Theodore (Ted) Rosenbaum
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847.644.4554 (USA)

Company - Location - Role			Planning				Simulation			Analysis			Design			PM
Client	**Project**	**Dates**	Concept of Operations	Fleet Management	Maintenance/Storage Facility	Feasibility Study	Operations	Traction Power	Operations Data	Cost Estimation	Platform-Train Interface	Rolling Stock	Systems	Station Access	Project Management	
Deutsche Bahn Engineering & Consulting - Denver, CO - Senior Consultant		**2022-Present**														
UTA FrontRunner	**FrontRunner Forward**	**2022-Present**		✓		✓			✓			✓		✓		✓
Author of a 30-year Fleet Plan, laying out operations, storage, and maintaining fleet availability while the current diesel fleet undergoes mid-life overhauls. Laid out a procurement strategy for the additional fleet necessary to operate more frequent service on a potentially extended corridor.																
Caltrain	**San Francisco Railyards Study**	**2022-Present**		✓		✓										
Brought institutional knowledge to an analysis of the feasibility of developing the parcel where Caltrain's San Francisco terminal currently sits. Future operations, fleet size, and maintenance needs were taken into account as the team worked with the interested developer to determine if or how the terminal footprint could be shrunk--whether to allow for ground-floor development or just air rights development.																
Hatch LTK - Denver, CO - Principal Consultant		**2020-2021**														
CapMetro (Austin, TX)	**O&M Contract Renegotiations**	**2021**				✓						✓				
Supported Capital Metro in its effort to renegotiate the operations and maintenance contract with Herzog before deciding whether or not to re-tender the contract. Aligned the original contract with the current state of the railroad, including updating sections related to grade crossings, fleet availability/overhaul schedules, and the positive train control system.																
[Confidential Client]	**M&A Transaction Due Diligence**	**2020-2021**		✓		✓						✓	✓			
Provided due diligence insights for a company considering the purchase of a major North American private sector transportation provider, focusing on asset condition, fleet and facility maintenance, and operational KPIs. Completed a meta-analysis of the KPIs currently in use, suggesting a more robust but still easily-collected dataset which would produce useful insights into the firm's safety, management, and overall provision of services.																
Caltrain	**Peninsula Corridor Electrification Project**	**2016-2021**		✓		✓						✓		✓	✓	
Main author for the FTA-required Fleet Management Plan. Responsible for data and recommendations related to fleet size, distribution of passenger space, and operational issues related to platform interfaces throughout the corridor. Provided input to plans for transition from diesel to EMU fleet, including storage and maintenance movements during and after EMUs are placed into revenue service.																
LTK Australia - Melbourne, Victoria, Australia - Manager, Railway Operations and Asset Planning		**2019-2020**														
Yarra Trams (Melbourne, AU)	**R30 & R58 Operational Integration**	**2019-2020**			✓			✓	✓					✓		✓
Managed a small team to support the Melbourne tram network's franchise operator as they considered the impact of a redistribution of their fleet. Developed future operating plans to test and simulate, and presented findings related to reliability, crowding, and overall robustness of the traction power network. Devised less-expensive operational fixes for degraded power quality scenarios to deliver adequate service without costly new substations or other electrical infrastructure.																
Auckland Transport (AT) (Auckland, NZ)	**Concept Design Fleet Size**	**2019-2020**		✓	✓	✓								✓		
Conducted a peer review of Auckland's planned operations and the necessary fleet expansions over the next decade. Analysed methodology and assumptions underlying ridership projections as well as maintenance duty cycles and stabling needs. Suggested routing and scheduling improvements to match capacity with demand, and confirmed need for ongoing fleet expansion through 2028 and beyond. Recommended a timeline for future procurements and offered suggested vehicle design details with associated quantified benefits, including dwell time savings resulting from extra doorways, and total capacity increases given alternative seating configurations.																
Victoria Department of Transport (Melbourne, AU)	**Tram Power Supply Upgrade Project**	**2019-2020**					✓	✓						✓		✓
Analysed feasibility of future fleet and route configurations given potential civil infrastructure changes to Melbourne's tram network. Worked with DoT staff to select a single future fleet and route configuration, then compared the resulting impacts on planned traction power upgrades. Generated corresponding operating plans for use in simulations, and synthesized simulation outputs for reports to prove adequacy of planned traction power upgrades given network standards criteria.																

