



A vision of sustainable mobility, rooted in concrete action

Luc Couillard
Commissioner for electrification of transport
and smart vehicles
luc.couillard@ville.montreal.qc.ca

April 2019



Content of the presentation

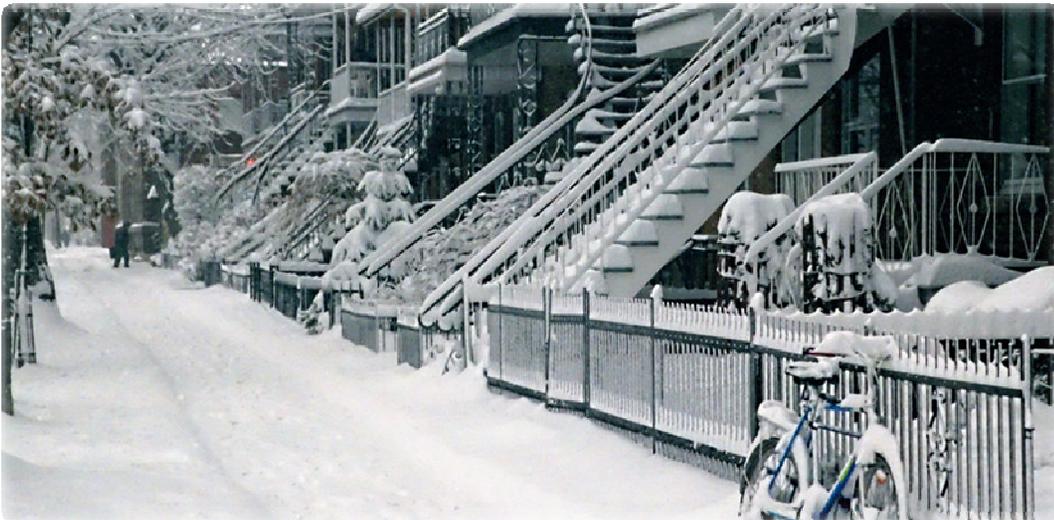
1. Evolution of the concept of sustainable mobility in Montreal
2. A statement in favor of the electrification of transport
3. Deployment of a public network of charging stations
4. The arrival of automated vehicles
5. Demonstration and experimentation
6. Criteria for pilot projects and potential sites

1. Evolution of the concept of sustainable mobility in Montreal



Pedestrian Charter

- New approach to making our streets as walking-friendly as possible
- Redefining the status of motorized modes of transportation, adhering to existing rules of the road and embracing safety-conscious conduct
- **Put the needs of people above the needs of automobiles**
- **Fighting the hazards of sedentary lifestyles, a growing public health concern**



