



Ponts
JACQUES CARTIER +
CHAMPLAIN
Bridges
Canada

Planning 2019

Presentation of Major Projects
Technical Media Briefing

May 1, 2019



- + **Sandra Martel, Eng.**
Interim Chief Executive Officer
- + **Catherine Tremblay, Eng.**
Senior Director, Projects and Construction
- + **Anne Belhumeur, Eng.**
Senior Director, Champlain Projects

Overview



- + Extend the service life of our structures
- + 2019 work on JCCBI's structures
- + Champlain Bridge – Major maintenance program
- + Champlain Bridge deconstruction
- + Question period

Several major work in the Montreal region



- + Conscious of the many construction sites in progress
- + Each lane closure adds to the very busy network and tired users
- + Close coordination with mobility partners
- + Postponement of some of our work if needed
- + Objective: keep the network functional and safe

+ + + Extend the service life of our structures



This work is part of our proactive asset management

- + Avoid corrective work
- + Limit impact on mobility through better planning
- + Extend the service life of our structures
- + Optimize investments



+ Proactive asset management



We have developed many tools to proactively manage our structures:

- + Approach based on the life cycle of our structures
- + Specific detailed studies
- + Research program and applications
- + Diagnostics
- + Development of 10-year master plans to ensure our structures last



+ Ongoing investment



	2019 (budgeted)
Champlain Bridge	\$126M
Jacques Cartier Bridge	\$87M
Honoré Mercier Bridge	\$28M
Environment	\$3M
Melocheville Tunnel	\$12M
Bonaventure Expressway	\$13M
Champlain Bridge Ice Control Structure	\$5M
TOTAL	\$274M



