Exposition Light Rail's Unfinished Safety Jobs

Najmedin Meshkati
Professor
Sonny Astani Department of Civil/Environmental Engineering
Daniel J. Epstein Department of Industrial and Systems Engineering
Viterbi School of Engineering
University of Southern California

Email: meshkati@usc.edu

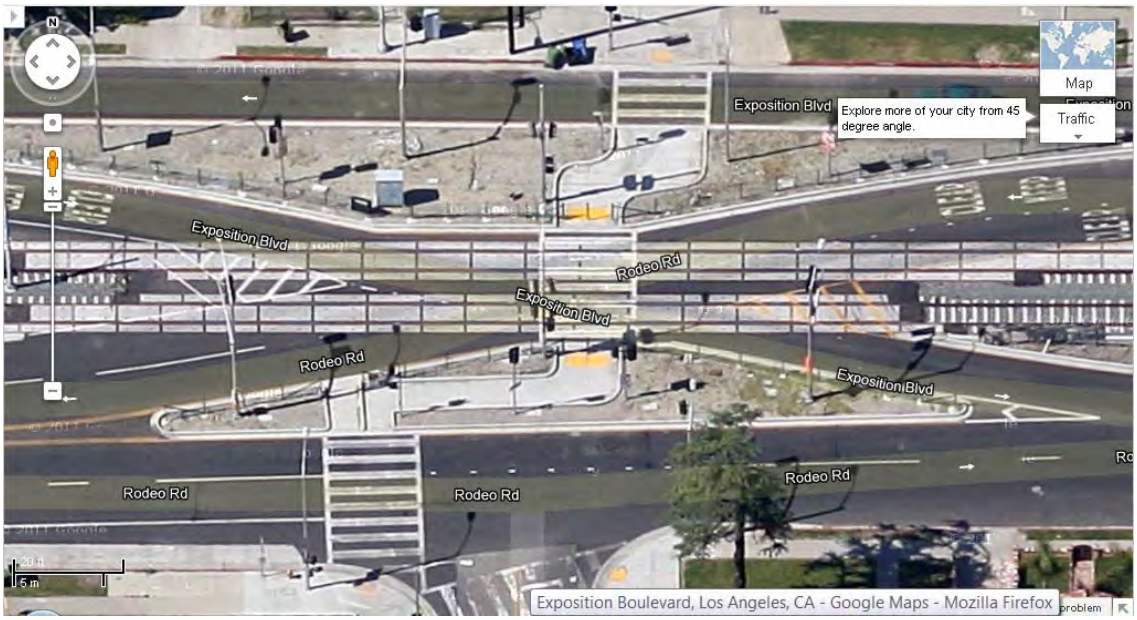
April 25, 2012

This Saturday April 28th, phase 1 of the Exposition Light Rail, or Expo Line, project planned from downtown Los Angeles to Culver City, will officially be opened. It will operate in opposite directions on parallel sets of dual tracks of some 7.9 miles that crosses major busy city streets such as Vermont, Normandie, Western, and Crenshaw. It was build with lots of efforts and more than $930 million by the Exposition Light Rail Construction Authority, which was an entity created by the L.A. Country Metropolitan Transportation Authority (MTA) with the sole purpose of building this line. And the California Public Utilities Commission (CPUC), as the designated safety agency, provided the governmental oversight.

Two of the stations – Farmdale and Culver City – are not yet operational and expected to be ready sometime in summer 2012. After a prolonged fight between local grassroots community organizations, who wanted a total grade separation at the Farmdale intersection (10 feet away form Dorsey High School with more than 2,000 students), and the above-mentioned Expo Line Construction Authority which originally planned an at-grade crossing, a settlement was reached for an additional station in order to "force" trains to stop at this intersection. [The author worked as a pro bono human factors and safety expert on this case on behalf of the grassroots community organizations during summer of 2008.]

The Expo Line still needs much more work to make it as reasonably safe for pedestrians and drivers as possible. In addition to woefully inadequate safety measures at several of its at-grade crossings, such as the one at the Denker Avenue, near the Foshay Learning Center, which is a K-12 Multi-Track School with 3,400 students, the entire segment near the intersection of Gramercy Pl is probably one of the most confusing and dangerous intersections in LA county that could pose serious risk of accidents for future motorists, bicyclists and pedestrians.

