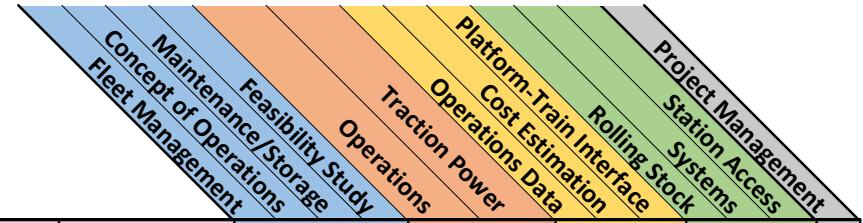


Category	Percentage
Project Management	10%
Station Access Systems	10%
Rolling Stock	10%
Platform-Train Interface	10%
Cost Estimation	10%
Operations Power	10%
Traction	10%
Operations	10%
Feasibility Study	10%
Maintenance/Storage	10%
Concept of Operation	10%
Fleet Management	10%

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Client	Project	Dates	Planning	Simulation	Analysis	Design	PM
LTK Engineering Services - San Francisco, CA - Principal Consultant							2012-present
Sonoma-Marine 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.							
California Partners for Advanced 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 Communications Coordinator, Rail Transit Systems Cmte. member
- 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.