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LTK Engineering Services - San Francisco, CA - Principal Consultant		**2012-2019**														
Santa Clara Valley Transportation Authority (VTA)	**Light Rail Enhancement Project**	**2015-2018**		✓						✓					✓	✓
Primary provider of operations input for the LREP, which builds on previous studies for improving the speed and reliability of the light rail system as it is re-oriented toward a connection with BART. Developed alternatives for a new express service connecting passengers to regional transit providers and synthesized high-level running-time and route planning analyses. Also, conducted operator interviews and ride-along field surveys to determine best locations for targeted improvements.																
LTK Engineering Services - San Francisco, CA - Principal Consultant		**2012-present**														
Amtrak	**Washington Union Station Redevelopment**	**2018**								✓						
Used current and future (2040) operating plans to estimate terminal-area moves at Washington Union Station with diesel and electric locomotives, ultimately building up an emissions savings estimate resulting from the introduction of Tier 4-compliant diesel locomotives as well as additional electric locomotives.																
Los Angeles Metro (LACMTA)	**Fire-Life Safety Signaling Analysis**	**2018**								✓						
Analyzed agency-provided track circuit occupancy data on the Red-Purple subway trunk to track train movements through fire ventilation zones. Built on this analysis to develop different operating patterns to simulate with the goal of minimizing necessary infrastructure changes while maintaining throughput and safety.																
Dallas Area Rapid Transit (DART)	**Cotton Belt Project**	**2017-2018**	✓	✓	✓		✓				✓					
Main author of Operations & Maintenance Plan for new Cotton Belt line, a 27-mile rail line which will use DMUs to provide service between Plano and Dallas-Fort Worth International Airport. Built multiple service schedule scenarios for use in simulations, each of which had to mesh with connecting rail systems. Determined fleet size for resulting service patterns and described required maintenance activities and their frequencies. Also estimated total O&M costs based on staffing requirements and performed a peer comparison based on National Transit Database information.																
Sonoma-Marin Area Rail Transit (SMART)	**SMART Service Planning**	**2013-2017**	✓	✓	✓		✓					✓	✓			
Built and performed operational simulations of the 38-mile initial operating segment using LTK's TrainOps® program. Simulation parameters included SMART's time-to-penalty train control system and randomized dwell times to measure system reliability. Responsible for a revision of the operations and maintenance plan, which includes cost estimates based on industry standard practices for DMU commuter rail lines. Also studied and recommended gap-filler solutions at non-doorways after a young child fell between the train and platform.																
Caltrain	**Caltrain Modernization Program**	**2013-2016**	✓	✓	✓							✓			✓	
Responsible for several work directive assignments, most of which either directly supported simulation activities or were syntheses of simulation outputs. These included the South Terminal Area Capacity Study and the 4th & King Station and Yard Reduction/Removal Feasibility Assessment, as well as the CalMod Concept of Operations (ConOps) document.																
Los Angeles Department of Transportation (LADOT)	**LA Streetcar**	**2016**								✓						
Estimated total operating and maintenance costs for multiple corridors and build-out dates using peer agency data from the National Transit Database.																
Santa Cruz County Regional Transportation Commission	**Passenger Rail Feasibility Report**	**2014-2015**		✓		✓	✓			✓						
Main author of operations section of the study looking at potential passenger rail service between Santa Cruz and Pajaro. Provided input on train technology choices and siting efficient passing track locations for several different potential stopping patterns. Responsible for simulating operations along the corridor in scenarios ranging from 10 to 22 miles long. Built up cost estimates for operations and maintenance of equipment based on simulations and industry trends for DMU rail lines.																
Bay Area Rapid Transit District (BART)	**Silicon Valley-Berryessa Extension**	**2012-2013**												✓		
As the Design Interface Manager, coordinated interdisciplinary design elements for the 10-mile rail extension; systems raceway connections between the guideway and wayside facilities and structural clearance with local utilities. Responsible for locating blue-light stations in accordance with the design criteria.																

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California Partners for Avanced Transportation Technology (Cal PATH) - Berkeley, CA - Graduate Student Researcher														**2011-2012**
Cal PATH	**Freight on BART Project**	**2011-2012**		✓		✓	✓			✓				
Assisted Dr. Lu with his ongoing research into using Bay Area Rapid Transit (BART) to transport freight packages between airport hubs at SFO & OAK and regional sorting centres. Modelled and simulated logistical issues with input from BART & FedEx officials, analysed policy issues, and performed cost-benefit analyses under various capital improvement scenarios.														
US Department of the Navy - Washington, DC - Marine Engineer														**2008-2011**
Naval Sea Systems Command (NAVSEA)	**Machinery Integration**	**2008-2011**		✓	✓								✓	
Responsible for developing and maintaining specifications and standards for machinery spaces on surface ships, as well as refining the Incentivized Energy Conservation (iEnCon) program. Projects included planning for the cruiser modernization program, development of a new operational tempo for use with hybrid-electric drive systems on destroyer-class ships, and a business case analysis of a new pulse detonation drive system for surface combatants.														

Education

University of California, Berkeley, May 2012
College of Engineering, Berkeley, CA
Master of Science **Focus:** Transportation Engineering

University of Pennsylvania, May 2008
School of Engineering and Applied Science, Philadelphia, PA
Bachelor of Science in Engineering
Major: Mechanical Engineering **Minor:** Philosophy

Presentations and Papers

- Presenter, "*North American Light Rail & Streetcar Status Update*". 14th National Light Rail & Streetcar Conference, April 2019.
- Author & Presenter, *"Towards a Passenger-focused On-Time Performance Metric for Commuter Rail."* APTA Rail Conference, June 2018.
- Co-Author & Presenter, "*North American Light Rail & Streetcar Status Update*". 13th National Light Rail & Streetcar Conference, Nov. 2015.
- Poster Presenter, *"Using Open Data and GIS to Rank Potential Commuter Rail Infill Station Sites."* TRB Annual Meeting, Jan. 2013.

Activities, Skills, and Licenses

- APTA Emerging Leadership Program, 2016-17
- TRB Light Rail Transit Committee Chair, 2022-Present
- TRB Rail Transit Systems Cmte. member
- Fmr. TRB Light Rail Transit Committee Communications Coordinator (2016-2022)
- Fmr. Co-Chair of the TRB Public Transportation Young Member Subcommittee (2013-17)
- Registered EIT (Mechanical FE, April '09)
- Proficient in ArcGIS/QGIS, MS Office, and graphic design (Inkscape) applications.