

The Future of Automobility in the Age of Disruptive Change

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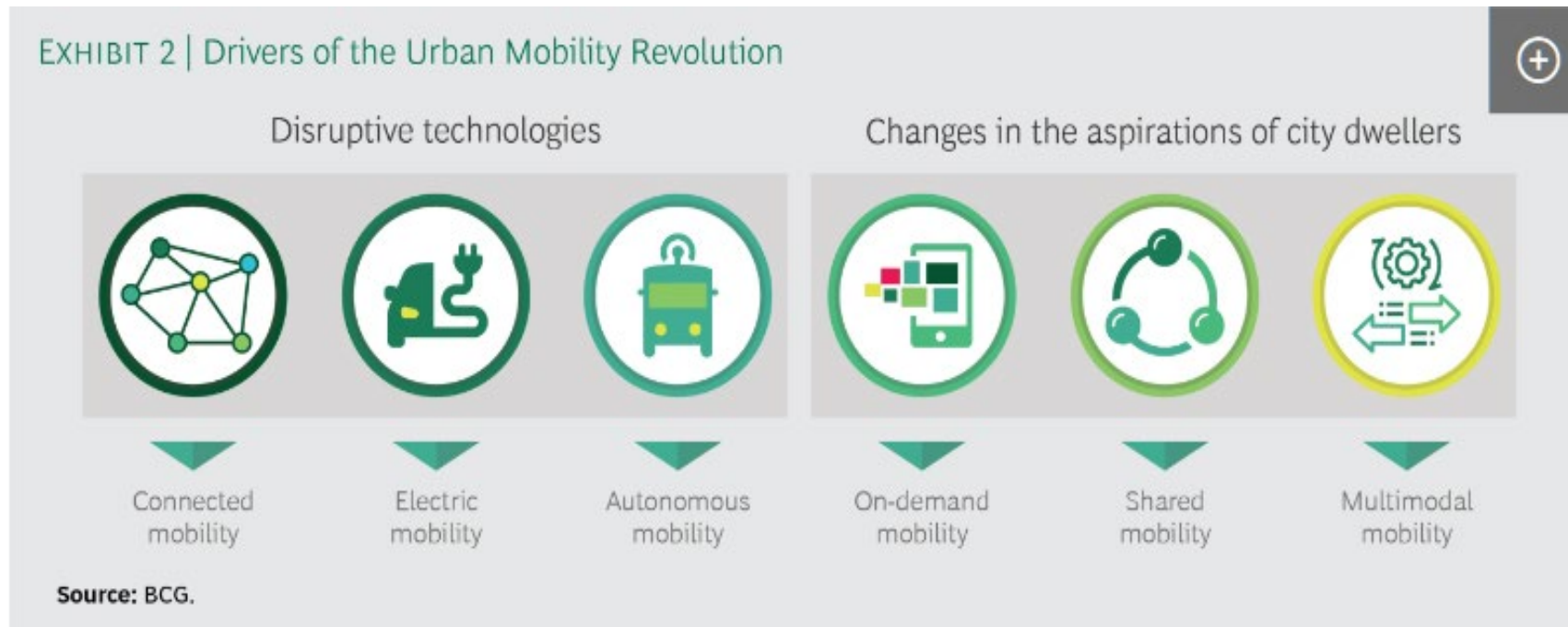
Smart Prosperity Institute, University of Ottawa

Presentation to the Greening Growth Partnership &
Economics and Environmental Policy Research Network Annual Symposium
Canadian Museum of Nature, Ottawa
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AGENDA

- Drivers of the Urban Mobility Revolution
- Changing Forms of Mobility –the CASE Paradigm
- The New Automobility Innovation Ecosystem
- The ICE vs BEV Paradigm
- Infrastructural Supports for the New Paradigm
 - Provincial Variations
- Implications for the Canadian Federation of the New Mobility Paradigm