The curvilinear crossing - convergence and divergence -- of two major streets, Exposition Blvd and Rodeo Rd, while two rail tracks run in the center with a total of eight at-grade crossings. The MTA should urgently re-design this segment of the Expo Line and, in the mean time, as soon as possible, equip it with adequate safety measures; as it badly needs to be fixed.



The CPUC's approval not only is necessary for the operation of any light rail in the State of California but also it would provide MTA with the "design immunity". The concept of "design immunity," which is based upon an otherwise obscure California Government Code § 830.6, would potentially entitle MTA to avoid liability for dangerous condition of its designs and grant MTA with complete immunity against any type of claim arising out of its design defect.

It was precisely the combination of two factors: The archaic practice of creating a construction authority entity which primarily is concerned with building tracks, without any responsibility or accountability for the light rail's overall system safety in the long run; and the CPUC's lax approval of the Blue Line's more than 100 crossings back in late 1980s that left us to live with the persistent dangerous condition which is a major root-cause of its many fatalities and accidents.

Moreover, the automatic "design immunity" entitlement of MTA has also been responsible for the status quo, as well as stifling any motivation and imputes within this agency for any fundamental change and systematic safety improvement. Neither numerous deaths and the resulting protracted litigations, nor trial or appeal court's affirmative rulings against MTA in favor of the rail accident's victim (plaintiff), have been able to make a dent in the MTA's past non-prudent safety practices. The CPUC's easy approval of MTA's unsafe designs not only would help to shield MTA's unsafe practices against any future lawsuits stemming from accidents and resultant injuries and deaths caused by design-induced errors of pedestrians and drivers on the Expo Line, but also will further stifle any motivation for MTA's long-term system safety improvements.

Our LA City Mayor and MTA Board Chairman, Mr. Antonio Villaraigosa, when he was a Distinguished Visiting Fellow at USC in 2002-2003, offered good and specific policy recommendations for transportation safety in a report, entitled" *After Sprawl: Actions Plans for Metropolitan Los Angles* (2003) (Its summary is posted on the Internet http://www.ced.berkeley.edu/downloads/pubs/faculty/wolch_2003_after-spawl-action-

plans.pdf). This report, which I had the privilege of contributing to in 2002, according to his official mayoral Biography, is "a policy blueprint for addressing the issues facing many urban centers."

What is recommended here concerning the safety of Expo Line, breaking away from the unflattering past safety practices of MTA, and its future arrangement for better accountability in building other light rails is precisely what Mr. Villaraigosa has also suggested before in his *After Sprawl* report. We are simply asking him that he puts the money where his mouth is/was by helping us to opertionalize and implement his great vision that he articulate in 2003: To fundamentally revamp the woefully inadequate practice of one entity building the tracks on city streets and the literally dumping it onto another one to run the trains and then let it to figure out its safety problems with a piecemeal fashion in a trial and error basis; to help institutional safety and foster accountability by not letting the MTA to further organizationally decouple light rail's short-term construction from its long-term operation; to target above and beyond CPUC's minimalism and improving the safety our city's light rail by proactively addressing all the "system safety" and the safety culture-related issues.

Najmedin Meshkati, a professor at the Viterbi School of Engineering at USC, conducts interdisciplinary research on the safety of complex technological systems. He was a Jefferson Science Fellow and Senior Science and Engineering Advisor, Office of Science and Technology Advisor to the Secretary of State (2009-2010); and has been a member of the National Academy of Engineering/National Research Council Committee for Analysis of Causes of the Deepwater Horizon Explosion, Fire, and Oil Spill to Identify Measures to Prevent Similar Accidents to the Future (2010-2011). He has been the Principal Investigator of a major multi-university research project on the safety of the Expo Line, funded by the METRANS. [*A Study of the Exposition Light-Rail's Safety for Pedestrians and Drivers* (2005-2007); http://www.metrans.org/research/final/05-13.pdf]