Critical infrastructure

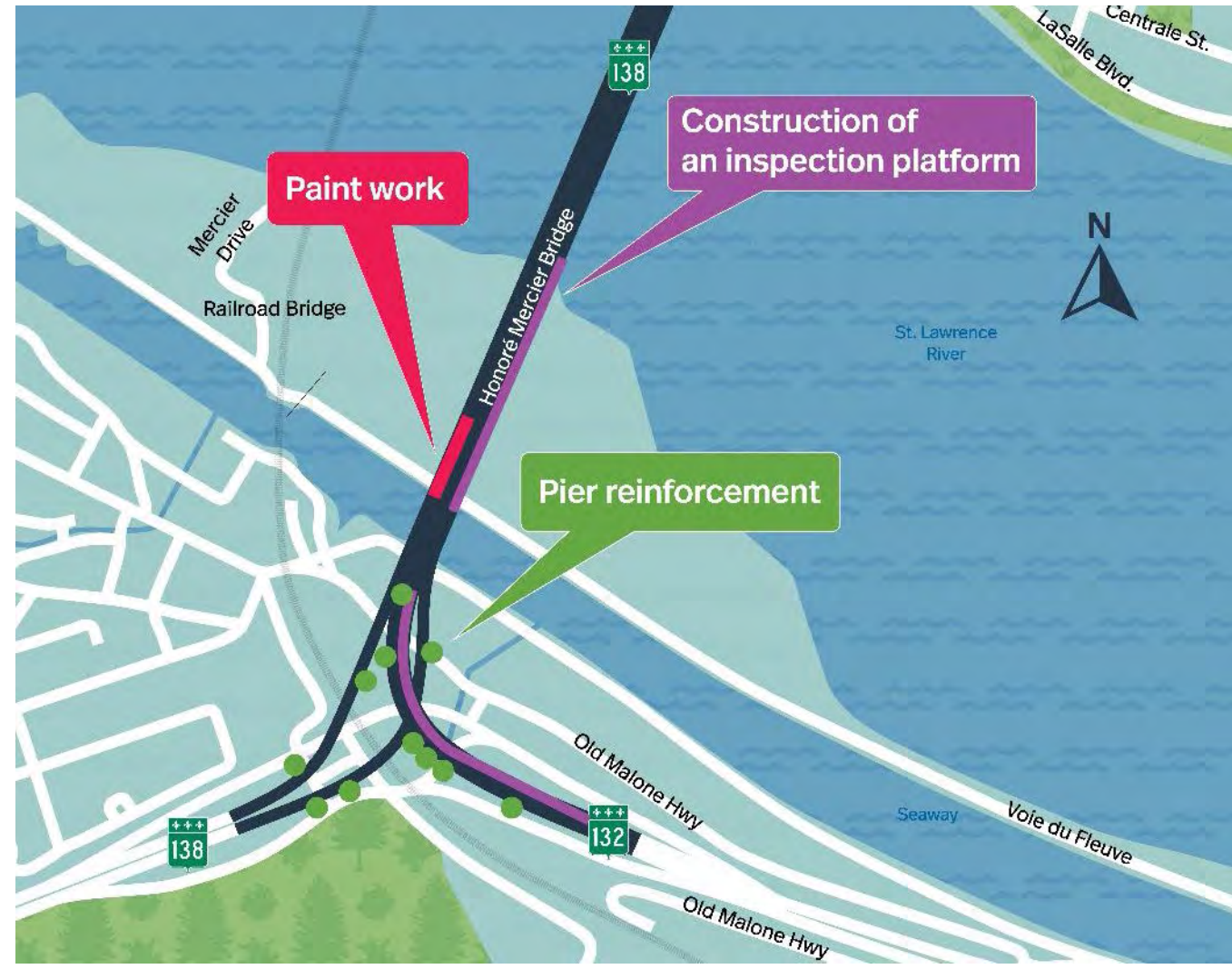
Work in 2019 in the JCCBI network



+ Honoré Mercier Bridge



- + Construction of an inspection platform and inspection work
- + Continuation of the pier reinforcement program
- + Painting of the steel structure
- + Close coordination with the MTQ



+ Traffic on the Honoré Mercier Bridge



- + Most of the work will be done from under the bridge to minimize the impact on users
- + The inspection work will require the following hindrances:
 - 5 complete night closures of the bridge in one direction
 - 12 complete night closures of some access ramps

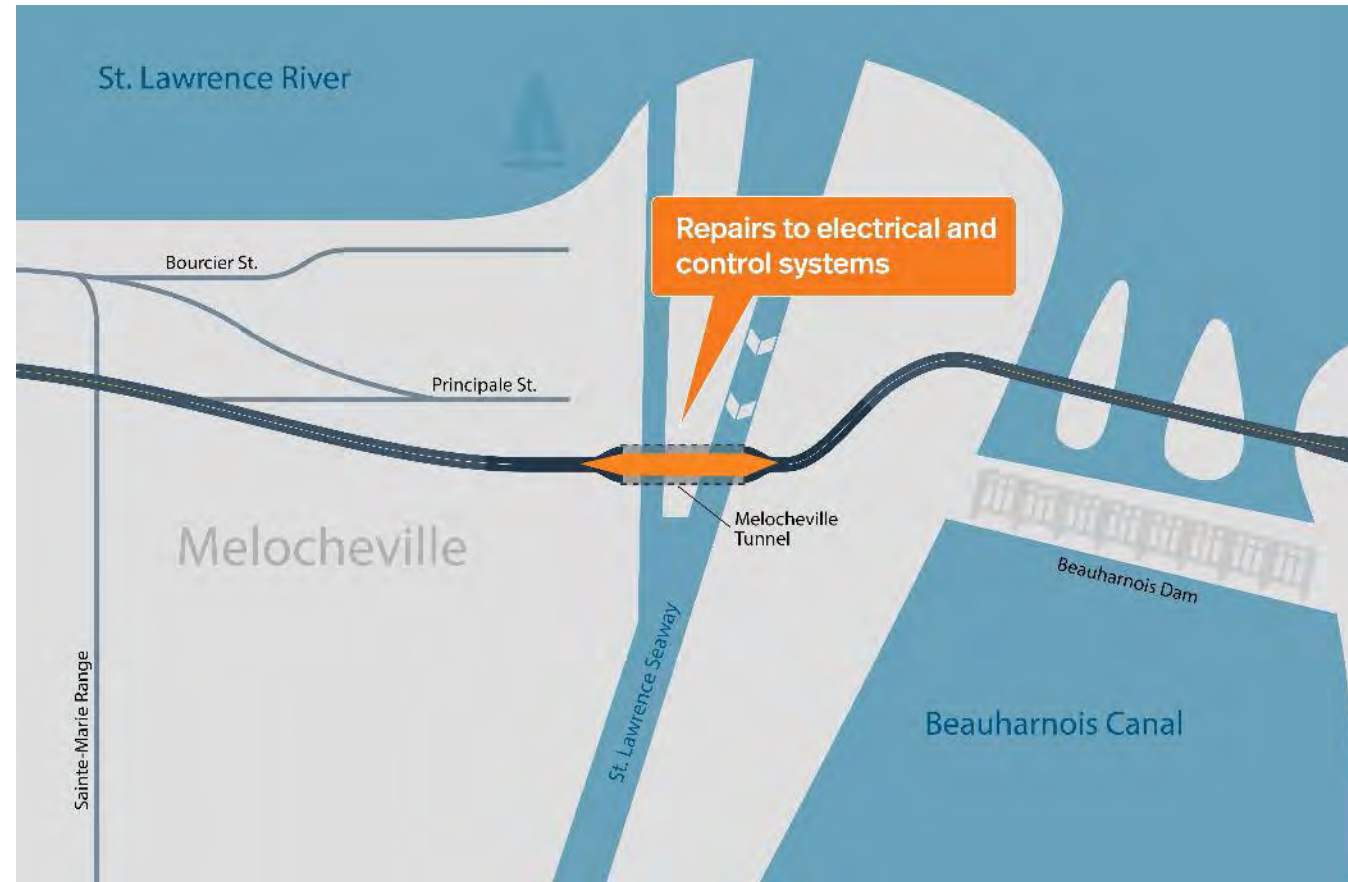


Melocheville Tunnel



2019 Planning

- + Repair work to electrical and control systems
- + Maintenance of pumping wells
- + Periodic complete night closures of the tubes (alternating two-way traffic) (between May and November)