Drivers of the Urban Mobility Revolution

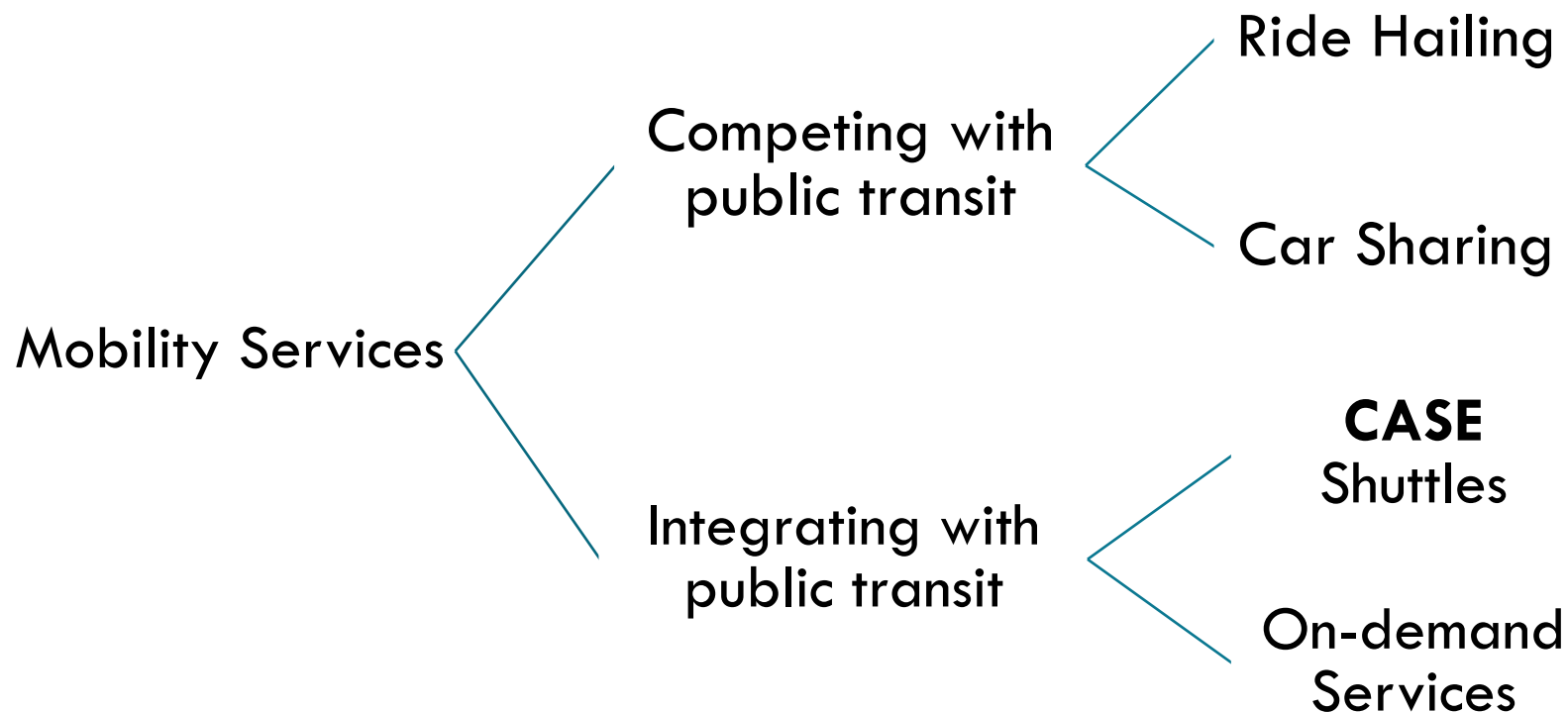


Goal is to investigate how these technologies will be implemented in Canada and how they will address urban and environmental challenges

Scholarly Context

- Evolutionary economic geography (path creation/asset modification)
 - Trippl, Asheim and Miorner (2015), Hassink et al. (2019)
- Innovation ecosystem (secondary scaling)
 - Granstrand and Holgersson (in press), Bernstein and Hoffmann (2019)
- Sustainability transitions (service and sectoral regimes, storylines)
 - Roberts and Geels (2018), van Welie et al. (2018)

