DALHOUSIE UNIVERSITY

MacEachen Institute for Public Policy & Governance

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SMART INFRASTRUCTURE

Adaptive Capacity for Closures to the Macdonald Bridge

Why Calvin Burns and Kevin Quigley Did This Study

We aim to develop a social-cognitive model of adaptive capacity. Our model can be used by policy makers and managers to inform how they communicate with the public to develop adaptive capacity (e.g., to change people's thoughts and behaviour to minimise disruptions to the transport system during Bridge closures).

What We Recommend

Where possible, employers should develop work-at-home and staggered start policies that can be enacted when the bridge does not re-open on time, or during other events like 'snow days.' Such flex-work policies could help to develop adaptive capacity within individuals, organisations and the community.

Local radio, social media, and webpages should continue to be used to keep people informed about bridge closures. These platforms may also be used to encourage people to plan ahead and induce changes in their commuting behaviour.

Given that commuters are adapting to Macdonald Bridge closures by taking the MacKay Bridge, managers and policy-makers should consider how the community could adapt if both Halifax Harbour Bridges were closed.

What We Found

Every November, Dalhousie's Office of Sustainability distributes a Sustainability and Commuter Survey to the campus community. For the past two years, we have participated in this survey. The first survey (n = 1949) was conducted in November 2014, before the Macdonald Bridge closures began. Of those respondents who answered our questions, 46% (n = 651) indicated that they were unaware of the planned Bridge closures. Respondents were also asked to explain how the bridge closures would affect their work, study, family and social lives, including any additional costs they might incur. 55% (n = 543) of respondents said that they would not be affected or that it would be a minor inconvenience, 11% (n = 107) said it would result in increased travel time, traffic and hassle while commuting, and 10% (n = 103) said that they would use the MacKay Bridge, acknowledging that there would be extra traffic on that bridge. These findings suggest a low level of adaptive capacity. People are resistant to changing their travel / commuting behaviour. Of those respondents who indicated preferences for keeping informed about the bridge closures, the most preferred means were email updates (30%, n = 486), social media (28%, n = 459), and local radio (27%, n = 447).

Our second survey (n = 1739) was conducted in November 2015, eight months after the Macdonald Bridge closures began. Respondents were asked to indicate how their experiences of the closures compared to their expectations. 17% (n = 299) of respondents said the closures had been as expected, 3% (n = 58) said the closures had been better than expected, and 7% (n = 125) said the closures had been worse than expected. Respondents were also asked to explain how the bridge closures affected their work, study, family and social lives, including any additional costs they might incur. 30% (n = 110) of respondents said they had not been affected or that they had only experienced minor inconvenience, and 33% (n = 121) said they had experienced increased traffic resulting in longer commute times, especially on the MacKay Bridge. When asked to explain how they coped with and adapted to the closures, 34% (n = 58) of respondents said they took the MacKay Bridge, 32% (n = 54) left earlier to avoid traffic congestion, 24% (n = 41) took the ferry, and 10% (n = 17) took other routes. Of those respondents who indicated how they kept informed about the bridge closures, the most common means were local radio (31%, n = 540), word of mouth (24%, n = 415), and social media (21%, n = 368). Only 1% (n=20) of respondents said they used email updates to keep informed.

For more information about this research, contact Calvin Burns at calvin.burns@strath.ac.uk

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Canada

Dr. Calvin Burns is a lecturer in the Department of Human Resource Management at the University of Strathclyde in the UK. He is an industrial-organizational psychologist who specializes in the study of risk psychology. For more information, you can contact Dr. Burns at calvin.burns@strath.ac.uk.

University of Strathclyde

Dr. Kevin Quigley is a professor in Dalhousie University's School of Public Administration. He is also the scholarly director of the MacEachen Institute for Public Policy and Governance, and founder of the Critical Infrastructure Protection Initiative. Dr. Quigley is a risk governance specialist. For more information, contact Dr. Quigley at kevin.quigley@dal.ca.

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FACULTY OF MANAGEMENT
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