A one-day workshop…
A worthy investment!

The striking example of the
Turcot Complex Interchange
Rehabilitation Project



CSVA Conference
November 19, 2007

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Richard Vézina**, ing., M. Sc. A., CVS, directeur de Pratique, RCGT**

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Presentation Agenda




- Context
- Proposed solutions
- New elements to take into consideration
- Mandate of the VA consultant
- Solution's Backbone: *the needs model*
- Results obtained
- Conclusion
- Question period

Context







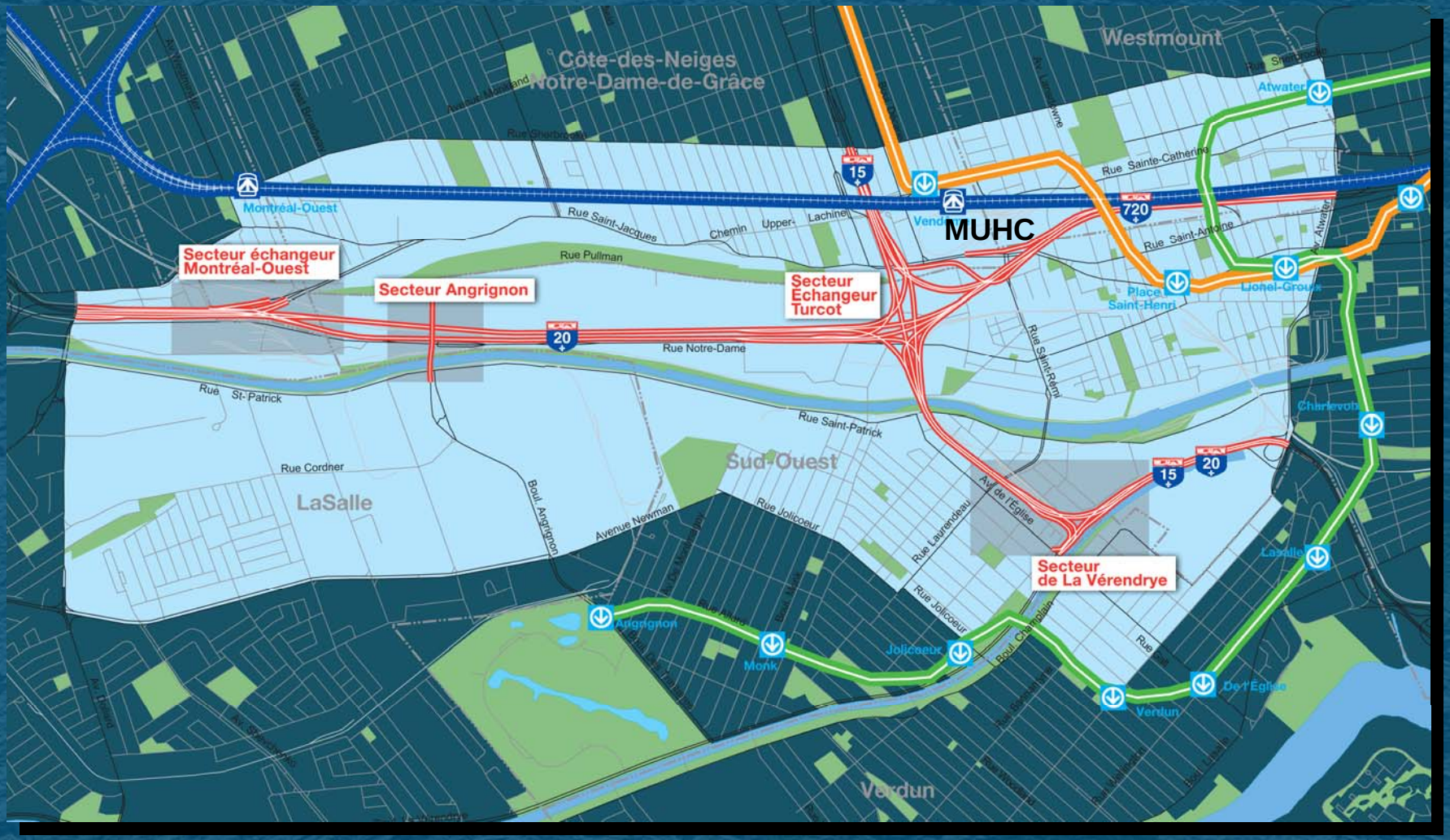
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Context