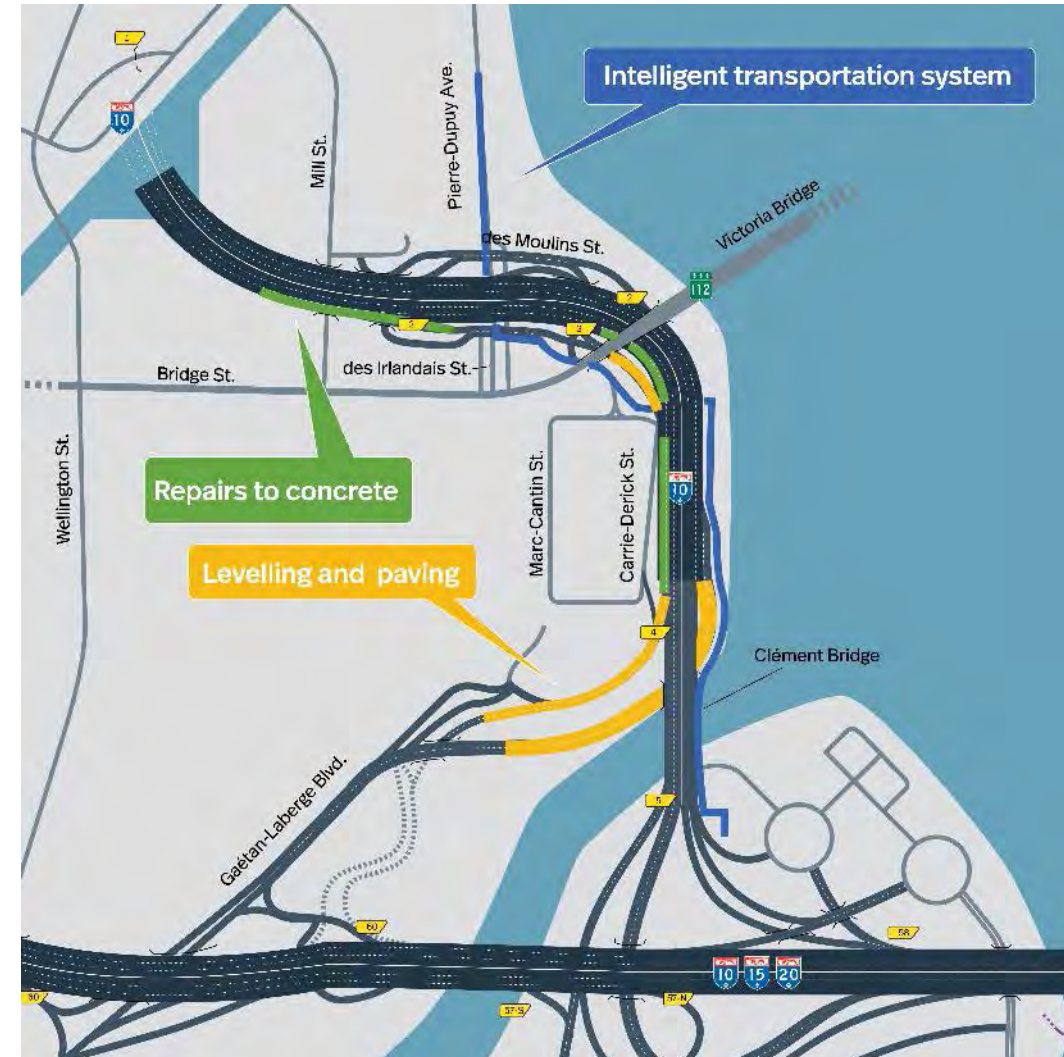


+ Bonaventure Expressway



Maintenance on the Expressway

- + Improvements to the intelligent transportation system (connection of the optical fibre network loop)
- + Levelling and paving of Hwy 10 access and exit ramps
- + Concrete repairs



