



CHARGER PASSENGER LOCOMOTIVE

North America's passenger rail experience

SIEMENS

Come aboard and discover the locomotive that forges new paths

Ensuring a successful future for your commuter, regional or intercity traffic.

A better tomorrow

How do we create a sustainable future for our children? By strengthening our economy, protecting our environment, and fostering meaningful connections. Enhanced regional transportation infrastructure opens doors to economic growth. Improved rail service strengthens business networks, expands employment access, and boosts tourism—creating prosperity across entire communities. Environmentally responsible rail travel offers passengers a reliable, efficient alternative for long-distance, commuter, and intercity transit. The solution isn't tomorrow—it's available today.

Siemens Mobility's proven Charger locomotive is engineered for today's evolving market demands and tomorrow's transportation challenges. Built on decades of service excellence, the Charger delivers fast, efficient commutes that reduce traffic congestion while reclaiming time for productivity or relaxation. The Charger locomotive better connects our exciting cities, making travel easy, reliable and affordable. Improved transportation infrastructure drives measurable economic results by increasing tourism and commercial development. Enhanced rail connectivity creates new employment opportunities along rail corridors,

strengthens business competitiveness, and builds regional economic resilience. Every investment in transportation infrastructure is an investment in your community's future success. The Charger locomotive represents proven technology, environmental stewardship, and economic opportunity—ready to serve your region today. Your investment decisions now will determine your business and customer success tomorrow.

Heritage meets innovation

Innovations with genuine future potential require one essential foundation: extensive experience. The Charger locomotive is manufactured in the United States and represents over 140 years of comprehensive global expertise in the development, production, and maintenance of rolling stock. This deep heritage ensures that every Charger delivered combines cutting-edge innovation with time-tested reliability.

The Charger locomotives are designed with your business in mind—individual and customizable yet built on a common platform that delivers consistency and cost-effectiveness. Each locomotive features customer-specific technical solutions tailored to your unique operational needs,

combined with standard energy efficiency features that keep you competitive in an evolving market. This approach positions you as a forward-thinking, sustainable mobility provider while maintaining the flexibility to adapt to changing demands.

When you invest in the Charger, you're investing in more than a locomotive, you're partnering with a manufacturer. Siemens Mobility's Sacramento, California rail manufacturing plant is a leader in providing rolling stock and related services. The plant builds rolling stock from start-to-finish: design, engineering, carshells, wheel-sets, sub-assembly, final assembly and testing. Currently, more than 2,500 people are employed at the 701,295 square-foot facility, on more than 60 acres of land.



Charger B+AC

Redefining zero-emission rail for North America

Siemens Mobility is pioneering sustainable rail transportation with the launch of the Charger B+AC, North America's first battery-electric passenger locomotive. Metro-North Railroad will be the first to operate this innovative zero-emission technology, deploying 13 units to enhance service on the New Haven Line into and out of Penn Station. This groundbreaking achievement demonstrates Siemens Mobility's commitment to decarbonizing rail transit while delivering the reliability and performance that modern transit systems demand.

With dual-mode capability combining AC-electric and battery power, this locomotive operates seamlessly across electrified and non-electrified territories without requiring significant infrastructure investment. The design is Buy America compliant and fully meets U.S. federal standards.

Built on the proven Charger platform, the locomotive features a reinforced monocoque carbody with integrated crash energy management, anti-climber engagement, and push-back couplers for enhanced safety. Its wide-body, single-cab design supports flexible push/pull operation for varying passenger demands and consist lengths.

The advanced propulsion system excels in both battery and electric modes with excellent acceleration. The innovative dual-mode system enables geofencing-based power transitions, dynamically distributing power between traction and battery charging. Multiple charging options—including wayside plug-in (480V) and regenerative braking—maximize operational versatility.

The modular design features four independently removable roof segments and a flat underframe for optimal equipment installation. The battery system accommodates flexible configurations with up to eight containers. Modular design of the container is what allows technological upgrades throughout the locomotive's 30-year service life.

Operating at zero emissions with the market's lowest noise levels, the Charger B+AC significantly benefits communities while encouraging modal shift from road to rail. This transformative solution integrates proven North American components with cutting-edge global innovations, ensuring reliability and sustainability while minimizing operational disruption.

DC-Link Charger

From locomotive to passenger cars: zero-emission connectivity

From the very beginning, the Charger locomotive was conceived not as a single, fixed product, but as a platform —designed to evolve as market needs, technologies, and operational experience develop. Drawing on decades of Siemens Mobility’s locomotive expertise, the Charger was engineered with a modular and future-ready architecture, enabling rail operators to modernize their fleets progressively while protecting long-term investments.

As the Charger entered service across North America, real-world operational experience continuously evolves its further development. New features and enhancements have-been added over time, responding directly to operator feedback, regulatory requirements, and the growing demand for lower emissions and higher efficiency. This evolutionary approach has made the Charger one of the most adaptable and successful passenger locomotives in service today, performing reliably across commuter, regional, and intercity applications.