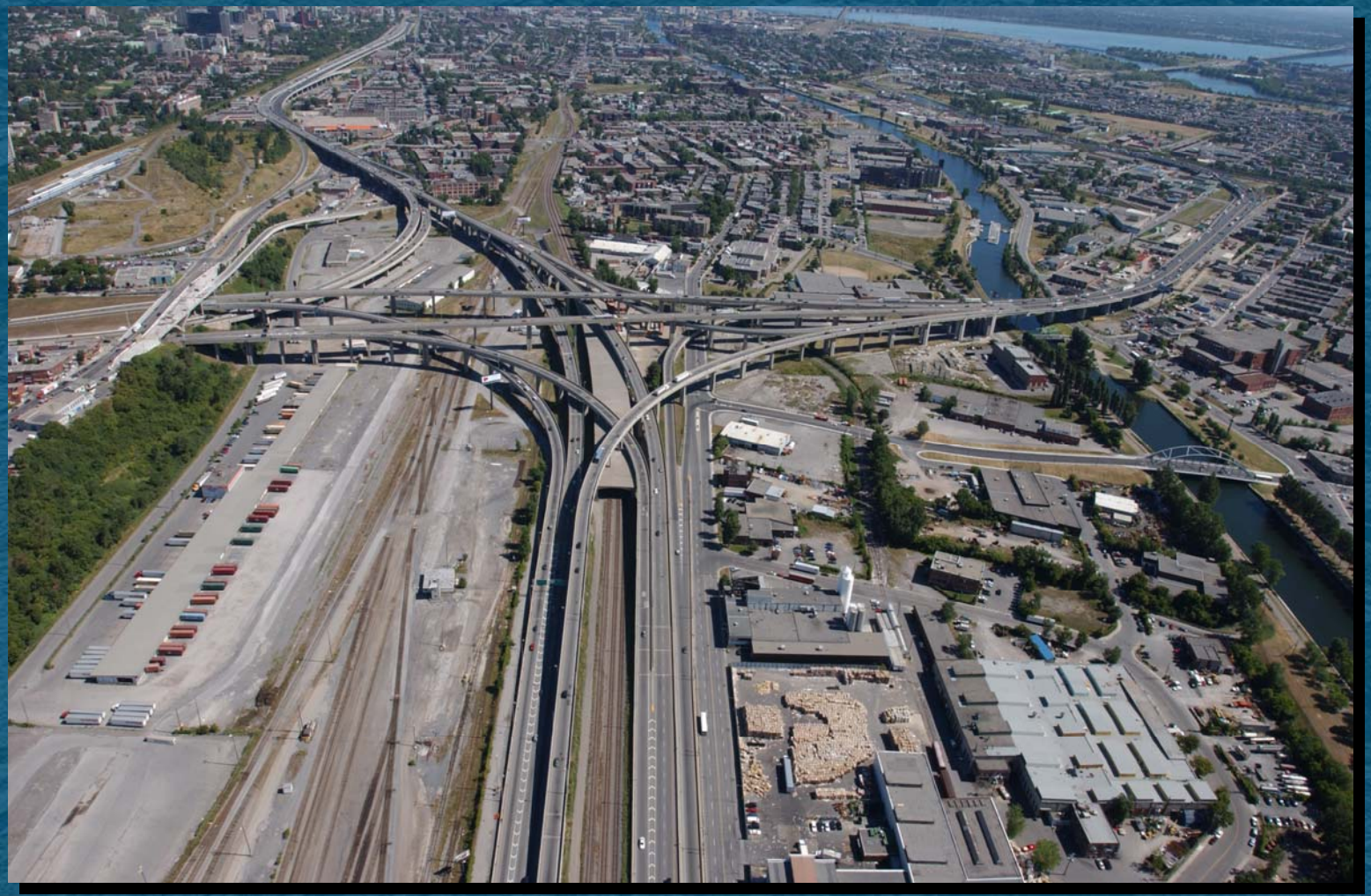
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Context