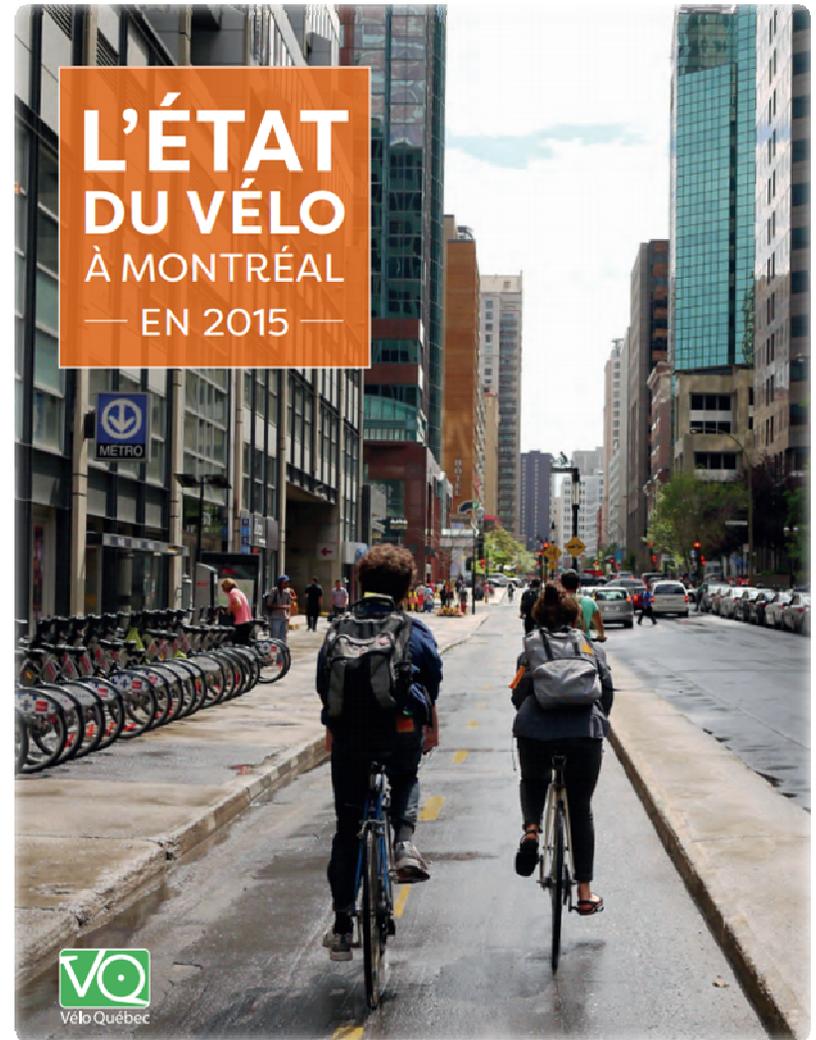
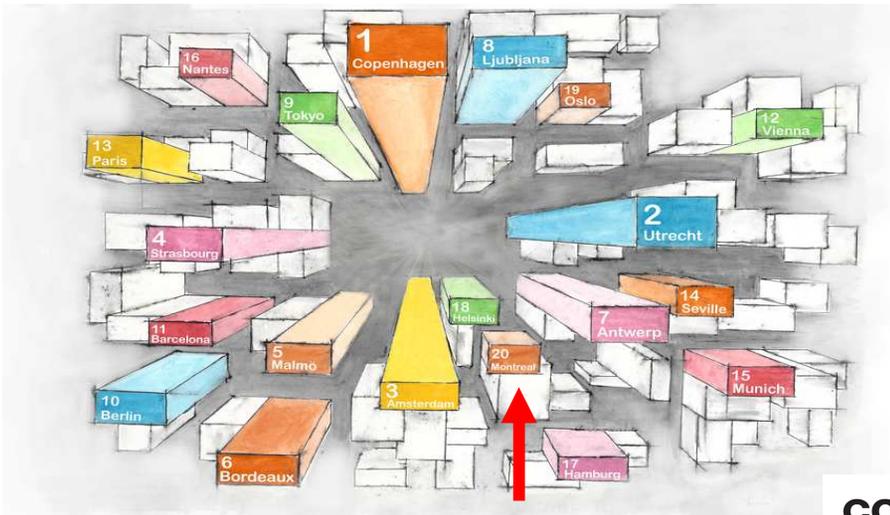
Bonaventure Project, built in 1967... demolish in 2017

- New urban boulevard characterized by its own aesthetic and the quality of its infrastructure
- Eliminate this physical and psychological barrier, thus allowing people to circulate freely



Cycling

- 475 miles
- Around of 10 % of the mode share in certain neighbourhoods
- Compares favorably with Helsinki, Seville, Vienna and Stockholm (6% -11%) and is close to Berlin and Munich (13% -14%)



BIXI (bike sharing) and car sharing

- 600 stations
- 7 250 bicycles
- 4,1 million trip made annually
- 687,000 Montrealers lived within 500 meters of a station



- Communauto is a car-sharing pioneer in North America
- 50,000 members in Québec
- Communauto and car2go
- Auto-mobile : 175 electric vehicles



Mobility City, from Volvo

- In nine cities, Montreal is the first North American city
- Conductive-charging stations (Nova Bus 100 % electric)
- Société de transport de Montréal will speed up its strategy for electrifying its surface transit system by purchasing 40 electric buses



2. A statement in favor of the electrification of transport



Energy transition based on three axes

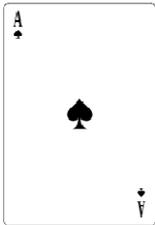
- Development of active and collective transport and dense and diversified territory
- Progressive electrification of private and public vehicles
- Promoting sustainable mobility among the population



Why choosing electrification ?