Traffic on the Bonaventure Expressway



Levelling and paving

- + 10 complete night closures of exit ramp of Hwy 10 East toward Champlain Bridge (bet. Exit 4 and Gaëtan Laberge) (summer)
- + 10 complete night closures of access ramp to Hwy 10 West toward Montreal (between Gaëtan Laberge and Hwy 10 West) (summer)
- + 2 weekend blitzes (summer)
 - 1 complete closure of access ramp to Hwy 10 East toward Champlain Bridge (bet. Exit 4 and Gaëtan Laberge)
 - 1 complete closure of access ramp to Hwy 10 west toward Montreal (between Gaëtan Laberge and Hwy 10 West)



Traffic on the Bonaventure Expressway



Concrete repair

- + 12 complete night closures Hwy 10 East toward the Champlain Bridge (between Wellington and Carrie Derick) (summer/fall)
- + 8-week closure of Exit 2 of Hwy 10 East toward the Champlain Bridge (Pierre-Dupuy Ave.) (starting mid-June)
- + 6-week closure of 1 out of 3 lanes on Hwy. 10 East toward the Champlain Bridge (Phase 1: July / Phase 2: September)



+ Jacques Cartier Bridge



Overview of 2019 work

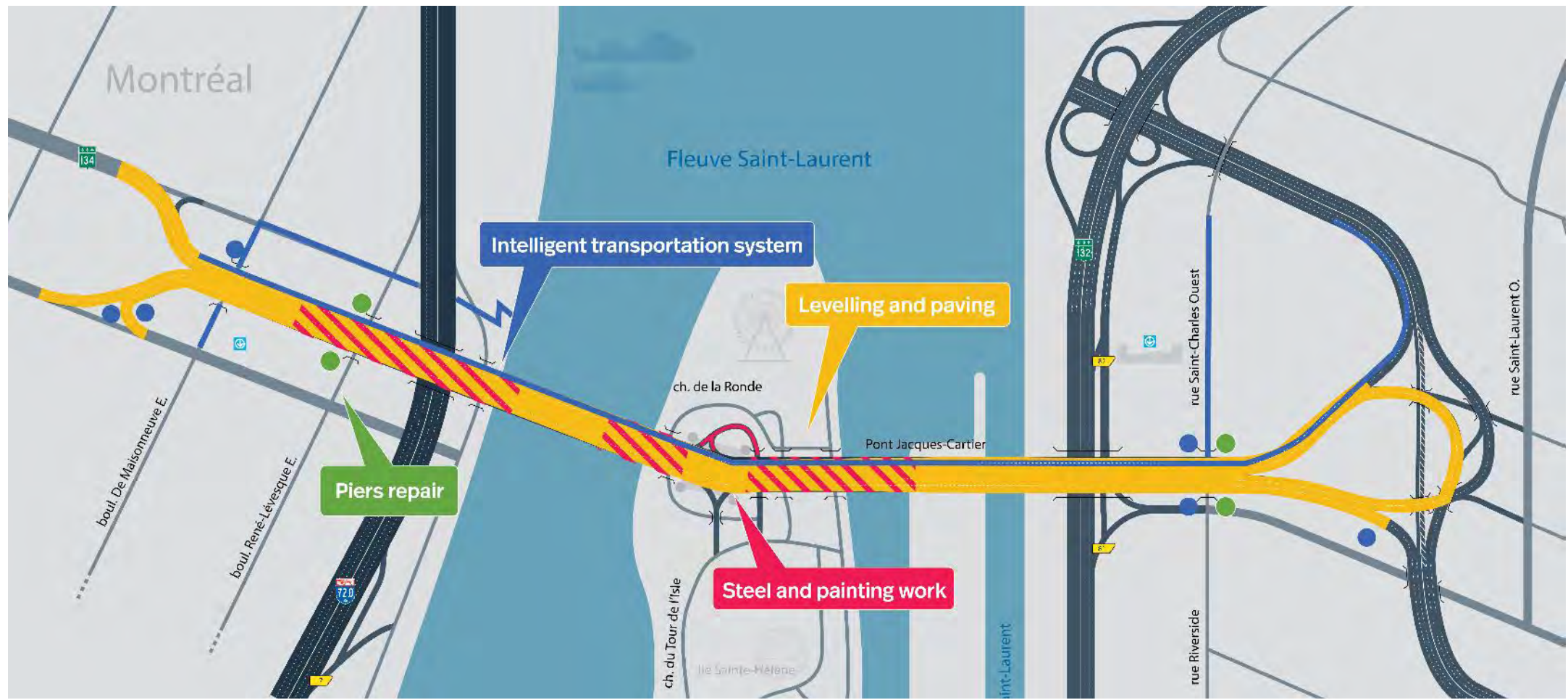
- + Continuation of major steel reinforcement program (2014-2030)
- + Painting of the steel structure under the deck (over the river)
- + Levelling and paving of the entire bridge and its approaches
- + Piers repair to the South and North approaches
- + Improvements to the intelligent transportation system network