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Context







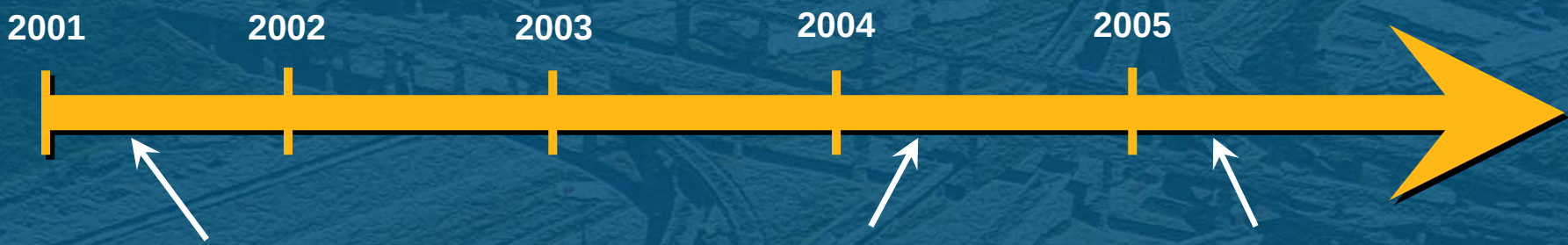
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Context







Needs study Step 1

Needs study Step 2

Solutions study

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Context





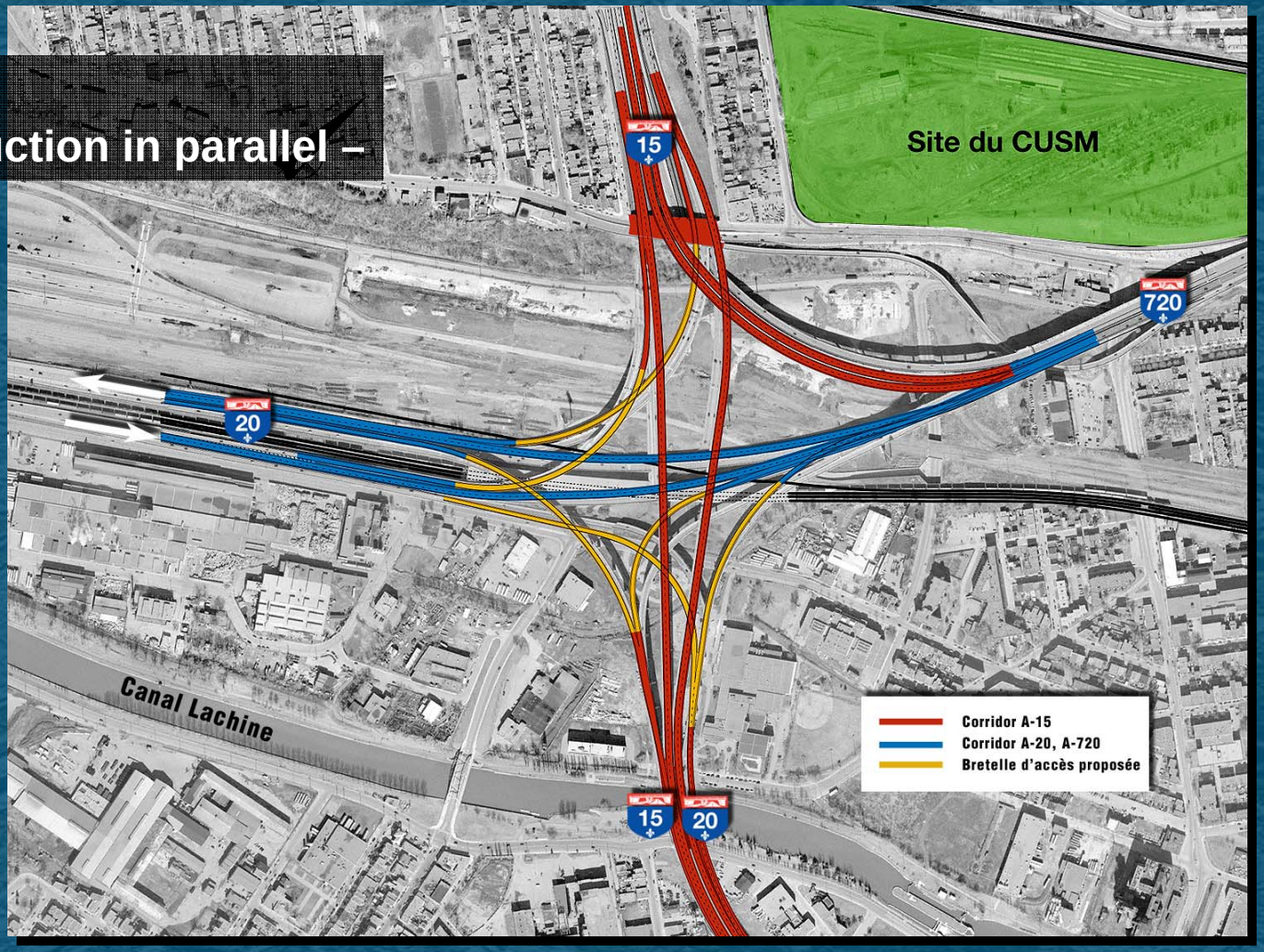
- The Complex integrates some structures older than 40 years old
- The level of deterioration of some structures require a major intervention
- The project is currently at the step of « Opportunity study – *solutions identification* »
- Three scenarios were identified to this day

