line in the City of Boston. The contract involves the manufacturing of the vehicles, two driving simulators, fleet parts, special tools, and test equipment for the vehicles supplied. The new units will be used for the replacement of Type 7 and 8 models that are currently operating on the line.	https://www.railway-technology.com/news/caf-wins-contract-from-mbta
2022	$10.7 million	2024	KC Streetcar Main Street Extension Project	March 31, 2022 - the Kansas City, Missouri, Public Works Department contracted with CAF USA to purchase two additional low-floor light rail vehicles. This was an amendment to an existing contract.	https://www.kshb.com/news/local-news/kcmo-committee-to-consider-purchasing-2-more-streetcars
2021	$38.6 million	2024	KC Streetcar Main Street Extension Project	In July 2021, Kansas City, Missouri contracted with CAF USA to buy six new low-floor light rail vehicles for the KC Streetcar Main Street Extension Project. The contract included the design, manufacturing, testing, delivery, and furnishing of the vehicles.	https://www.kshb.com/news/local-news/kc-streetcar-fleet-may-soon-double-in-size https://www.masstransitmag.com/rail/vehicles/press-release/55241147/kansas-city-streetcar-authority-kc-streetcar-kc-streetcar-receives-the-sixth-of-eight-new-streetcars-to-operate-in-kansas-city
2017	$11.9 million	late 2017	Kansas City Area Transportation Authority (KCATA)	July 3, 2017 - The Kansas City Streetcar Authority received approval from the Kansas City Council to purchase two additional streetcars, Including spare parts and inspection support.	https://kcstreetcar.org/kcsa-purchase-streetcar-vehicles/

CONTRACTS – CAF USA

CAF USA - Current Contracts filled in Steuben and Chemung counties					
Contract Year	**Amount of Contract**	**Estimated Delivery Date**	**Contract Client/Name**	**Contract Details**	**Link to News Article**
2017	$50 million	CANCELED	The Seattle Department of Transportation (SDOT)	Oct 6, 2017 - The Seattle Department of Transportation (SDOT) has awarded a contract to CAF to supply 10 streetcars. The agreement covers the supply of spare parts, special tools and testing equipment. SDOT also has the option to purchase 10 additional streetcars and spare parts.	https://www.progressiverailroading.com/mechanical/article/CAF-to-provide-streetcars-to-Seattle-Kansas-City--52983 https://www.seattlepi.com/local/politics/article/Saying-it-s-Moving-Forward-SDOT-axes-52-14426446.php
2016	$200 million	2024-2025	Maryland Purple Line Project	June 29, 2016 - CAF has secured a deal to manufacture 26 five-module light-rail vehicle (LRV) units for the Purple Line Project in Maryland, US. The deal includes capital spares, special tools, and test equipment.	https://www.railway-technology.com/news/newscaf-wins-200m-deal-provide-26-lrvs-purple-line-project-us-4937676/?cf-view

CAF USA - Potential Future Contracts to be Filled in Steuben and Chemung counties					
Contract Year	**Amount of Contract**	**Estimated Delivery Date**	**Contract Client/Name**	**Contract Details**	**Link to News Article**
TBD	**Unknown**	**TBD**	**Pittsburgh Regional Transit**	July 26, 2024 - Pittsburgh Regional Transit plans to replace its entire 81-car light rail fleet, which consists of 53 cars built by Siemens AG in the 1980s and the remaining cars manufactured by CAF. The project is expected to take around 12 years to complete and cost around $750 million.	https://www.progressiverailroading.com/passenger_rail/news/Pittsburgh-Regional-Transit-considers-new-rail-car-purchase--72496

CONTRACTS - SIEMENS

Siemens Mobility - Current Contacts - Horseheads, NY Facility (under construction)					
Contract Year	**Amount of Contract**	**Estimated Delivery Date**	**Contract Client/Name**	**Contract Details**	**Link to News Article**
2024	Not publicly disclosed	By 2028	Brightline West High-Speed Rail	In May 2024, Siemens Mobility was selected as the preferred bidder to supply 10 seven-car American Pioneer 220 (AP220) high-speed electric multiple units (EMUs) for Brightline West, connecting Las Vegas to Southern California. Production is set to begin in 2026 at a new facility in Horseheads, New York.	https://www.mobility.siemens.com/us/en/company/newsroom/press-releases/brightline-west-selects-siemens-to-manufacture-high-speed-rail-train-sets.html

