Under the Weather

Reimagining Mobility in the Climate Crisis / Stephanie Sodero

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Why an ecological approach to mobility will make communities more resilient.

Summary

A new book makes recommendations on how to reduce transportation disruptions and related societal vulnerabilities due to extreme weather in Atlantic Canada.

Target Audience

Policy makers & managers: climate change, health, transport, public works

Key Points

- Atlantic Canada's transportation systems are essential to the movement of people, goods, and services. When disrupted, as during hurricanes, social and economic costs are high.
- Current transportation systems, especially in rural areas, are extremely vulnerable to extreme weather (e.g. road/bridge washouts, loss of electricity).
- With increasingly frequent and intense weather events, disruption will increase.
- To minimize damage and disruption, examine how communities can be less reliant on mobility.
- Integrate climate protection in all transport decisions, from where to build local schools to global medical supply chains.
- Two concepts, an ecological approach to mobility and climate routing, and five recommendations: revolutionize mobility, prioritize vital mobility, embrace green and blue, rebrand redundancy, and think flex, are key to managing disruption. Build these into planning, decision-making, spending, etc.

Context

With climate change, warmer ocean water fuels hurricanes into more northern latitudes increasing hurricane activity and intensity. Hurricane Fiona (2022) hit Atlantic Canada causing profound disruption and costing about $660M in insured losses. This book is anchored in two Atlantic Canadian case studies, Hurricanes Juan and Igor. Hurricane Juan hit Mi'kma'ki/Nova Scotia and PEI (2003) and caused about $100M in damage. Hurricane Igor hit in Ktaqmkuk/Newfoundland and Labrador (2010) with costs of $200M. Both storms resulted in loss of life.

Overview

Mobility is built into the DNA of Atlantic Canadian communities from local school buses to global supply chains. Human mobility, like driving, flying, and shipping, are entangled with the climate emergency. Fossil-fuelled mobility exacerbates severe weather, and in turn, severe weather disrupts human mobility. A shift to zero-emission vehicles is critical but insufficient to repair damage or prepare communities for the disruption severe weather will cause. For example, an electric vehicle is of limited use if roads are washed out or the power grid down. Communities need to re-evaluate extreme mobility dependency and the impact of mobility disruptions on basic services from senior home care to fuel supply chains.

Ecological approach to mobility

An ecological approach to mobilities is a way of thinking about the movement of humans in relation to the movement of the environment, including rivers, animals, and carbon emissions. It is an overarching concept that highlights the inseparability of human mobility from the climate, emphasizing that human

mobility is not conducted in isolation but in coordination with extensive webs of people, things, and ecologies. Such a mobilities approach shines a light on the contemporary trend of mobility dependency and the impact of mobility disruptions and disparities.

Climate routing

Climate routing adapts the marine navigation concept of adjusting course based on wind and currents, asking how society can correct course to reduce climate impact and prepare for disruption due to severe weather. These are five recommendations that serve for how communities can work with the climate to benefit health, education, and economy:

Revolutionise mobility. Create interdisciplinary, time-limited, and empowered working groups to consider: What different mobility futures are possible? What counts as appropriate movement in a decarbonized society? What does local mobility need to look like in the face of more severe weather?

Prioritise vital mobilities. Vital mobilities are external societal circulations that enable internal bodily circulations necessary to life, such as medical oxygen and homecare workers. Create a mix of approaches, including community-based care, telemedicine, and emerging tech to ensure access in the face of disruption.

Embrace green and blue. This is a catchall term that captures ecological mobilities on land, in water, and in the atmosphere. Implement approaches that increase storm buffers like living shorelines; accommodate ecological flows like swollen rivers; and monitor ecological health using citizen science.

Rebrand redundancy. Ensure back-up options and associated skills are available across scales. Active transportation, like biking and canoeing, paired with alternative technological configurations, like electric vehicles and Sea-Doos, may characterize future post-disaster mobility. Translate the familiar concept of **root cellars** to goods, energy, and skills that act as a stop gap when global just-in-time lean supply chains fail.

Think flex. This ranges from everyday mobilities to disaster mobilities. From walking to school to flying for work, backup travel plans, familiarity with alternative routes and cancellation policies, will be the new norm. In the context of disaster, develop a culture of community preparedness (e.g. evacuation).

In Sum

Examining and transforming the relationship between human mobility and the climate will allow communities to imagine and enact greater resilience. The concepts and recommendations introduced give policymakers, advocates, and researchers a language and ideas to enact changes that protect the climate and buffer communities from disruption due to severe weather.

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