

Infrastructure projects can pose unique challenges, arising from the construction processes required to build and maintain them. Our infrastructure work addresses all aspects of noise, vibration, and EMI/RF impacts, from worker safety & comfort to legal documentation for CEQA/NEPA, to meet environmental and community requirements, to unique project mitigations for technically-demanding neighbors such as high-tech laboratory and research facilities. Below are projects addressing environmental issues of light & heavy rail projects.

Sound Transit / University of Washington: Deep technical reviews of EIS/EIR reports and independent calculations to support a \$1.6B regional light rail project in Seattle. Our original work in the late 1990s revealed that the preferred alignment would render core research buildings unusable due to vibrations. Re-alignments co-developed by us successfully mitigated those impacts. We continue to consult to the University and are now installing vibration monitoring systems.



Sound Transit / MontCap Vibration and Noise Studies: Sound Transit light rail trains will be passing underneath residential properties along the University Link segment. MontCap LLC was established by a group of property owners to assess the tunnel easement offers made by Sound Transit. We assisted MontCap members in understanding the technical reports published by Sound Transit and in evaluating the proposed easement language. We conducted baseline monitoring and performed calculations and reviews of prediction models.

Purple Line LRT Extension / University of Maryland: Comprehensive campus-wide vibration surveys and propagation testing between campus roads and sensitive labs and classrooms. Calculations were supplemented with field tests, and impact assessments were performed for both research as well as routine campus activities. The data supported negotiations between MTA and the University. We helped UMD develop the position that the quiet vibration environment is a natural resource enabling current and next-generation research.



California High Speed Rail: Environmental characterizations of environmental low- and radio-frequency electromagnetic fields EIRs supporting the state-wide system. Some segments pass near high-tech and medical facilities that are susceptible to interference from magnetic fields. We authored the EIR chapter for one project segment and supported authors on two others.