At its foundation, the Charger already delivers industry-leading environmental performance. It is the lowest-emission diesel-electric passenger locomotive in North America, exceeding nominal Tier 4 emission requirements. Powered by the Cummins QSK95 engine, it is approved for operation with up to a 100% blend of paraffinic fuels, providing an immediate and practical pathway to reduced lifecycle emissions. Biodiesel blends of up to 20% are currently supported, with higher blends under evaluation.

As market expectations continue to move toward zero-emission operations, Siemens Mobility has taken the next logical step in the Charger’s evolution. Building on the proven Charger platform, the new DC-Link Charger introduces a major new capability: seamless integration with external power sources via a DC-Link connection. This newest feature extends the platform once again—transforming the Charger from a low-emission locomotive into a bridge toward fully emission-free passenger rail.

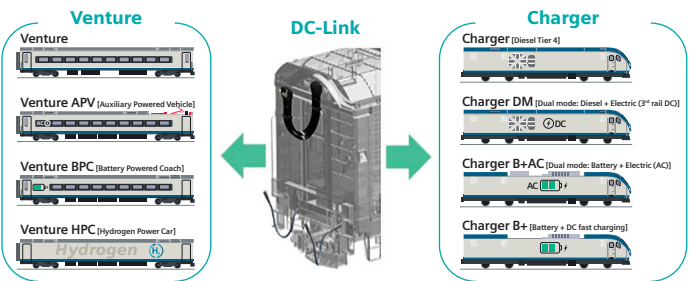
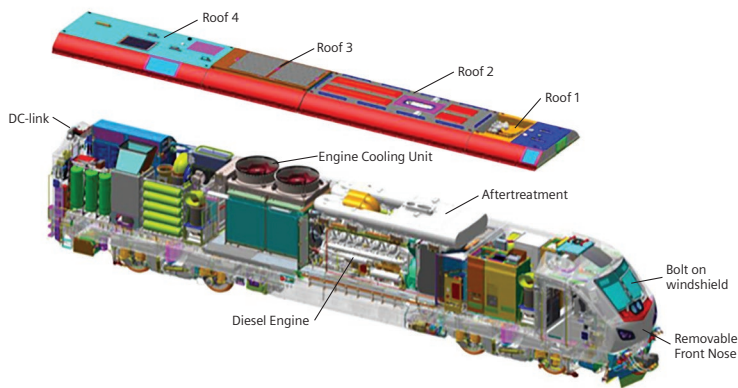
With the DC-Link connection, the Charger can be powered by a trailing Venture Power Car, enabling three distinct modes of operation: conventional diesel-electric operation, zero-emission operation with the diesel engine turned off, and a flexible combination of both. In zero-emission mode,

the Charger produces zero CO₂, zero NO_x, zero hydrocarbons, and zero particulate matter, while significantly reducing noise and vibration—ideal for tunnels, urban centers, and environmentally sensitive areas. For safety, range, and operational resilience, the diesel engine can be restarted whenever needed.

The DC-Link Charger is supported by Siemens Mobility’s growing portfolio of Venture Power Cars, allowing operators to select the solution best suited to their routes and infrastructure:

- Battery Power Car for zero-emission operation in tunnels and city centers
- APV Power Car for 100% electric operation using AC catenary
- Hydrogen Power Car for longer intercity routes requiring extended range

Today, with more than 440 Charger locomotives sold and more than 200 in service across North America, the Charger platform continues to prove the value of an evolutionary design approach. With the DC-Link, the Charger platform continues to evolve, supporting operators at every stage of their sustainability journey.



Performance on the move

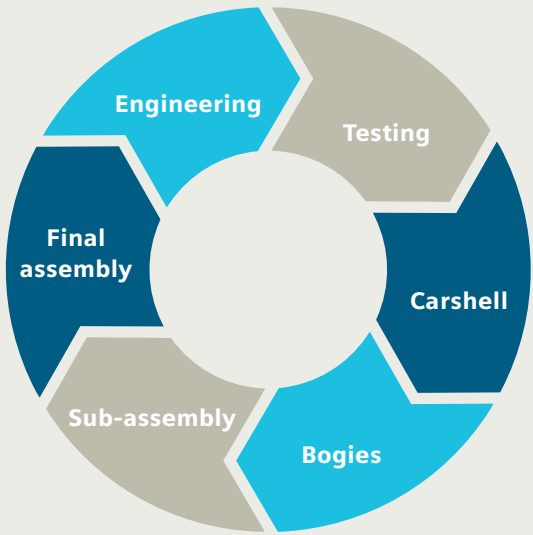
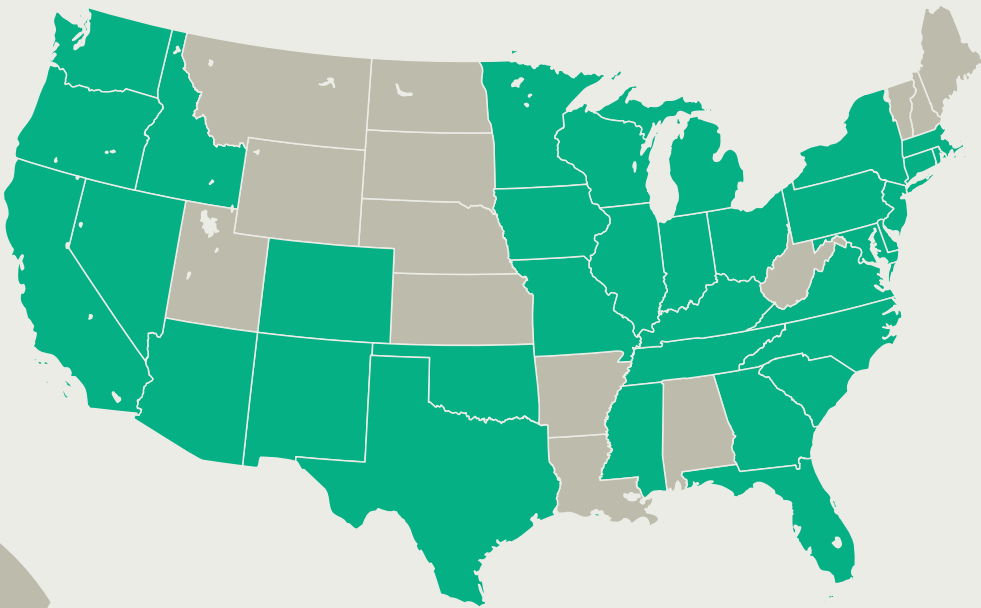
As a rail operator, you need reliable vehicles and an expert service partner. Siemens Mobility develops customized maintenance programs tailored to your specific operational needs, ensuring maximum vehicle availability. From pre-installation through ongoing maintenance, we support all aspects of your service requirements.

