

# Positioning Quebec and Montréal as leaders in electric and smart transportation

STUDY HIGHLIGHTS  
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CC  
MM  
The Chamber of Commerce  
of Metropolitan Montreal

**propulsion**  
Québec

Cluster for  
Electric and Smart  
Transportation

# Vision for the industry's future

The Chamber of Commerce of Metropolitan Montreal and Propulsion Québec, the cluster for electric and smart transportation, are proud to present this study on the regulation of electric and smart transportation. It provides a diagnosis of the issues in the Quebec business environment and identifies international best practices. It confirms that Quebec and Montréal are well on the way to becoming **world leaders in transportation innovation**.

Three trends studied, ten regions analyzed



**Electrification of transport**  
Norway, China, California



**Smart transportation**  
United Kingdom, United States, Ontario



**Emerging solutions in mobility and inter-modality**  
Japan, Singapore, Paris/Île-de-France, Helsinki

Quebec is a centre of excellence in land transportation<sup>1</sup>



30,000 jobs<sup>2</sup>



620 companies

## The race for innovation in transportation is well underway

- 🚩 Since 2016, it has been possible to plan and pay for all travel within Helsinki with one single application.
- 🚩 A 100% autonomous electric shuttle has been on the roads of Candiac since 2018.
- 🚩 The first air taxi pilot projects are planned for 2020 in Dubai, Singapore and Los Angeles.

## OUR CHALLENGES

### Adapting to the pace of transportation innovation<sup>3</sup>

The study shows that challenges persist in the business environment, hindering the development of the industry.



#### Barriers to the deployment of new technology

Inadequate public call for tenders processes	Rigidity of the regulatory framework	Fragmentation of customers
<b>Restricted access to funding programs</b>	<b>Late changes to land use planning and infrastructure</b>	<b>Lack of a clear vision of the future of mobility by public authorities</b>

#### Barriers to the deployment of smart vehicles and new mobility solutions



<b>Regulatory issue:</b> rigid model of personal injury liability insurance	<b>Lack of framework</b> governing the operation of autonomous vehicles	<b>Limited openness and data sharing</b>
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#### Barriers to electrification



<b>Individual vehicles:</b> limited fast charging infrastructure	<b>Light vehicles and micro-mobility:</b> rigid regulatory framework	<b>Specialized vehicles:</b> inadequate electricity pricing
<b>School buses:</b> template and length of school bus contracts	<b>Urban buses:</b> standardization and financing of charging infrastructure	

<sup>1</sup> Plan d'action pour l'industrie du transport terrestre et de la mobilité durable 2018-2023, Government of Quebec, 2018.

<sup>2</sup> Direct and indirect employment

<sup>3</sup> The findings presented are based on interviews with over 30 stakeholders, experts and representatives of public authorities, in order to identify the barriers and challenges that persist in Quebec and Montréal's business environment.

## OUR STRENGTHS

# The assets that can make Quebec and Montréal leaders in mobility

### Our strengths in electrification

- World-renowned expertise in batteries from the Institut de recherche d'Hydro-Québec (IREQ)
- Pool of companies specialized in the manufacture of electric propulsion systems, charging stations, electric vehicles, and their components
- **Climate conducive** to vehicle testing
- **Abundance of minerals** required for battery design
- **High capacity for clean and affordable energy** production
- **Incentives** for the purchase of electric vehicles
  - Government of Quebec: discounts of up to \$8,000
  - Government of Canada: discounts of up to \$5,000
  - Subsidies for the electrification of heavy transport
- **Large public network of charging stations:** Hydro-Québec's electrical circuit is expanding
  - Includes 1,648 terminals<sup>4</sup>
  - 1,400 fast charging stations will be deployed by 2030
- Funding for the development of private charging networks in the workplace and at home

### Promising projects for the electrification of public transport already implemented in the metropolitan area

The Réseau express métropolitain (REM), led by CDPQ Infra, and the City Mobility Montréal project, led by the STM and Nova Bus.



### Our strengths in new mobility

This niche is not very developed in Quebec, though the province has several advantages:

- Recognized expertise in the manufacture of **specialized vehicles**
- A concentration of key players in Montréal:
  - Autorité régionale de transport métropolitain (ARTM): facilitates the coordination of mobility actions
  - A pool of innovative companies with high potential: Communauto, Eva, Netlift, Orange Traffic, ShareNow, Transit, etc.

