RISK AND RESILIENCE:
INSIGHTS FOR AN UNSTABLE AGE FROM UBC'S PLANNING SCHOOL

/ Michael Hooper RPP, MCIP

As we are increasingly aware, we live in unstable times. For planners this can bring feelings of trepidation and, in more hopeful moments, opportunity. On one hand, communities are experiencing new and heightened forms of risk, particularly as the impacts of climate change intensify. On the other, communities and planners are responding with efforts to identify, cultivate and share innovative resilience strategies.

This tension has been particularly clear in BC as we have recently confronted wildfires, floods and extreme heat, to name just a few of our overlapping threats. Reflecting the urgency of these concerns, faculty and students in UBC's School of Community and Regional Planning (SCARP) have been working on new ways to address the increasing instability of our planet and communities.

One of the most discussed forms of contemporary risk is climate change. Acknowledging this, faculty member James Connolly and co-authors have been investigating how we might better respond to this global challenge. They have broken important intellectual ground in a recent article in *Housing Policy Debate* titled, "They didn't see it coming: Green resilience planning and vulnerability to future climate gentrification."[1]

Connolly's article focuses on Philadelphia, one of the most unequal cities in the United States, but its lessons are broadly applicable. The researchers find that development of green infrastructure – including rain gardens, wetlands and green roofs – can increase the vulnerability of neighbourhoods with lower income, including racialized neighbrouhoods, to gentrification.

Connolly and co-authors argue that greening initiatives in the city are often narrowly focused and remain separate from efforts to address housing needs. The study finds that green resilience interventions are typically concentrated in wealthier neighborhoods and in areas that are gentrifying and subject to pressure from real estate development.

Connolly states that,

> *For professional planners, it's important to recognize that green infrastructure is an amenity connected to gentrification…. It is very easily cordoned off into a separate category of professional practice. But that's an artificial separation. The way people experience green infrastructure is wrapped up in larger processes of development and growth that produce outcomes like gentrification.*

Looking at other forms of risk, SCARP professor Stephanie Chang, together with co-author Alexa Tanner, recently completed a study of regional-scale disaster planning published in *Natural Hazards Review*.[2] The authors began their research with the observation that common disaster severity measures often fail to consider how needs vary across regions, and give limited attention to the impacts of regional-scale transportation disruptions.

Responding to this gap in knowledge, they developed a series of impact scales that capture three broad community components of disasters—local disaster impacts, community coping capacity and regional transportation disruptions — and combined them into an overall metric of community impact. Their article demonstrates the use of this approach through scenarios involving a large earthquake affecting a broad region of coastal BC.

Chang and Tanner's approach to studying risk shows how creatively rethinking the way hazards are measured can help planners and communities find new ways to prepare for and respond to risk. Their research shows how qualitative measures can allow planners to better handle the ambiguous nature of many disaster impacts. These qualitative measures are also more easily communicated to broad audiences and acknowledge the important role of coping capacity, which can differ significantly across communities.

Building on the theme of creatively responding to risk, Martino Tran, an Associate Professor in SCARP, recently published research that examines how to reduce the impact of one of the most important, but also environmentally problematic, aspects of planning: transportation.[3] This research highlights that, while significant global investments are being made in smart urban mobility technologies, there is limited work on the co-benefits of reducing carbon emissions, pollution and human health impacts from transportation.

Tran and his co-author developed a smart mobility framework focusing on more efficient road networks and driving behaviour. They suggest that a combination of smoothing traffic speeds and improving driver behaviour in urban areas could reduce carbon emissions by a staggering 29% for cars and 33% for vans by 2050.

Tran says of his research, "Our work demonstrates the carbon mitigation potential and avoided environmental damage costs from decreased air pollution through

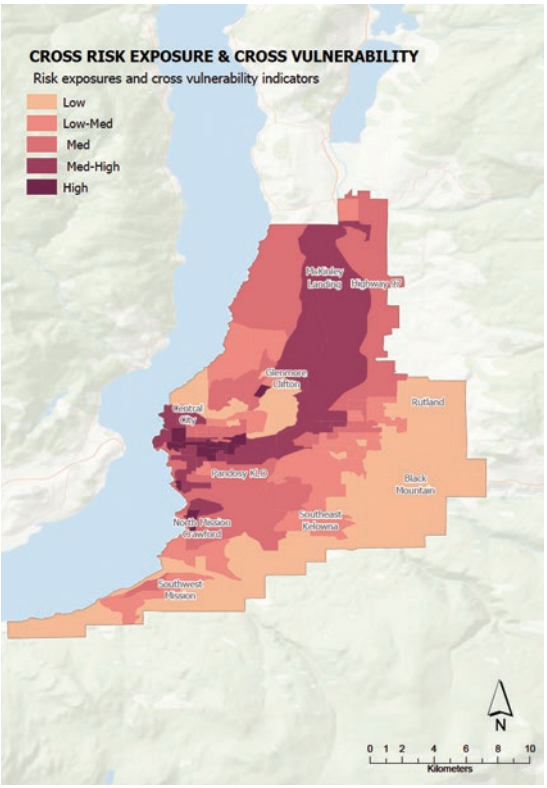

Image from report by Krahn, Vandeborne and Choi showing areas of Kelowna that share both risk exposure (to heat, wildfire and flooding) and social vulnerability. Darker red colour indicates greater risk and social vulnerability.

large-scale deployment of smart urban transport technologies."

Referring to how their findings could inform planning practice he says, "Planning needs to evaluate how changing lifestyle and consumer trends place pressure on urban services" and argues that planners should consider the power of "long-term demand management strategies along with new technology and infrastructure."

Students have also made strong contributions to addressing BC's rapidly changing risk landscape. In SCARP's studio course, students Chelsea Krahn, Kiera Vandeborne and Serena Choi collaborated with the City of Kelowna to produce a report titled *A Resilient Future for All: City of Kelowna Climate Equity Analysis.*[4] They were motivated to undertake the project because Kelowna faces a rapidly growing population and increasingly intense climate risks.

In their report, they document how Kelowna's vulnerability to risk is unequally distributed due to social inequities. They provide guidance on how to embed climate equity in the City's Climate Resiliency Strategy through spatial analysis, community engagement and innovative climate policy.

This project is emblematic of the kinds of collaborative, interdisciplinary planning work that is increasingly common in SCARP and which will also be vital to planning practice. Like James Connolly, the students emphasize the importance of working across departmental silos. Krahn noted, "It is urgent that we ensure connection between efforts to address environmental risk and social sustainability." Planners in SCARP are eager to address the increasingly unequal distribution of risk in our communities. There will be much to learn as we navigate, as professionals and aspiring professionals, these unstable times. ■

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[1] https://www.tandfonline.com/doi/full/10.1080/10511482.2021.1944269

[2] "A community impact scale for regional disaster planning with transportation disruption." *Natural Hazards Review*. https://doi.org/10.1061/(ASCE)NH.1527-6996.0000563

[3] "Smart mobility for mitigating carbon emissions, reducing health impacts and avoiding environmental damage costs" in *Environmental Research Letters. https://iopscience.iop.org/article/10.1088/1748-9326/ac302e/meta*

[4] https://drive.google.com/file/d/1XcSamRavfKeAIYN7OX-h95plZq7JsvDI/view