Jacques Cartier Bridge



2019 Planning

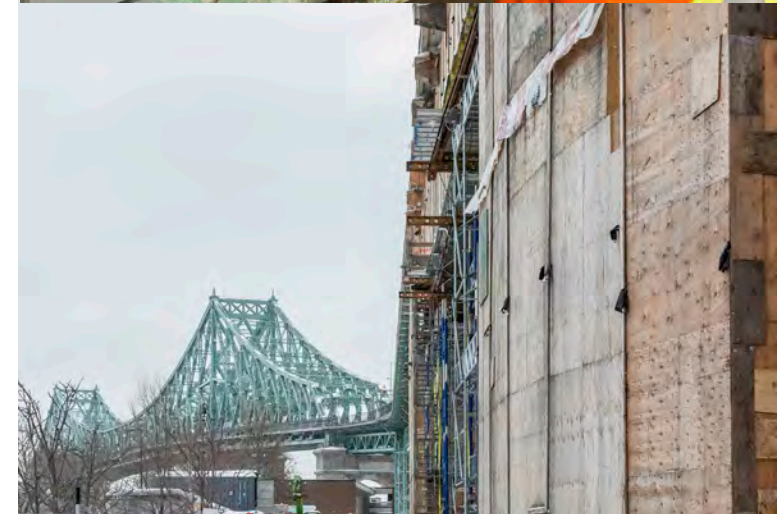


+ Jacques Cartier Bridge



Steel reinforcement and painting

- + 2 complete night closures of the bridge during one weekend (fall)
- + 1 weekend blitz (May 4-5)
 - 1 lane opened per direction
 - Complete closure of the Parc Jean-Drapeau access ramp toward Montreal
- + Important night and weekend lane reductions
- + Periodic closures of the multipurpose path and sidewalk (alternating)



+ Jacques Cartier Bridge



Levelling and paving

- + 3 weekend blitzes for preparatory work (June 22-23 + 29-30 and July 6-7)
 - o Important lane reductions
- + 2 blitzes from Sunday to Tuesday for repaving work (construction holiday: July 21-23 + 28-30)
 - o 1 lane opened per direction
 - o Complete closure of the Parc Jean-Drapeau access ramp toward the South Shore (July 21-23)
 - o Complete closure of the Parc Jean-Drapeau access ramp toward Montréal (July 28-30)
- + 1 weekend blitz for levelling and repaving work (August 10-11)
 - o 1 lane opened per direction
- + Periodic closures of the approaches in August



+ Jacques Cartier Bridge



Pier repairs

- + Maintenance work on the South and North approaches of the bridge (July to November)
- + Complete closure of the staircase on the side of the multipurpose path in Longueuil (July to November)

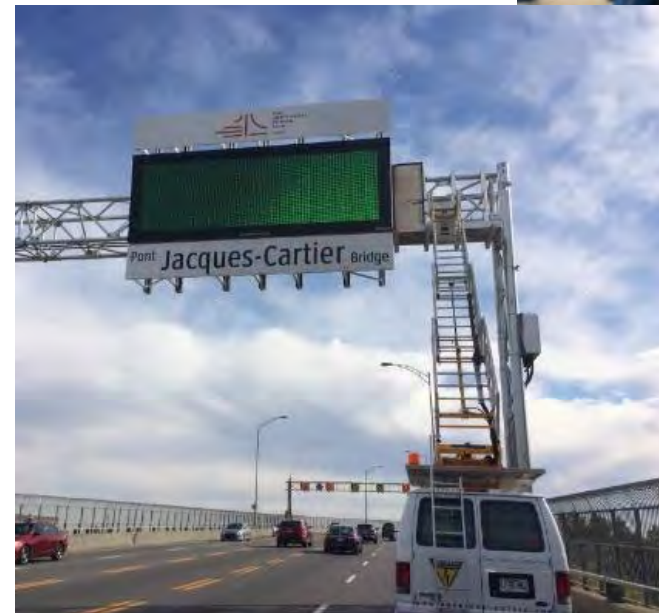


+ Jacques Cartier Bridge



Intelligent transportation systems

- + Installation of optical fibre, radar counting systems and measurement instruments on the entire bridge and its approaches
- + No major traffic hindrances in the network



+ Traffic on the Jacques Cartier Bridge



- + Traffic hindrances mainly at night and on weekends
- + Optimization of traffic management scenarios
- + Coordination of different work sites with MTL mobility partners