### Our strengths in smart transportation

Quebec is a world centre for the technology sector:

- Critical mass of technological companies and talents
- Montréal expertise in artificial intelligence (AI):
  - Research ecosystem that brings together the pioneers of deep learning
  - High concentration of companies specialized in the manufacture of smart vehicle components
  - SCALE.AI supercluster headquarters
- Centre of excellence in photonic optics

Two important reforms facilitate pilot projects:

- **Highway Safety Code:** authorizes the testing of autonomous vehicles on Quebec roads
- **Motor Vehicle Safety Act:** facilitates the importation of autonomous vehicles

# 3 priorities to accelerate the deployment of innovations and the industry's development

## PRIORITY N°1

**Increase the supply of electric and smart mobility products and services developed in Quebec**



1. Stimulate demand for zero-emission vehicles
2. Accelerate openness and data sharing
3. Foster the emergence of new mobility solutions
4. Train an industry-qualified next generation by prioritizing skills in high demand
5. Establish clear guidelines for the electric and smart vehicle operating framework
6. Increase the share of Green Fund investments dedicated to the transportation sector
7. Ensure public and private support for the entire technological cycle of innovative mobility projects
8. Accelerate investments in the 5G network and digital infrastructure
9. Finance technology showcases in cities and municipalities
10. Upgrade Transport Canada's Motor Vehicle Test Centre in Blainville

### Models drawn from best practices \*

Thanks to its flexible approach, the **United Kingdom** is one of the best places in the world to develop, test and market smart vehicles.

**Singapore** is a leader thanks to its open government and data sharing policy.

**Ontario** mandated the Autonomous Vehicle Innovation Network (AVIN) to coordinate talent development.

## PRIORITY N°2

**Strengthen demand for electric and smart transportation**

1. Adapt public call for tenders rules
2. Adapt our insurance and liability model
3. Enhance vehicle fleet operators' skills
4. Accelerate the deployment of the charging station network
5. Plan for infrastructure modernization and land use planning proactively and collaboratively
6. Give the ARTM the mandate of ensuring the deployment of a Mobility as a Service (MaaS) project
7. Reform the pricing of electric charging for individuals, businesses and vehicle fleet operators
8. Support and facilitate the implementation of pilot projects
9. Promote the transition of the vehicle fleets of large cities, the government and transportation companies
10. Invest in initiatives to increase the level of social acceptability of innovations in mobility
11. Increase the competitiveness and attractiveness of electric vehicles compared to combustion vehicles

### Models drawn from best practices

**California** considers the total cost of ownership, i.e. fuel savings and vehicle lifetime, as criteria for evaluating tenders.

**Norway** is the world leader in the adoption of personal electric vehicles thanks to the deployment of a vast rapid charging network and targeted incentives.

**Japan** has adopted a structured approach to testing mobility solutions based on designating demonstration cities.

\*Identifying international best practices allows us to define the key success factors and best practices to consider for Quebec and Montréal.

## PRIORITY N°3

### Ensure industry growth by optimizing government strategies



1. Ease the regulatory framework and adapt it to the pace of development of new business models
2. Entrust a skilled stakeholder with the mission to ensure better coordination of organizations' efforts in the field of new mobility in order to avoid duplication and maximize the scope of the subsidies offered
3. Position Quebec clearly on elements of the value chain and make it the essential place for companies in this niche
4. Create a committee bringing together the Ministère des Transports, the Ministère de l'Économie et de l'Innovation, the Ministère de l'Environnement et de la Lutte contre les changements climatiques and the Ministère des Ressources naturelles, with a mandate to:
  - a. Develop a clear, common and integrated vision for tomorrow's mobility;
  - b. Define the mechanisms for the future deployment of the technology;
  - c. Improve collaboration between decision-making entities, buyers and suppliers.
5. Concentrate the efforts of ministers working in electric and smart transportation to avoid scattered funding

#### Models drawn from best practices

**Ontario** has developed a major smart vehicle sector by focusing on flexible regulation.

**California** has achieved large-scale electrification of transportation through a series of groundbreaking government initiatives.

**China** has an integrated view of the value chain, with, on the one hand, massive deployment of vehicles and, on the other, development of the battery sector.

*Quebec is already positioning itself as the champion for individual electric vehicle deployment in Canada.*



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To view the full study, visit:

[ccmm.ca/etude\\_reglementation](http://ccmm.ca/etude_reglementation) (in French only)

To learn more about Quebec's smart and electric transportation industry, visit:

[propulsionquebec.com/en/working-group/regulation-and-public-policy/](http://propulsionquebec.com/en/working-group/regulation-and-public-policy/)