Proposed solutions





Scenario 1
– Reconstruction in parallel –



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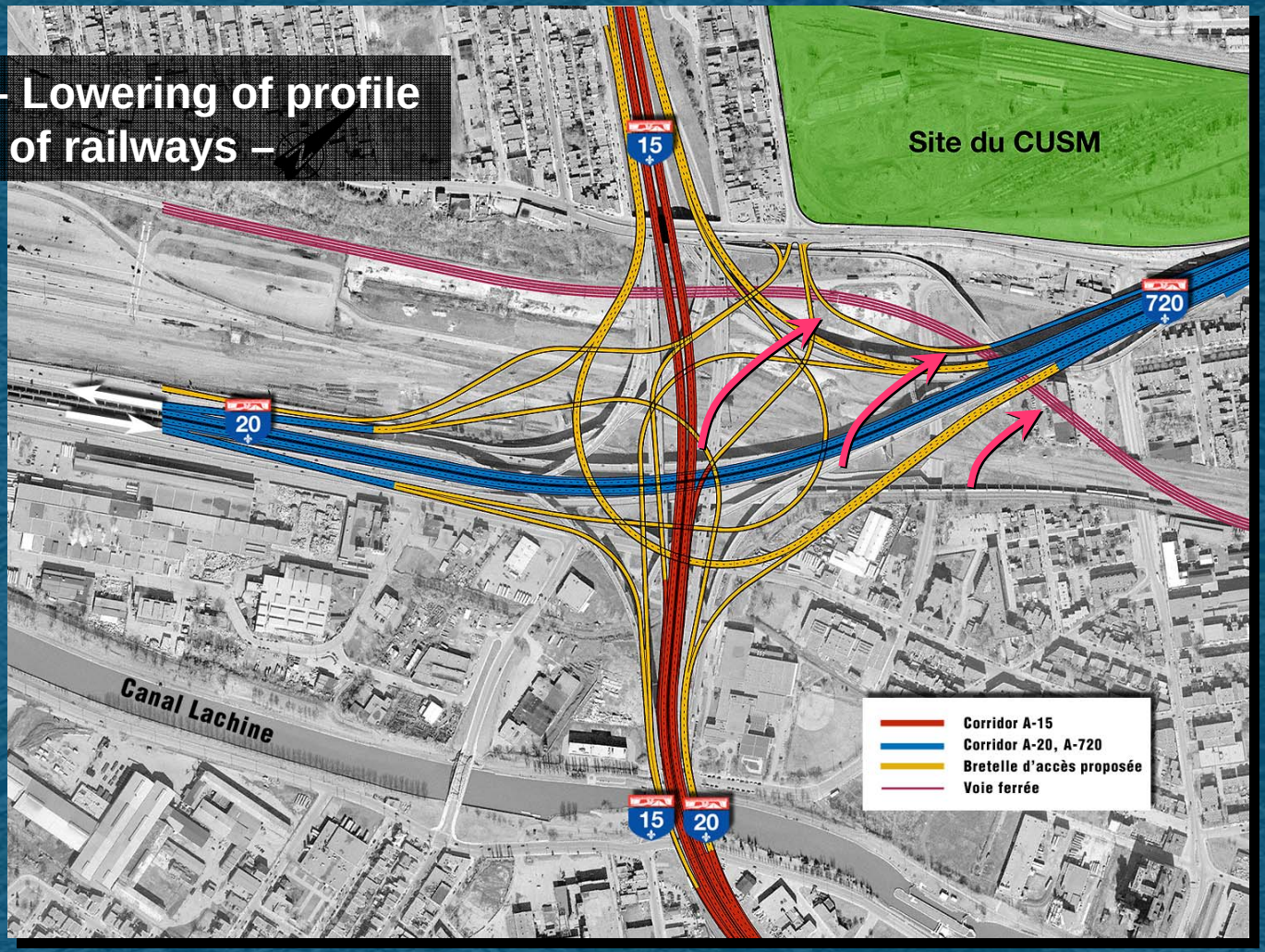
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Proposed solutions





