

Application of "engineering systems analysis" to better understand complicated social problems and communication with diverse stakeholders.

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Enter a social problem. Traditionally, engineers come on the scene only after the problem is identified and range of possible solutions narrowed down. The engineer then uses her/his skills to "engineer" the technical solution to meet fixed specifications. Almost uniformly, engineers possess great skill at systems analysis. Driven by the desire to really discover "how things tick" and the patience to tinker to figure out a workable solution. But is there a role for the engineer earlier in the process? Especially when there growing acknowledgment that technology alone cannot solve the social problems that plague our world? The answer is yes. "We can't solve problems by using the same kind of thinking we used when we created them," Einstein once said. Politicians and policymakers need help in analyzing problems and understanding the implications of proposed solutions, and I believe engineers have enormous capacity to help. Jeff will talk about his experiences conducting "environmental impact assessment" training courses in various countries in Africa, water utility consulting in Tajikistan, and starting a non-profit called LivableStreets Alliance aiming to tackle the problems of urban transportation from a new perspective. Jeff currently works for the City of Cambridge in the Environment and Transportation department as a transportation planner. He has a masters degree in Environmental Engineering and Policy from Carnegie Mellon University (working with the Green Design Research Initiative), and holds a Professional Engineering License from the State of Maine.