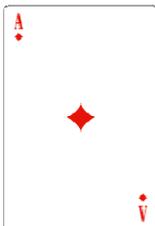
99% of our electricity comes from hydroelectricity



Three times more energy per capita than California



Our electricity price is the lowest while the price of gas is the highest



Better for our economy than sending capital to oil-producing countries

3. Deployment of a public network of charging stations

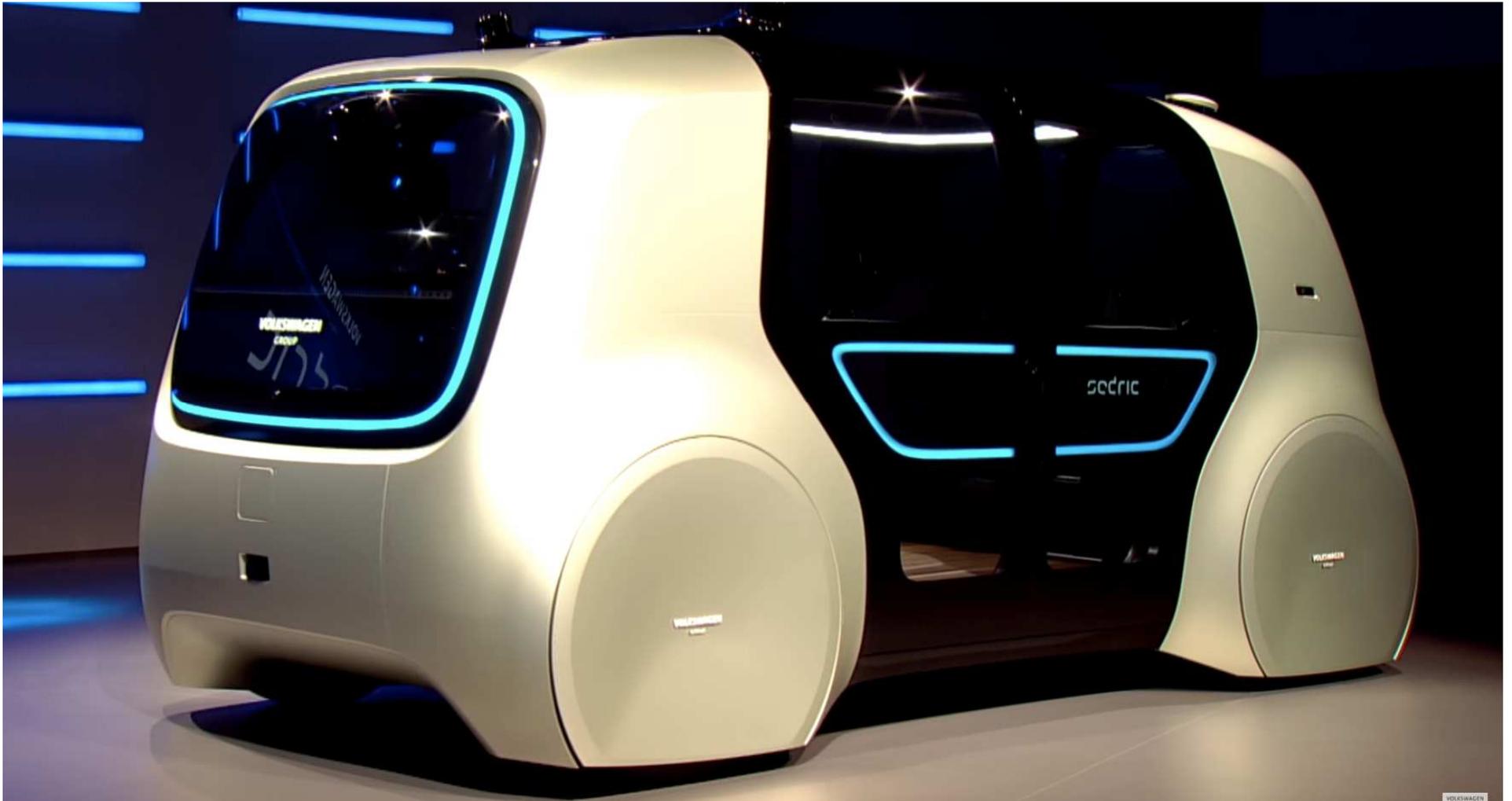


Deployment of a public network of charging stations

- 2013: The City becomes a partner of the *Circuit électrique* and plans to install 80 charging station
- 2014: pilot project of four charging stations on downtown street
- **2015: targets of 1 000 charging stations by 2020**
- 2016-2017: 380 charging station installed in the central districts
- 2018-2020: installation of 200 charging station per year
- **600 charging station on street, 75 off-street**