Scenario 2 – Lowering of profile and moving of railways –



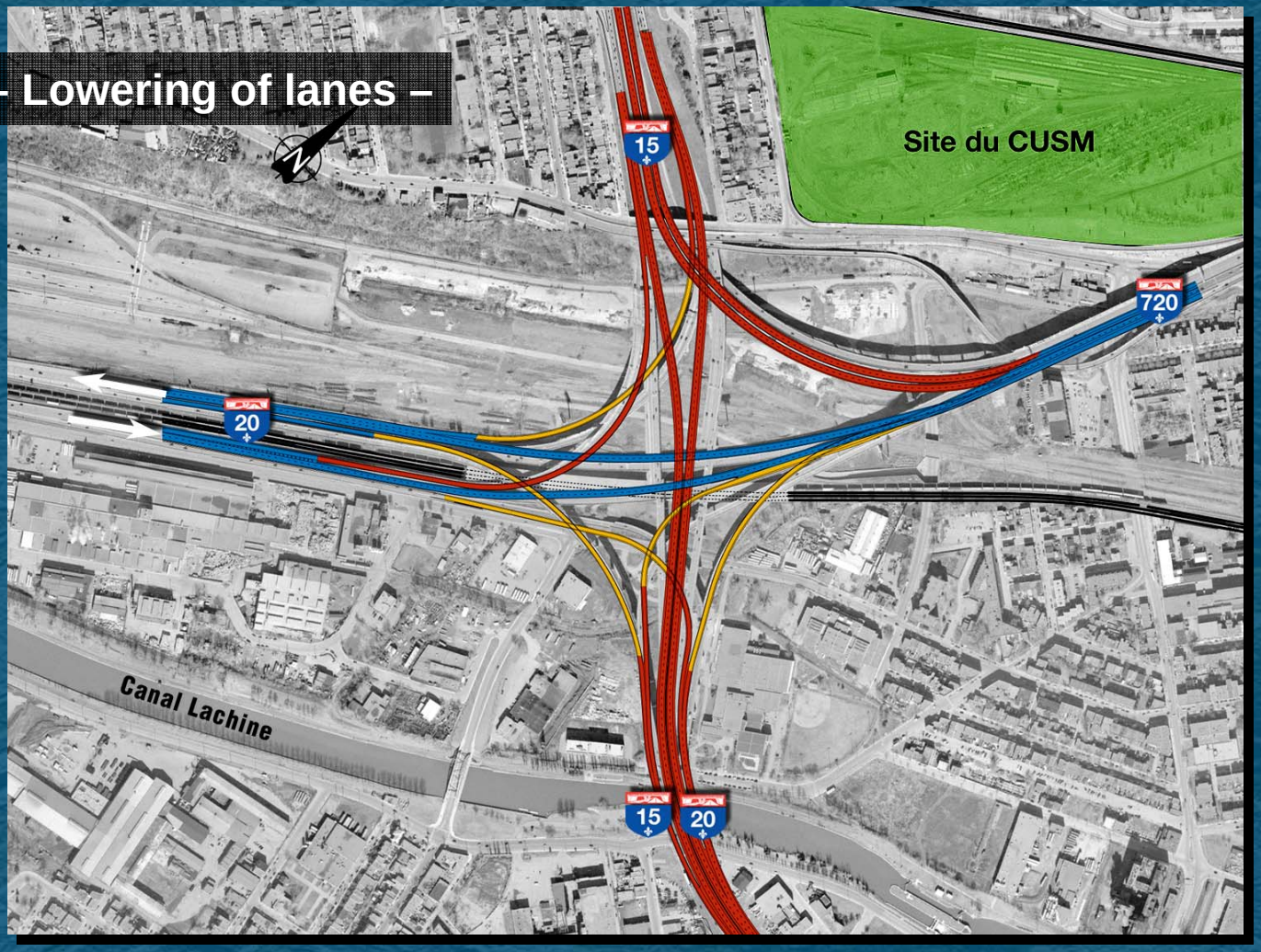
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Proposed solutions



Scenario 3 – Lowering of lanes –



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New elements





- June 2004 : announcement of the construction of the new McGill University Health Centre (MUHC)
  - Site : Glen Yards
  - Budget : 1,2 G$
  - Construction : 2009-2013

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New elements







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New elements





- Environmental study done in 2004
- Major projects in opposition: Turcot and MUHC
- Transport of hazardous materials next to future MUHC

The consultant's mandate





- Reassure the Ministry on the value of the proposed solutions
- Evaluate the project as a whole
- Analyse the project with a different perspective

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The consultant's mandate



- Assemble the right key participants (October 2005)
- Facilitate a ***one-day*** workshop
- Bring « *uncensored* » ideas
- Resolve the potential deadlocks between the two mega-projects : Turcot and MUHC

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The consultant's mandate




1. Opening remarks (MTQ)_____8h00
2. Presentation of the participants
3. Presentation of the approach
4. Presentation of the project (MTQ)
5. Function analysis of the needs to be satisfied
6. Presentation of the proposed solution
   - Cross reference with function analysis and optimization opportunities
7. Creativity_____13h00
   - Brainstorming on alternative solutions, screening and consolidation of ideas
8. Evaluation of solutions
   - Criteria, order of magnitude of costs, selection on Value
9. Recommendation
10. Identification of work to be completed
    - What? Who? When?
11. End of workshop_____17h00

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Solution's backbone
The needs model




Resolve structural and road safety technical problems

1. Ensure the integrity of the structures
2. Reduce the number and severity of accident-prone areas
3. Respond to new travel needs
4. Integrate the solutions in its environment
5. Preserve the future
6. Control construction and interventions impacts on traffic