Beyond maintenance, Siemens Mobility provides comprehensive training programs to equip your personnel with the skills to operate and maintain locomotives safely and reliably. Our Customer Services team is committed to extending the service life of your fleet and keeping your operations running smoothly—every day.

Manufacturing in North America

Domestic Supply Chain

Siemens Mobility leverages an industry-leading U.S. supply chain with 147 approved sub-suppliers across 34 states, delivering environmentally friendly and reliable rail vehicles. This comprehensive network ensures dependable delivery and operational excellence nationwide.

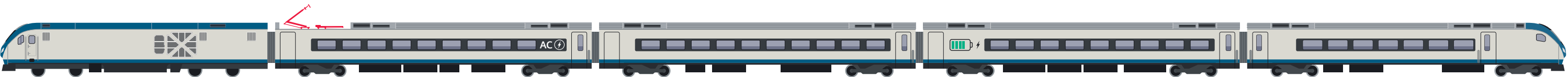


Full-Service Manufacturing Plant

Siemens Mobility's Sacramento facility manufactures urban, commuter, and long-distance rail vehicles from start to finish, optimizing quality and project management. With Charger locomotive orders backlogged through 2030, the plant demonstrates strong market demand and production capacity.

Buy America Compliance

The Charger locomotive meets Buy America requirements, with manufacturing and assembly conducted at our Sacramento facility. This commitment to domestic production supports American jobs and ensures compliance with federal procurement standards for rail transportation projects.



THE CHARGER LOCOMOTIVE FLEET

More than 440 locomotives ordered since 2014 from 16 customers



Amtrak



Brightline



Caltrans



Connecticut DOT



exo



Illinois DOT*



Long Island Rail Road



Maryland Transit Administration



Metro-North Railroad



North County Transit District



Ontario Northland



San Joaquin Regional Rail Commission



Trinity Railway Express



Tri-Rail



VIA Rail



Washington State DOT

*Courtesy of Michigan Dept. of Transportation Photo Unit

General Charger

Maximum speed	125 mph / 201 kph
Rated power	4,200 hp
Operating range	600 to 1,800 rpm
Head end power	600 kW / 1,000 kW
Tractive effort (max.)	65,000 lbs / 290 kN
Fuel tank volume	1,800 – 2,200 gal
DEF tank volume	260 gal / 984 liters
Weight	280,000 lbs / 127006 kg

Dual Mode

Maximum speed	110 mph / 177 kph
Operating speed	Diesel mode @ 110 mph Electric mode @ 80 mph
Rated power	4,200 hp
Operating range	600 to 1,800 rpm
Tractive effort (max.)	65,000 lbs / 290 kN
Fuel tank volume	1,800 – 2,200 gal
DEF tank volume	260 gal / 984 liters
Weight	280,000 lbs / 127006 kg

Battery-Electric (B+AC)

Maximum speed	125 mph / 201 kph
Power Output	Electric mode 4.0 MW Battery mode 3.0 MW*
Battery capacity	2.7 MWh*
Operating range	600 to 1,800 rpm
Tractive effort (max.)	69,700 lbf / 310 kN
Pantograph voltage	25 kV 60 Hz 12 kV 25 Hz 12.5 kV 60 Hz
Weight	280,000 lbs* / 127006 kg

* Other configurations possible



We paid for a performance machine and this is a performance machine. This is absolutely the top end of railroading. I would argue this is probably the finest fleet in the world.

Tom Rutkowski, VP and Chief Mechanical Officer, Brightline

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