Visualizations and Community Engagement
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Research Aims:

The goal of this research is to investigate the use of visualizations as a means of engaging community stakeholders in the planning and design process. Visualizations are two- or three-dimensional representations of environmental design interventions, such as new buildings, public spaces, and infrastructure. Visualizations can be made by hand or computer-generated, can be abstract or photorealistic, and can be static or animated. Immersive visualizations are computer-generated, three-dimensional virtual environments that can be explored or “walked through”.

Visualizations have long been used to communicate designs to a non-professional audience – i.e., individuals who are not urban planners, architects, civil engineers, etc. More recently, they have been shown to be useful tool for stakeholder engagement, helping to build consensus around planning and design decisions and counteracting not-in-my-backyard (NIMBY) responses to certain types of projects, especially infrastructure and densification projects.

Visualizations can potentially be used in different capacities in community engagement processes. In broad terms, they can be used to merely communicate the outcomes of the design process to the public or to actually engage the public in the design process itself. Three possible approaches to using visualizations in public engagement processes include:

• Design scenario approval: used to present the outcome of the design process – a final or near-final design – to the public and to solicit approval for the design as is.

• Iterative collaborative design process: used to involve the public in the design process. A preliminary design scenario is presented to public and feedback is solicited. Designers “return to the drawing board” and use the feedback to update the design. New visualizations that reflect the changes are generated and the process is repeated several times.

• Dynamic collaborative design process: dynamic visualizations, which can be changed on-the-fly, are used to involve the public in the design process. Public feedback is solicited and the visualizations are modified on the fly, allowing new ideas to be explored immediately. The outcomes of this process are then used to update the actual design.

The research will also assess the potential role of the Internet as a platform for disseminating visualizations and soliciting feedback. At face value, the key advantage of using the Internet for public engagement is that a very wide audience can be reached – much wider than a conventional public meeting. Moreover, the cost of running an Internet-based public consultation can be much lower than holding multiple public meetings.

Key results to date:

This research is currently in progress. Researchers at McGill University and Concordia University have developed sophisticated three-dimensional visualizations of the existing and proposed Turcot interchange, and are exploring ways to integrate air quality and noise impact assessments undertaken by Concordia’s environmental impact assessment graduate certification program into these models, for use in stakeholder and public engagement processes.