

The Impact of Pre-Project Investment and Quality of Documents on Project Delivery Efficiencies

The Design and Construction industry is a major contributor to the national economy in Canada and provides the necessary built environment, in which we all live, work and play. The industry and resulting projects however have long faced recurring challenges relative to cost overruns and schedule delays. There are potentially many reasons for this situation; however, the industry lacks concrete data to determine the root causes and identify solutions. To help understand the root causes and impacts of these challenges, a research team from Ryerson University was commissioned to conduct a study. The goal of the study is to establish solid empirical evidence on the relationship between project owners' upfront investment in the pre-project stage and the quality of design documents along with key project performance indicators (e.g., efficiency of bidding, number and extent of change orders, cost overruns, and schedule delays) in the whole project lifecycle. The results are expected to provide an objective framework for a change in the project delivery policies in public infrastructure. From a neutral, third party perspective, the study also provides an opportunity for the Design and Construction industry to improve communication, awareness and build further trust among all project stakeholders.

To achieve this research goal, the study includes important data collection tasks that consist of the following three major components:

- (1) Conduct a nation-wide online survey to collect data and opinions on the current level of upfront investments and their impacts on the quality of design documents and project delivery efficiency;
- (2) Collect factual project data from sample projects to quantify the impacts; and
- (3) Conduct in-person interviews to obtain best practices and lessons learned from the sample projects.

A pilot study consisting of three sample projects has been completed. More quantitative project data collection and interviews will continue after the self-isolation and social distancing measures relative to COVID 19 are eased. In the meantime, the online questionnaire has been developed and is available online as of May, 2020.

A unique feature of the online questionnaire is the focus on objective project data. Unlike many similar studies before that sought general opinions, this questionnaire asks participants to provide their feedback based on their experience on the most recently completed project in which they participated. Data that reflect the level of upfront investment by project owners, the quality of design documents, bidding efficiency, and construction project efficiency will be collected. In order to capture a holistic picture, professionals representing project clients, as well as architects, engineers, general contractors and subcontractors are invited to participate in this online survey.

This study is co-funded by Mitacs, a national fund that supports applied research and industry-academia collaboration and a number of associations in the design and construction industry across Canada. A Project Steering Committee (PSC) that consists of prominent experts from the design and construction industry was established to guide the direction and implementation of the study.