4. The arrival of automated vehicles



Challenges of the gradual arrival of autonomous vehicles

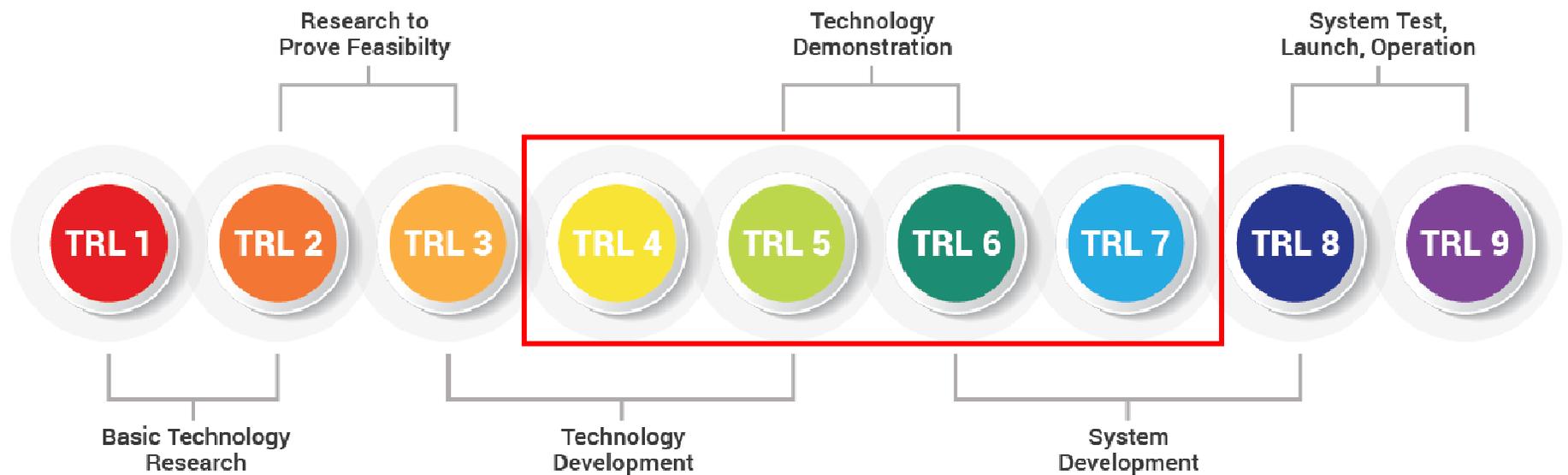
- ✓ Transition period
- ✓ Decrease in income (parking, offenses, registration, gasoline taxes)
- ✓ New expenses show up
- ✓ Access to data, security, storage, respect for confidentiality
- ✓ Continental regulation (study with the Detroit region)
- ✓ Connectivity with Municipal Infrastructure (V2I)
- ✓ Possible decrease of the parking demand
- ✓ Possible decrease in the supply of public transport (equity)
- ✓ Interaction between autonomous vehicle and pedestrians/cyclists
- ✓ Public space planning
- ✓ Adaptation of the regulations
- ✓ Risks of urban sprawls