Urban Mobility & On Demand Vehicles



Innovation Ecosystem Actors



Mobility service providers



Technology platform providers



Automotive companies



Public transit operators



Start-ups



Transit agencies



Cities



Local governments

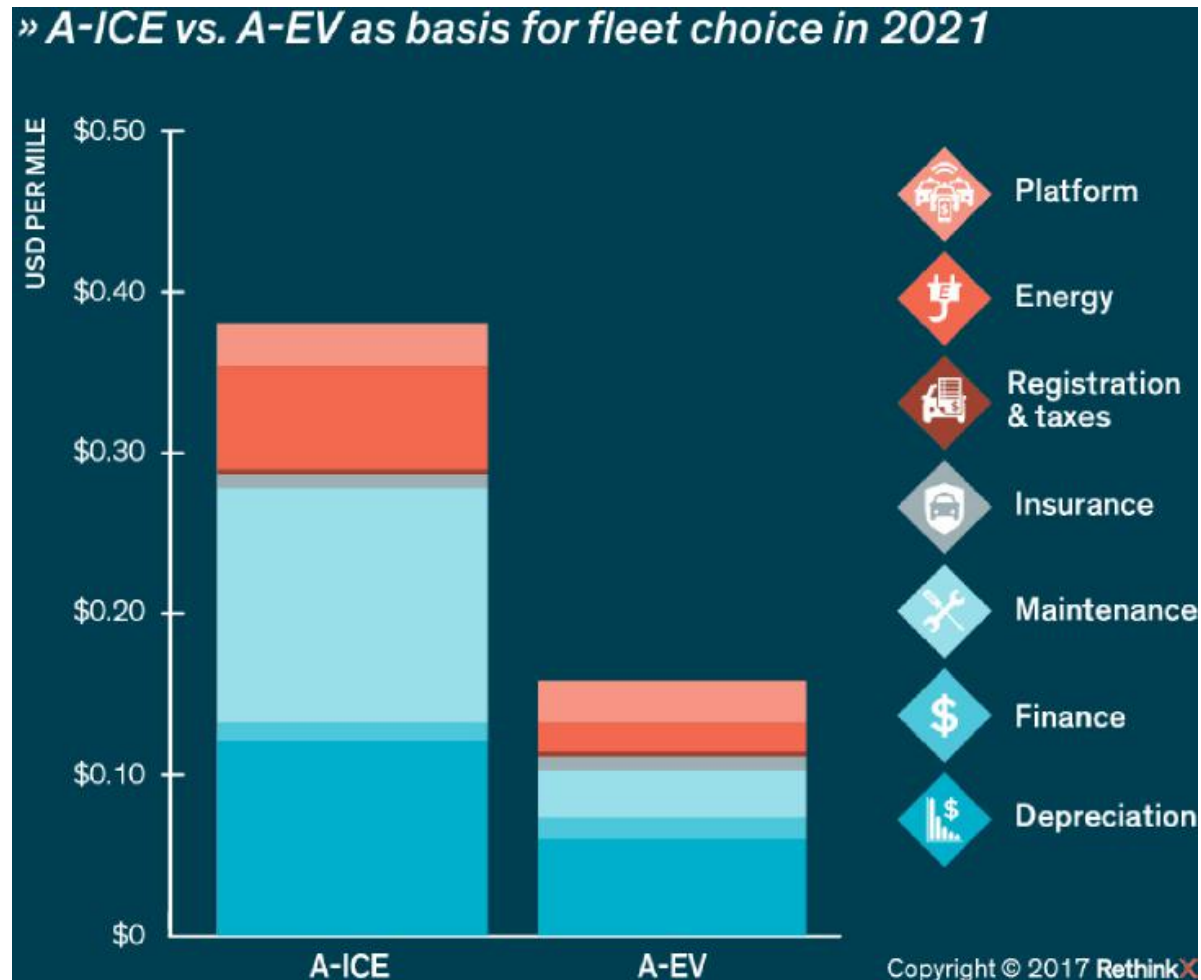


Non-profits

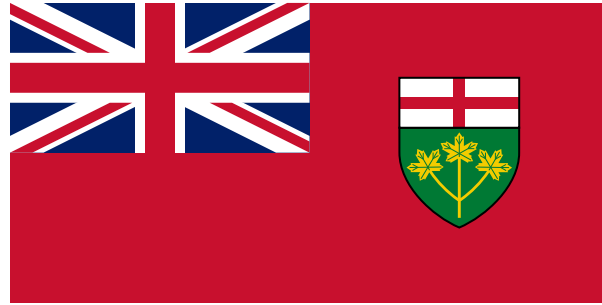
Key Research Questions

- Investigate ICT-related automobility experiments across Canadian regions
 - Who is involved, and what promises do they make?
- Will these experiments lead to a fundamental change of the automobility system toward a mobility as a service (MaaS) paradigm?
 - Does the magnitude and direction of change differ across regions?
- What will be an economic development benefit to Canada from smart mobility and ICT based developments?

Relative Cost of ICE vs BEV Ownership



Provincial Variations in Infrastructural Support



Over-arching Questions

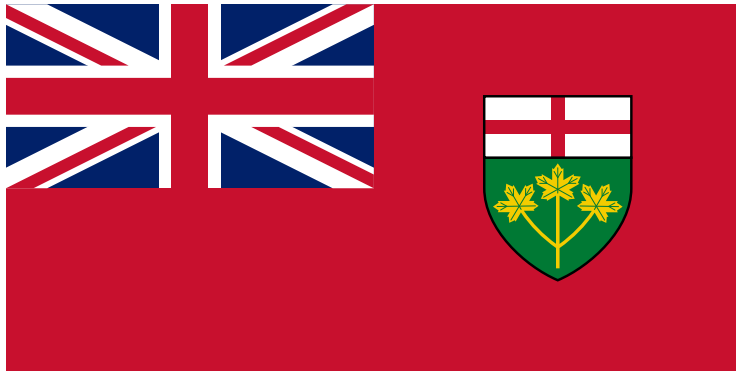
- How likely is a transition to electromobility in different regions?
- How would a transition to electromobility impact different regions?
- What needs to change for regions to maximise the benefits and reduce the hardship that comes with a transition away from fossil-fuelled vehicles?



Preliminary Insights



Preliminary Insights



Preliminary Insights



Implications of the New Mobility Paradigm for the Canadian Federation

- Preparations for the advent of this paradigm very uneven
 - Both within and across provinces
- Current debate (Election 2019) framed by a false narrative
 - Eastern Canada versus Western Canada
- End of the ICE paradigm will impact both regions equally
 - Business cycle swings since 1940s have balanced resources vs mnfg
 - What happens if there is a simultaneous down cycle in both sectors?
 - Traditional balance of power within the federation could shift dramatically
- Changes will dramatically alter modes & patterns of mobility
 - Accentuates need for strategic policy to integrate urban mobility and economic development objectives

THANK YOU!

Questions?

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