

Lunch &

Learn

A new Bimonthly seminar series from the Department of Civil and Environmental Engineering (CEE), focusing on convergent research, bringing together Northeastern colleagues and collaborators to think big/bold, explore ideas that build cooperation and foster transformative innovation within CEE and across disciplines beyond CEE.



Sandra Hoover
Senior Project Scientist, Tetra Tech
INE



Edward Ionata
Senior VP, Tetra
Tech INE



**Ronald Myric Jr,
PE, LSP**
VP Environmental
Group, Tetra Tech
INE



Brian Sullivan, PE
President & Oper-
ating Unit Leader,
Tetra Tech INE

Interdisciplinary Analysis and Decision-Making for Complex Infrastructure Projects

This presentation reviews the current practices and requirements for the interdisciplinary analysis and evaluation of complex infrastructure projects, focusing upon transportation infrastructure. It will briefly trace the history of determining the design of infrastructure projects and outline the multi-disciplinary approach practiced for major projects in the United States.

The planning, design, and implementation of complex infrastructure projects requires multidisciplinary and inter-disciplinary analysis and review of key decisions determining the form, functional elements, and location of projects. Prior to the adoption of current U.S. requirements guided by the National Environmental Policy Act (NEPA), decisions regarding the nature and implementation of significant infrastructure projects were driven by unilateral processes, considering a narrow range of decision criteria. NEPA requires the consideration and evaluation of a broad range of factors influencing the ultimate design and implementation of projects. These factors include technical disciplines as well as social and political considerations. This presentation will briefly review the history of major infrastructure project decision making and then outline the requirements of a NEPA-driven analysis using a major local transportation project as an example. The various technical, social, economic, and environmental analyses required will be summarized, along with an explanation of the public disclosure and review requirements and the consideration of Environmental Justice. A more detailed explanation of the factors and approaches used for one technical discipline (the evaluation of hazardous materials, oil and contamination), will be offered as an example of the depth of analysis undertaken in each discipline. The presentation will conclude with an overview of the methods used to consider the results of all analyses in decision-making.

Monday

September 19,

2022

12pm–1pm

Churchill 103