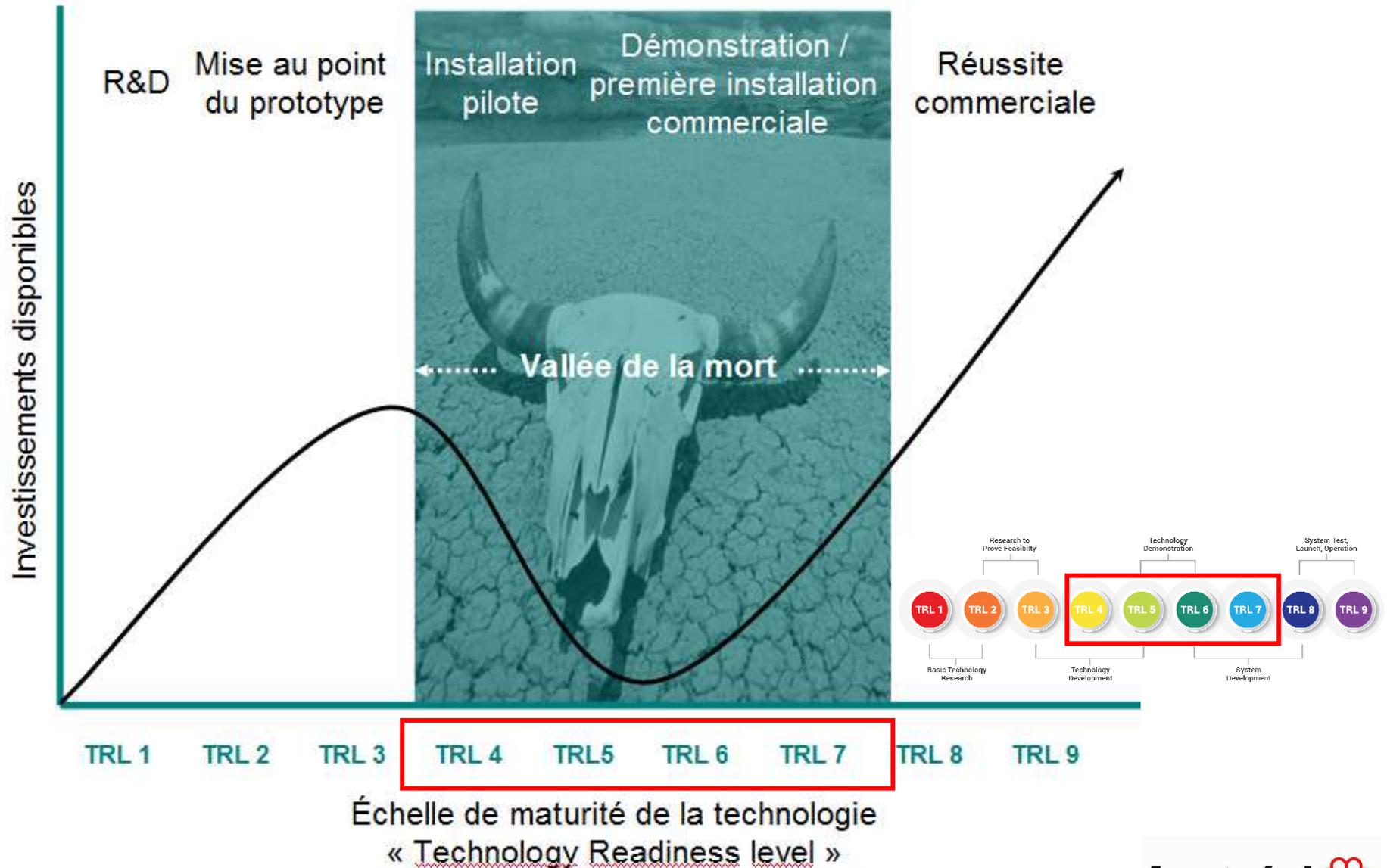
5. Demonstration and experimentation



Technology Readiness Level (TRL)



Innovation challenge...cross the Valley of death



A unique ecosystem

PMG Technologies, 12 miles north of Montreal

- Test and Research Center in Controlled Environment
- Establishment of North American standards
- Collaboration with international laboratories

