

Stuart F. Trout

SFTrout Railroad Mechanical
Design and Consulting

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Experience —

SFTrout Railroad Mechanical Design and Consulting (current, 11 years)

Principal Consultant – Mechanical Engineering Services, Program Management, Component and Facility Design

Recent Activities –

Design and simulation of new, higher performance freight bogies up to 352k GRL with 2 or 4 axles; advanced conceptual design for an electric locomotive conversion for operation in 25KvAC catenary territory, conceptual service design for commuter rail operations using hybrid battery-electric locomotive-hauled push-pull equipment and EMU's.

Contract – Program Manager – Passenger Coach Refurbishment for a premium rail tour operator in western Canada. Approximate project value - \$14 million.

Contract – Vice President-Product Engineering and Advanced Test Lab, Columbus-based steel casting manufacturer. Significant projects included: bogies for new intercity baggage, sleeper, and café passenger coaches; bogies for new regional passenger coaches; bogies for new transit cars; lighter weight side frames and bolsters for freight bogies; and enhanced performance coupler knuckles. Approximate annual sales volume - \$100 million.

Contract – AAR and Congressional Liaison for manufacturer of specialty fastener systems.

Metropolitan Transportation Authority (NYC) – Metro-North Railroad (5+ years)

Assistant Chief Mechanical Officer (Retired)–

Rolling Stock Engineering, Enterprise Asset Management (EAM), Reliability and Maintainability (RAM), Reliability Centered Maintenance (RCM), Equipment Engineering, Quality Assurance, Strategic Maintenance Planning, Technical Support Services, Operations Support Systems.

Successfully implemented fully functional Positive Train Control (PTC) on all lines and branches.

Designed comprehensive automated exterior Rolling Stock Inspection System for EMU fleets, push-pull coaches, and dual mode locomotives.

RailAmerica Company – Jacksonville, Florida (2 years)

Director of Mechanical Operations/Chief Mechanical Officer – Northeast Region

Led the Mechanical operations for 7 railroads in the Northeastern US and Eastern Canada. Operations included all locomotive maintenance and servicing in full compliance with FRA and Transport Canada requirements, as well as in-house and contracted car repair.

Developed and implemented forward-looking shop scheduling and resource planning.

Implemented enhanced equipment health monitoring, and record keeping supporting improved material specifications and higher reliability, and optimized availability.

Led the regional safety initiative to actively execute incident and injury free service at Mechanical operations on all properties in the region throughout tenure.

Grew profitable rail car repair operations.

Implemented strategic locomotive fleet planning.

Exceeded goals and objectives for reduced fuel consumption.

Massachusetts Bay Commuter Railroad Company – Boston, Massachusetts (3 years)

Chief Mechanical Officer

Led the entire mechanical operation for the safe, reliable, and efficient passenger service utilizing a fleet of 410 passenger coaches and 83 locomotives. The division included 550+ team members, 3 major maintenance facilities and 13 remote layover locations.

Maintained the reliability of an aging fleet in full compliance the 49CFR and APTA guidelines, within a challenging environment of aggressive union activism.

Developed a short-term program to address persistent obstacles to productivity and quality.

Created and managed an annual budget of \$75 million/CAPEX of \$13 million. The operations were on budget every year.

Managed real safety incident rate to an index better than industry average.

Massachusetts Bay Commuter Railroad Company – continued

Director Mechanical Quality and Engineering Services

Designed and developed the first Mechanical Quality function at MBCR. Initial focus was on documentation of safe and efficient business and technical procedures to support the philosophy that procedures lead to consistency, quality, efficiency, productivity, improved customer service, and ultimately to customer satisfaction. Safety and reliability centered maintenance of the fleet was documented and monitored using a comprehensive equipment management database system. The database system allowed for detailed analysis of failure modes, cost control, and documentation of regulatory compliance.

TTX Company - Chicago, Illinois (28 years)

Senior Manager – Engineering Field Services and Training

Created first formal work processes for the team.

Created training materials and trained diverse groups of customers, equipment maintenance personnel to operations management, in regard to safety, inspection, maintenance and efficient use of the rail car fleet.

Produced customer publications including equipment guide, parts manuals, video tapes, and newsletters.

Managed a team of engineers responsible for the investigation, evaluation, and formation of tactical and strategic remediation of in-service equipment deficiencies.

Managed the functions of the Engineering Help Desk, designed to assist users and shippers with technical questions related to the diverse TTX fleet. Managed and performed on-site technical training functions across North America.

Managed and coordinated the functions and responsibilities of corporate manufacturing engineering including plant equipment designs and specifications, as well as scheduled plant equipment maintenance.

Increased service reliability using customer centered research, data collection, and statistical analysis to support the above functions.

Senior Manager – Maintenance, Modification, and Manufacturing Engineering

Managed a team of up to 14 engineers, technicians, paraprofessionals, and consultants responsible for the tactical and strategic maintenance, mechanical optimization, and modification of a diverse freight rail car fleet to meet quality requirements and customer expectations using TQM strategies and techniques. The reliably centered maintenance efforts included preventive and scheduled maintenance attention directed to the optimization of system life cycle costs. The 210,000-car fleet includes more than 20 car types of 350 distinct designs and variations. Reliability and costs were managed and controlled through a comprehensive in-house developed system. TTX fleet enjoyed the highest reliability rate for any North American freight car fleet during tenure.

Managed and coordinated the functions and responsibilities of corporate manufacturing engineering including plant equipment designs and specifications, as well as scheduled maintenance.

