

## SEMINAR

### Transport Infrastructure LCA Cradle to Placed: Understanding Embodied Materials and Emissions

Thursday, April 4, 2019, 12pm to 1pm

ASU Tempe Campus, CAVC 559

Transportation infrastructure systems are the skeletal structure of civil society: they govern how we live, work, consume and travel. The need for quantitative understanding of the sustainability impact of transport infrastructure provision is pressing; \$50 trillion will be spent globally on transportation infrastructure by 2040. To meet our long term social, economic and environmental ambitions, new approaches are needed for how we design, deliver, operate, and create policy around transportation infrastructure. This talk will explore ongoing research investigating the material use and greenhouse gas impact of transport infrastructure working towards decision support tools to improve infrastructure delivery. Discussed research will include 1) assessment of the embodied greenhouse gas emissions in rail infrastructure, 2) the use of building information modelling (BIM) to predict embodied GHG emissions for bridge construction, and 3) bottom up city scale material flow analysis of construction materials in roads.



**Bio:** Shoshanna Saxe is an Assistant Professor at the Department of Civil & Mineral Engineering. Prof. Saxe received her Master of Science in Civil and Environmental Engineering from MIT (2009) and her PhD from the University of Cambridge in Engineering (2016) (Jesus College). She investigates the relationship between the infrastructure we build and the society we create, with a particular focus on environmental sustainability. Prof. Saxe is an alumna of Action Canada, a member of the Transportation Research Board's standing committee on Transportation and Sustainability, sits on Waterfront Toronto's Capital Peer Review Panel, and was recently recognized by Clean 50 as one of Canada's emerging environmental leaders.