Summary of traffic hindrances

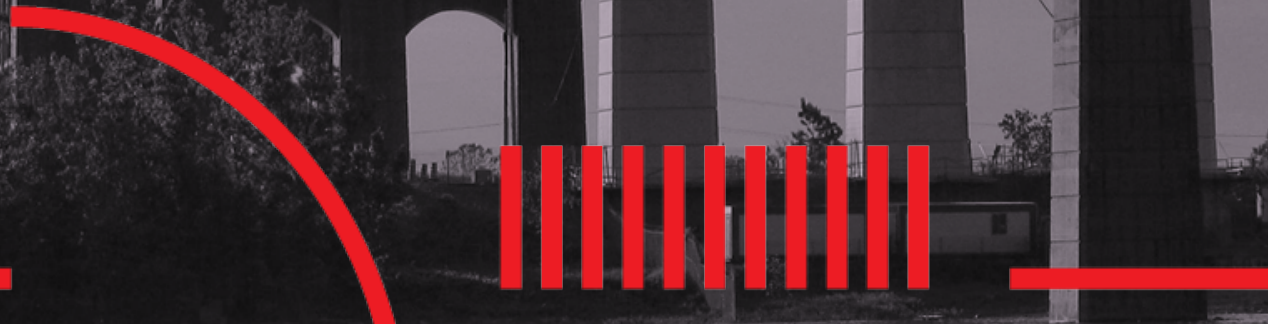
- + 2 complete night closures of the bridge during one weekend (fall)
- + 7 weekend blitzes (spring/summer)
 - Important lane reductions
 - 1 complete closure of the Parc Jean-Drapeau access ramp toward Montreal and 1 of the ramp toward South Shore
- + Periodic closures of the multipurpose path and sidewalk (alternating)





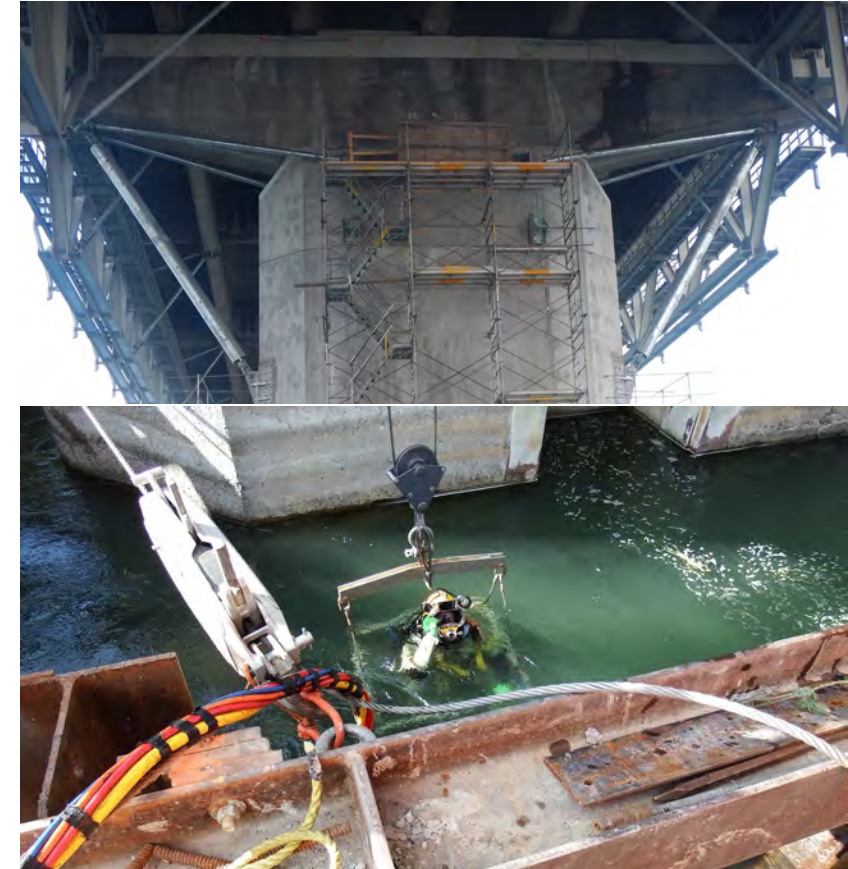
Champlain Bridge

Major repair program



Major repair program completed in 2018

- + All recommendations from the COWI report have been implemented
 - Reinforcement of 39 pier caps
 - Underwater work on five pier footings
 - Sensors installed on 45 pier caps and 30 interior girders
 - Design and manufacturing of a universal modular truss and a replacement diaphragm
 - Increased frequency of inspections on some structural components



+ Champlain Bridge



Ongoing

- + Constant monitoring of the structure until its decommissioning
- + Continued inspections and monitoring
- + Local repairs to the concrete slab as needed
- + Local repairs to expansion joints as needed

The Champlain Bridge is reinforced, monitored, stable and safe





Deconstruction of the Champlain Bridge



Why deconstruct the bridge?