Initiated and managed enhanced component design upgrades to supplier materials for test and evaluation in TTX Company fleet, including international contacts, coordination, and on-site evaluations. Assisted Quality Assurance forces with periodic auditing of international suppliers as well as selected North American suppliers.

Designed and developed tactical and strategic (preventive/scheduled/life cycle) maintenance specifications and procedures for new, rebuilt, reconditioned, and qualified secondhand components, subassemblies, and assemblies.

Increased service reliability using customer centered research, data collection, and statistical analysis to support the above functions.

Created and maintained specifications for new, rebuilt, reconditioned, and qualified secondhand parts, components, subassemblies, and assemblies.

Performed and managed rail equipment modification conceptualization, design, prototype coordination, and customer sample presentation.

Designed rail car parts, components, tools, plant equipment, fixtures, gages and gage systems.

Manager, Maintenance and Modifications Engineering

Manager, Engineering Field Services and Training

Manager, Corporate Industrial Engineering

Manager, Facilities and Industrial Engineering (Calpro Division, Mira Loma, CA)

Senior Industrial Engineer (Calpro Division)

Junior Industrial Engineer (Calpro Division)

Tool and Fixture Designer/Drafter (Calpro Division)

Education —

MBA Keller Graduate School, Chicago, Illinois (Emphasis – Project Management)

B.S. (Mfg Eng) California State Polytechnic University, Pomona, California
 Riverside City College, Riverside, California (Additional course work.)

A.S. (Eng/Math) Mount San Jacinto College, San Jacinto, California

Diploma Institute of Drafting and Design Engineering, Glendale, Arizona (12-month Training Program for Mechanical Design and Drafting.)

Continuing Education –

Change Management	Effective Verbal/Non-verbal Communication
Managing Difficult Employees (2 courses)	Effective Written Communication
Presentation Skills	Principles of Teamwork
Leading and Managing	Crosby Quality Education System
Effective Styles of Leadership	Access® Database Design
Walking the Talk of Management	Japanese Culture and Business Etiquette
Missions and Goals	Railway Education Bureau – Tank and Specialty
Communicating with Diplomacy and Professionalism	Service Freight Cars
Business Etiquette	AutoDesk Inventor 2016 Fundamentals

Publications —

Advanced 3-Piece Truck Component Restoration Processes, RTD (Rail Transport Division, American Society of Mechanical Engineers) – Volume 17, ASME Book Number I00452, ISBN Number 0-7918-1986-8, 1999.

Partial Electrification Strategies for Diesel Commuter Rail's Climate Challenge, Coauthor with: John G. Allen, Alex Lu, and John A. Aurelius, Proceedings of the ASME 2023 Joint Rail Conference.

Intermittent Electrification with Battery Locomotives and the Post-Diesel Future of North American Freight Railroads, Coauthor with: Alex Lu, John G. Allen, and John A. Aurelius, Transportation Research Board – Transportation Research Record 2023.

Passenger Railcar Procurement Paradigms: Challenges and Opportunities, Proceedings of the ASME 2023 Joint Rail Conference.

Passenger Railcar Production in North America: Rationalization and Standardization, Proceedings of the ASME 2024 Joint Rail Conference.

Patents —

6,904,698, Railcar Brake Cylinder Piston Travel Indicator.

8,186,279, Removable Railcar Bulkhead and Attachment Devices.

Patents Pending:

Freight Railcar Axle Journal Bearing End Cap,
Independent Suspension Freight Railcar Bogie,
Extended Service High-Capacity Freight Rail Bogie.

Affiliations —

International Standards Organization – (Current)

Technical Committee TC-269 (Railway Applications), Sub Committee SC-2 (Rolling Stock),
Working Group 1 (Railway Braking Systems),
Working Group 9 (Rail/Wheel Contact Geometry).

American Passenger Transit Association – (Current)

Passenger Safety Working Committee,
Passenger Rail Equipment Safety Standards (PRESS),
Construction and Structural Working Group
Inspection & Maintenance Working Group
Mechanical Working Group

Next Generation Equipment Committee – (Current)

PRIIA Section 305 Tech Sub Committee

Senior Member, Wheels Axles Bearings and Lubrication Technical

Committee, Association of American Railroads (1996 – 2008, Chair - 2002-2003)

Director - Board of Directors, MTM Association (former member).

Depot Park Advisory Committee for the Town of Bedford, MA (former member).

Past Commander – Charles River Sail and Power Squadron, United States Power Squadrons.

Institute of Industrial Engineers

American Society for Mechanical Engineers

Society of Manufacturing Engineers

References —

Mr. Ronald P. Sellberg, 2044 Audubon Avenue, Unit BT501, Naperville, IL 60563, rpsellberg@aol.com.

Mr. Eric J. Wolf, 575 Windstar Lane, Wilmington, NC 28411, eric.wolf@bryant-wolf.com.

Mr. Charles Planck, Forest Hills, NY, PLANCK50@Gmail.com, 508.233.0103.

Mr. Chad Scholes, Deputy Chief Mechanical Officer, Metro-North Railroad, Scholes@MNR.org.

Mr. Peter Ramos, Manager, Benchmarking, Strategic Plan, & Organizational Resiliency, Metro-North Railroad, PCRamos@MNR.org.

Hobbies —

Golf; Sailing; Woodworking; Domestic and International Travel – 50 United States, 9 Canadian Provinces, 43 countries; Skiing (Nordic and Alpine).