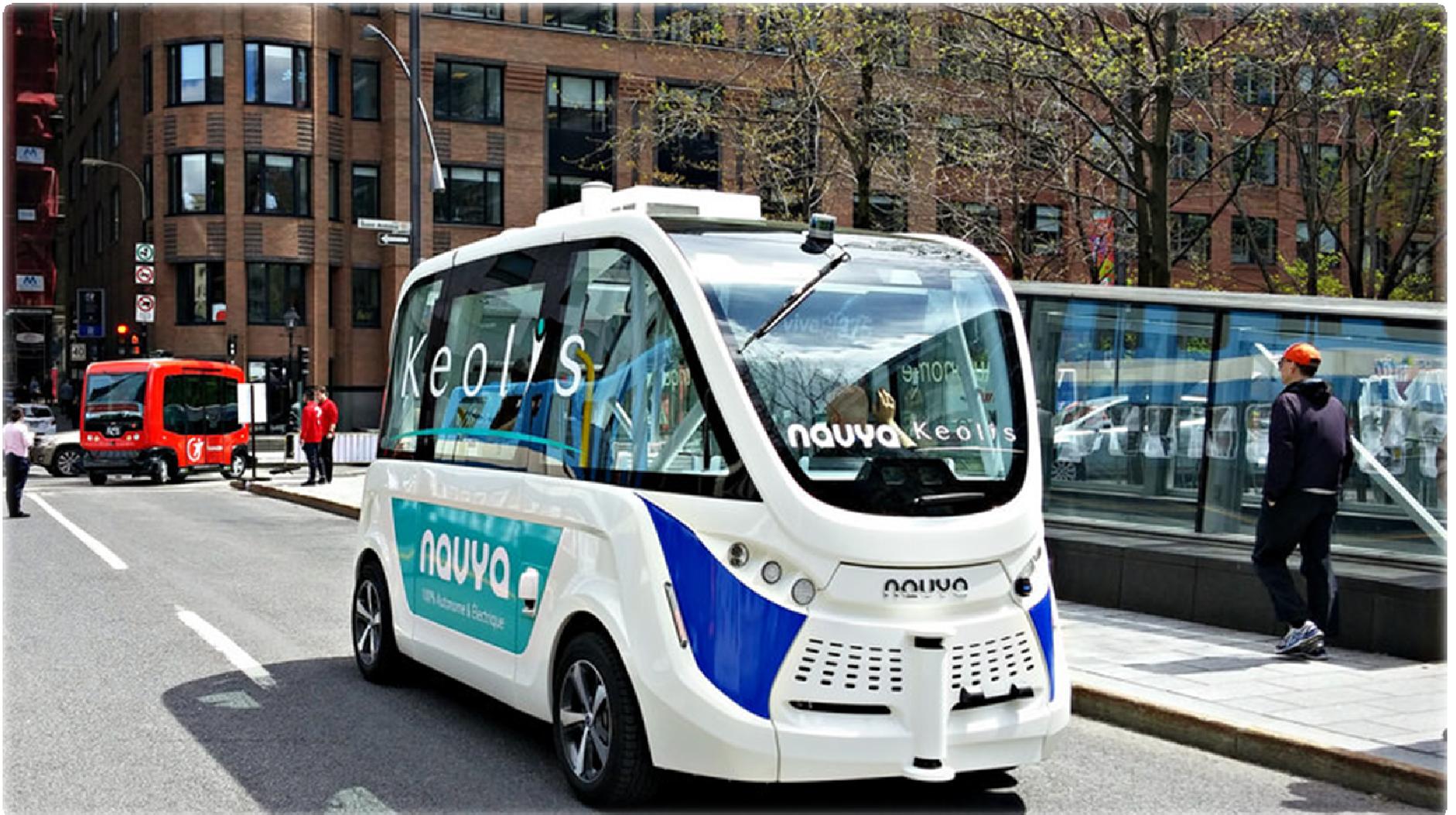


Montréal

- Corridor for testing and research in the real world
- Evaluation of embedded systems
- Deployment of technological innovations



Testing Corridors and a Technological Showcase



6. Criteria for pilot projects and potential sites



Positioning

The City wants to:

- promote the use of electric AV in shared mode and complementarily with the public transportation offer
- limit the use of personal AV
- ensure the safety of citizens' movements
- protect the privacy of citizens
- ensure the sharing of data generated by AVs
- ensure equity in terms of access to transportation and clusters
- encourage the development of local technology companies
- hold pilot projects to enrich its planning

Working group

The City must not adapt its municipal orientation to the arrival of the AV

The AV must be a tool to enable the City to achieve its sustainable mobility goals



Pilot projects' objectives

Multiple objectives:

- Various tests
- Familiarize and consult the population
- Evaluate the technology needs, the advantages, the risks
- Develop expertise (data, operation, etc.)
- Promote the mobility actors collaboration
- Influence the technology development
- Identify the updates needed in the regulation

Project under discussion – Phase 2 / Maisonneuve market



We strongly encourage you to participate in...

MOVIN'ON

JUNE 4 - 6, 2019 | MONTRÉAL, CAN
World Summit on Sustainable Mobility

From ambition to action

5 000 participants from 70 countries