- + Structure at the end of its service life
- + Design and drainage problems led to premature degradation
- + Weight of the structure contributes to 80% of the total load (without traffic)
- + Prohibitive long-term maintenance costs



Deconstruction project



The project includes:

- + Deconstruction work
- + Environmental measures
- + Material reuse
- + Applied research
- + Redevelopment project
- + Estimated overall budget estimated at \$400M

Credit: Infrastructure Canada



Deconstruction project



Deconstruction work

- + Design-build method
- + Deconstruction will last approximately 2 to 3 years
- + Two-step procurement process (call for bidders + call for proposals)
- + Transparent and open international call for proposals

Design-build



Sustainable development approach



- + Minimizing the impacts on the environment and quality of life
- + Reusing and recycling materials
- + Disposing of materials in accordance with standards
- + Keeping some structures in place for redevelopment purposes
- + Aiming for a carbon-neutral project
- + Aiming for ENVISION recognition



Targeted environmental analysis



- + The 2013 environmental assessment (EA) focused on the construction of the new bridge and the deconstruction of the original bridge (legal requirements covered)

- + In 2019, JCCBI updated the EA (with a targeted environmental analysis) in order to:
 - Account for new information about the project's environmental impacts
 - Diligently control the environmental impacts
 - Uphold quality of life for local residents
 - Update mitigation measures (lessons learned, new practices)



+ Principles:

- Prioritize the reuse of materials for deconstruction method development
- Materials for reuse: concrete, steel and asphalt

+ Options:

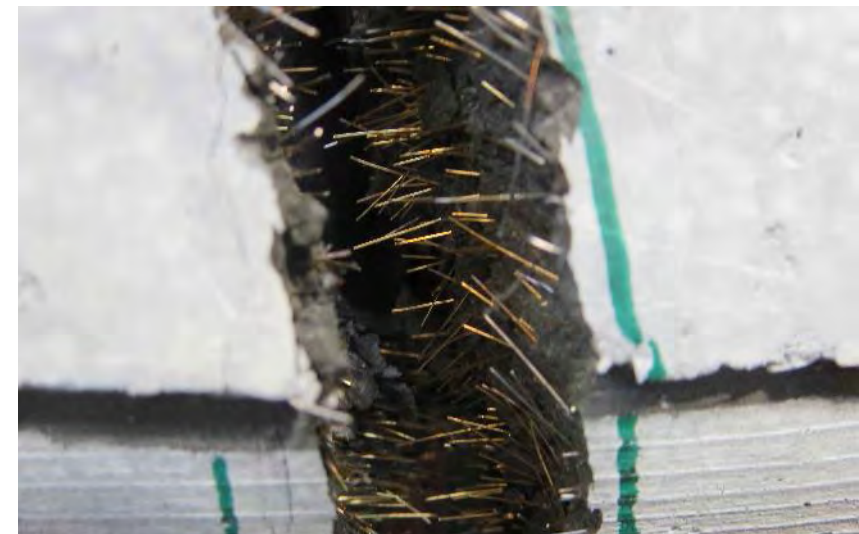
- Reuse of structural elements
 - E.g., steel for buildings or works of art
- Recycling
 - Materials will be sent to recycling facilities in the Montreal area
- Interest for the construction sector
 - E.g., repairs to road infrastructure; large-scale residential developments

Applied research



Applied research projects carried out during the deconstruction project

- + Study the components of a bridge at the end of its life cycle
- + Improve knowledge about the life cycle of JCCBI's structures



Shoreline redevelopment project



- + This includes the ice control structure and sites along the shoreline
- + The sites to be redeveloped total 71,960 m² (7.2 ha)