Siemens Mobility - Current Contacts - Sacramento, CA Facility					
Contract Year	**Amount of Contract**	**Estimated Delivery Date**	**Contract Client/Name**	**Contract Details**	**Link to News Article**
2024	$29 million	Fall 2024	Sacramento Regional Transit District (SacRT)	March 20, 2024 - The Sacramento Regional Transit District (SacRT) has added nine S700 vehicles to its order from Siemens Mobility. The order builds on the previous order of 36, bringing the total number of trains ordered to 45. Siemens has already delivered 20 S700 low-floor light-rail vehicles to SacRT's light-rail facility in north Sacramento.	https://www.masstransitmag.com/rail/vehicles/press-release/53099592/sacramento-regional-transit-sacrt-sacrt-orders-additional-nine-s700-light-rail-vehicles-from-siemens-mobility
2023	$390 million	2027	St. Louis MetroLink network	Nov 29, 2023 - Siemens Mobility, Inc., has been awarded the contract to provide Metro Transit with up to 55 new light rail vehicles to replace aging MetroLink vehicles.	https://www.metrostlouis.org/news-release/bi-state-development-board-of-commissioners-approves-new-contract-for-new-metrolink-light-rail-vehicles/

CONTRACTS - SIEMENS

Siemens Mobility - Current Contacts - Sacramento, CA Facility					
Contract Year	**Amount of Contract**	**Estimated Delivery Date**	**Contract Client/Name**	**Contract Details**	**Link to News Article**
2023	$23.6 million	late 2024	Sacramento Regional Transit District (SacRT)	Oct 10, 2023 - The Sacramento Regional Transit District is strengthening its fleet with an order of eight additional S700 low floor light-rail vehicles (LRVs) from Siemens Mobility. The order builds upon the initial purchase of 20 Siemens Mobility S700 LRVs in 2020, followed by the additional order of eight more in 2021. Siemens has already delivered 17 new low-floor trains to SacRT's light rail facility.	https://www.masstransitmag.com/rail/vehicles/press-release/53074748/sacramento-regional-transit-sacrt-sacrt-to-add-eight-s700-low-floor-lrvs-from-siemens-mobility-to-its-fleet
2023	$1.5 billion (part of the $7.3 billion contract)	2026	Amtrak	Aug 21, 2023 - Amtrak executed a contract option to order 10 additional Amtrak Airo trainsets. This brings the total contract order to 83 trainsets.	https://www.mobility.siemens.com/us/en/company/newsroom/press-releases/more-amtrak-airo-trainsets-ordered-to-meet-surging-demand.html
2023	$130 million	2027	Greater Cleveland Regional Transit Authority (GCRTA)	July 10, 2023 - Siemens Mobility has been selected by the Greater Cleveland Regional Transit Authority (GCRTA) to provide 24 new S200 Light Rail Vehicles (LRVs) for the Red Line fleet, which includes an option for up to 36 additional vehicles that would replace GCRTA's Blue and Green Line trains.	https://www.mobility.siemens.com/us/en/company/newsroom/press-releases/siemens-mobility-to-replace-greater-cleveland-regional-transit-authoritys-red-line-fleet-with-24-s200-lrvs.html
2023	$45.1 million	unknown	Sacramento Regional Transit District (SacRT)	May 5, 2023 - The Sacramento Regional Transit District (SacRT) was awarded today a grant to support the purchase of 16 new light rail vehicles. SacRT previously purchased 28 new low-floor light rail trains from Siemens Mobility and has a contract to order up to 76.	https://www.sacrt.com/sacrt-awarded-45-million-by-fta-for-new-light-rail-vehicles/
2022	up to $2 billion (including original $850 million contract)	2029	Amtrak	June 23, 2022 - Amtrak has ordered an additional 50 Charge Locomotives from Siemens Mobility. Builds on initial order of 75 locomotives in 2018, with the first having entered service in February 2022	https://press.siemens.com/global/en/pressrelease/amtrak-orders-50-more-charger-locomotives-siemens-mobility