Deconstruction stages



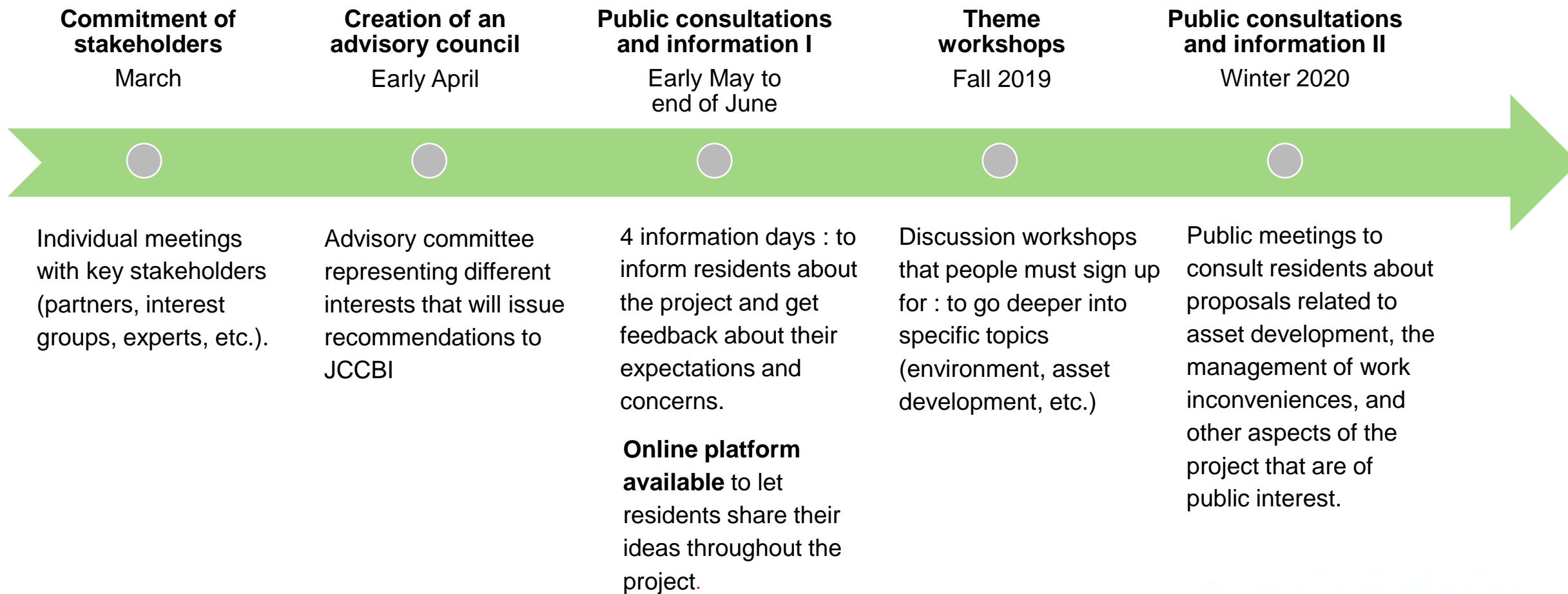
- Spring 2019**
 - + Start of public meetings
 - + Commissioning of the Samuel De Champlain Bridge
 - + Decommissioning of the original Champlain Bridge
- Summer 2019**
 - + End of targeted environmental analysis
- Winter 2020**
 - + Start of deconstruction contract
 - + Material reuse
- 2022
to be confirmed**
 - + End of the deconstruction of the Champlain Bridge
 - + Work to redevelop the shoreline
 - + Compensation work



Public participation



Information and consultation process



Members of the Advisory Committee



- + Andréanne Paris, directrice générale, Conseil régional de l'environnement de la Montérégie
- + Ariane Cimon-Fortier, directrice adjointe à la concertation, ZIP Jacques Cartier
- + Dinu Bumbaru, directeur des politiques, Héritage Montréal
- + Ghislain Vallée, directeur général, Traces Québec (Réseau Environnement)
- + Valérie Beaulieu, directrice, Culture Montréal
- + One representative of Ville de Brossard (to be confirmed)
- + Diane Vallée, directrice de projet, direction d'arrondissement, arrondissement de Verdun
- + Isabelle Lebrun, chef de division, grands projets partenaires, Ville de Montréal
- + Mohamad Nasser-Eddine, vice-président par intérim, Programmes et performance, Fondation canadienne pour l'innovation
- + Stéphane Pineault, coordonnateur, politiques et interventions de développement, Communauté métropolitaine de Montréal
- + Anne Belhumeur, directrice principale, Projets Champlain, PJCCI
- + Nathalie Lessard, directrice, Communications, PJCCI
- + Martin Chiasson, directeur, Environnement et développement durable, PJCCI
- + Hind Zahr, chargée de l'ingénierie, PJCCI

Information Days



4 information days in May 2019

- + Wednesday, May 8 and Thursday, May 9 – noon to 7 pm
Centre for Sustainable Development
50 Sainte-Catherine Street, Montréal
- + Saturday, May 11 - 10 am to 2 pm
Centre communautaire Elgar
260, Elgar Street, Île-des-Sœurs
- + Monday, May 13 – 4 pm to 8 pm
Centre culturel Alphonse-Lepage
7905, San Francisco Ave, Brossard



Online consultation platform available from May 8 to June 30.

Communications tools : Web site, newsletter, Twitter accounts, and others

In real time to help users plan their travel

- + Integrated dashboard at JacquesCartierChamplain.ca: live traffic conditions, planned work, traffic cameras, major work alerts
- + **Text message** alerts for major closures or significant incidents on our network
- + **E-mail** alerts for construction work
- + Alerts about traffic hindrances and information about each structure via **Twitter**
 - [@pontJCBridge](https://twitter.com/pontJCBridge)
 - [@pontChampBridge](https://twitter.com/pontChampBridge)
 - [@pontHMBridge](https://twitter.com/pontHMBridge)





Question period





40

PJCCI, 40 ANS D'INNOVATIONS INGÉNIEUSES
JCCBI, 40 YEARS OF ENGINEERING INNOVATION

Participez à la conversation / Join the conversation

JacquesCartierChamplain.ca