CONTRACTS - SIEMENS

Siemens Mobility - Current Contacts - Sacramento, CA Facility					
Contract Year	**Amount of Contract**	**Estimated Delivery Date**	**Contract Client/Name**	**Contract Details**	**Link to News Article**
2021	$23.6 million	summer 2024	Sacramento Regional Transit District (SacRT)	December 2021 - SacRT and Siemens Mobility executed a contract for the purchase of an additional eight vehicles, on top of the 28 currently being manufactured. SacRT's contract with Siemens includes options for the purchase of up to 76 vehicles.	https://www.sacrt.com/new-low-floor-light-rail-vehicles-in-production-as-federal-infrastructure-law-benefits-mobility-in-the-sacramento-region/
2021	part of the $7.3 billion contract	2024-2026	Amtrak	As part of a national railcar order announced in July 2021, Siemens Mobility is supplying 48 new Venture coaches and 2 additional Charger locomotives for the Amtrak Cascades service in the Pacific Northwest.	https://media.amtrak.com/2021/07/amtrak-to-transform-rail-travel-with-7-3-billion-investment-in-state-of-the-art-equipment/
2021	$3.4 billion (part of a $7.3 billion contract)	2024-2030	Amtrak	July 7, 2021 - Amtrak awarded Siemens Mobility contracts to design, manufacture and provide technical support services and maintenance for 83 trainsets of three power configurations, with options for up to 130 additional trainsets. Accompanying the manufacturing contract will be a long-term service agreement for technical support, spare parts and material supply.	https://www.railwayage.com/passenger/intercity/from-siemens-amtraks-next-gen-trainsets/?RAchannel=home
2020	$100 million	2022-2024	Sacramento Regional Transit District (SacRT)	April 24, 2020—Siemens Mobility has been awarded a contract from Sacramento Regional Transit (SacRT) for 20 new light rail vehicles (LRVs). This is the first new order from Sacramento since the late 1980s, when SacRT ordered 36 U2A vehicles from Siemens Mobility.	https://www.siemens.com/us/en/company/press/press-releases/mobility/sacramento-orders-20-light-rail-vehicles-from-siemens-mobility.html https://www.masstransitmag.com/rail/vehicles/press-release/55137560/sacramento-regional-transit-sacrt-sacrt-rolls-out-new-s700-light-rail-fleet
2019	$80 million	2021	TriMet	July 31, 2019 - Siemens Mobility won a Light Rail Vehicle (LRV) contract from Portland's TriMet to replace TriMet's original 26 Type-1 Bombardier vehicles. The contract includes options for up to 60 additional vehicles, which would accommodate additional vehicles needed for further service expansions such as the MAX Red Line Extension to Fair Complex, and the Southwest Corridor.	https://www.urban-transport-magazine.com/en/siemens-mobility-awarded-order-for-26-light-rail-vehicles-by-portlands-trimet/

CONTRACTS - SIEMENS

Siemens Mobility - Current Contacts - Sacramento, CA Facility					
Contract Year	**Amount of Contract**	**Estimated Delivery Date**	**Contract Client/Name**	**Contract Details**	**Link to News Article**
2019	$100 million	2021	San Diego Metropolitan Transit System (MTS)	July 29, 2019 - San Diego's Metropolitan Transit System (MTS) awarded Siemens Mobility a contract for 25 S700 Low-floor Light Rail Vehicles. The new vehicles will replace Siemens Mobility's high-floor SD100 LRVs, which were manufactured in the 1990s. This purchase and subsequent purchases will make San Diego's fleet fully low-floor and accessible.	https://www.metro-magazine.com/10031148/san-diego-mts-adding-25-new-siemens-light-rail-vehicles
2019	Not disclosed	2022-?	Metropolitan Transit Authority of Harris County	Feb 5, 2019 - Siemens Mobility has been awarded a contract from the Metropolitan Transit Authority of Harris County for 14 light rail vehicles that will operate in Houston, Texas. This marks Houston METRO's third order for Siemens Mobility vehicles, which will bring the total number in Houston to 51.	https://www.masstransitmag.com/rail/vehicles/press-release/21056167/siemens-mobility-division-houston-orders-14-light-rail-vehicles-to-meet-future-ridership-needs
2018	$850 million	summer 2021-2024	Amtrak	Dec 21, 2018 - Siemens Mobility has been awarded a contract to design and manufacture 75 Charger diesel-electric locomotives for Amtrak. These 75 locomotives will replace and supplement Amtrak's aging national network diesel locomotive fleet used on long-distance and state-supported routes. It also includes a multi-year Technical Support Spares Supply Agreement (TSSSA).	https://press.siemens.com/global/en/pressrelease/siemens-mobility-secures-eu744m-order-amtrak-united-states
2017	$371 million	mid-2020-2022	California Department of Transportation and Illinois Department of Transportation	November 14, 2017- Caltrans has announced that Sumitomo along with Siemens will be fulfilling a multi-state contract for new railcars to be used throughout California and the Midwest. The newly finalized contract will supply 137 single-level passenger railcars, 49 to Caltrans and 88 to the Illinois Department of Transportation (IDOT).	https://railway-news.com/caltrans-announces-371-million-multi-state-contract-new-railcars/
2017	$88.5 million	2019-2024	Sound Transit	May 16, 2017 - Sound Transit has placed an order with Siemens for 30 additional S70 type light rail vehicles (LRVs). The trains will be operated on the regional transit system serving Seattle and the central Puget Sound area. With this order, Sound Transit is exercising an option of a contract that was signed in 2016.	https://press.siemens.com/global/en/pressrelease/30-additional-vehicles-seattle-and-central-puget-sound-area https://www.railwayage.com/passenger/light-rail/new-sound-transit-lrvs-enter-service/

CONTRACTS - SIEMENS

Siemens Mobility - Current Contacts - Sacramento, CA Facility					
Contract Year	**Amount of Contract**	**Estimated Delivery Date**	**Contract Client/Name**	**Contract Details**	**Link to News Article**
2016	$40.4 million	2019-2020	Charlotte Area Transit System	Nov 29, 2016 - Charlotte City Council awarded Siemens a contract to supply six S70 light rail vehicles for the Charlotte Area Transit System.	https://charlottenc.legistar.com/ViewReport.ashx?M=R&N=Master&GID=536&ID=2893318&GUID=70E65BB6-C1C9-4F16-A10A-EC82951205CC&Extra=WithText&Title=Legislation+Details+(With+Text) https://press.siemens.com/global/en/pressrelease/siemens-mobility-battery-operated-streetcars-enter-revenue-service-charlotte-north
2016	$118 million	2019	Minneapolis Green Line extension	Oct 27, 2016 - The Minneapolis-area Metropolitan Council yesterday awarded a contract to Siemens to build 27 light-rail vehicles for the Green Line extension. Siemens provided Green Line vehicles five years ago. The contract gives the council the option to purchase another 50 vehicles if needed for the Blue Line extension.	https://www.progressiverailroading.com/passenger_rail/news/Siemens-inks-contract-to-build-light-rail-vehicles-for-Minneapolis-Green-Line-extension--49919
2016	$554 million	2019	Sound Transit	Sept 29, 2016 - Siemens has been awarded a contract to provide 122 new S70 light rail vehicles (LRVs) for Sound Transit. The order, the largest single contract in Sound Transit's history, will nearly triple the system's current fleet from today's 62 cars to 184.	https://press.siemens.com/global/en/pressrelease/122-light-rail-vehicles-seattle-and-central-puget-sound-area

Siemens Mobility - Potential Future Contracts					
Contract Year	**Amount of Contract**	**Estimated Delivery Date**	**Contract Client/Name**	**Contract Details**	**Link to News Article**
TBD	**Unknown**	**TBD**	**TBD**	March 7, 2023 - "For more than 30 years, we've seen the US market continue to grow as we have manufactured over 3,000 locomotives, passenger coaches and Light Rail Vehicles in the USA," said Michael Peter, CEO.	https://press.siemens.com/global/en/pressrelease/siemens-mobility-invest-220-million-north-carolina-rail-manufacturing-facility

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