Results obtained





Turcot – De la Vérendrye – Angrignon Complex

- Design of an *additional scenario*
- *Fourteen opportunities* for optimization

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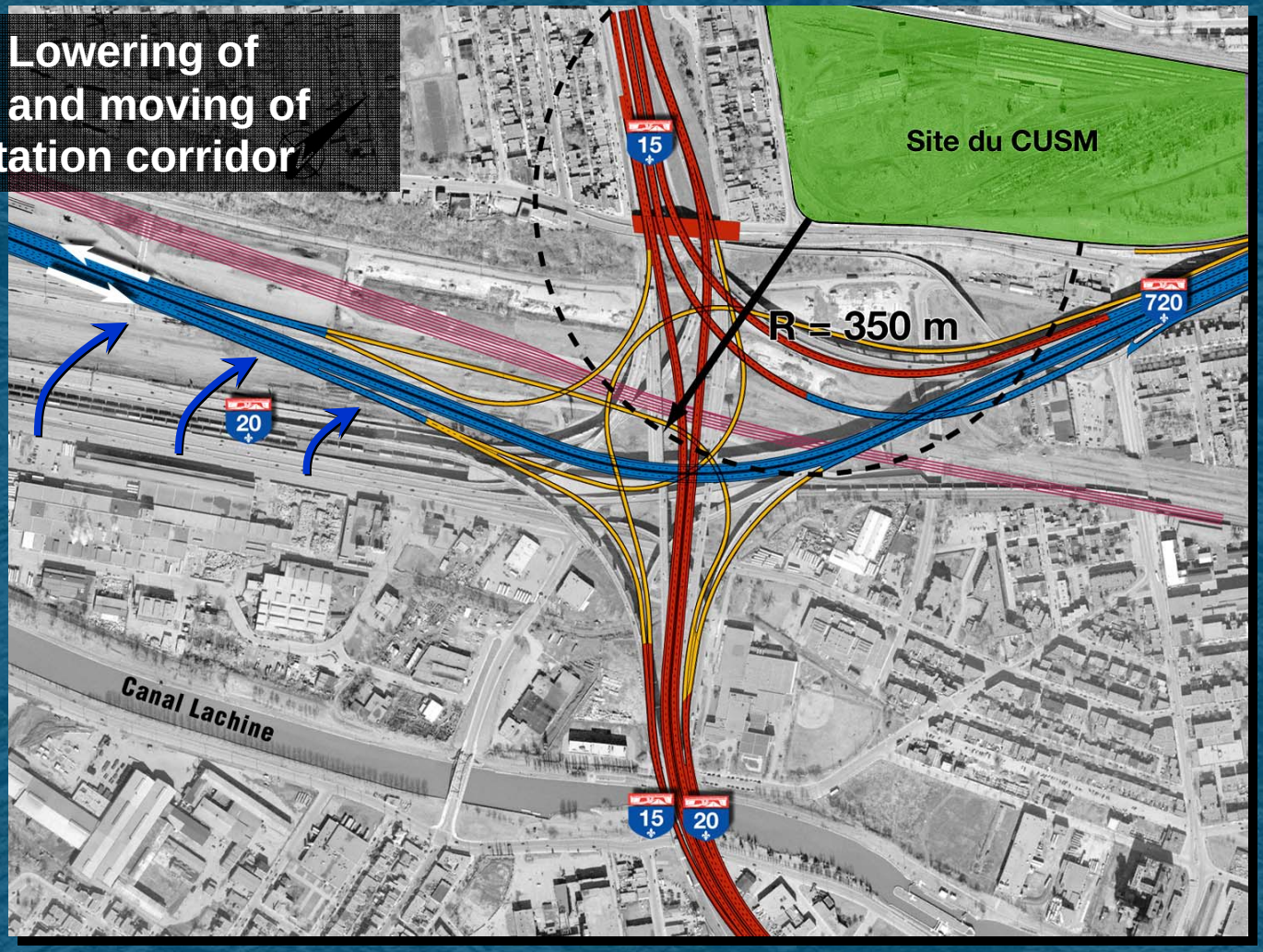
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Results obtained





Scenario 4 – Lowering of lanes profile and moving of the transportation corridor



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Results obtained

Evaluation of ideas - criteria





- Environmental Impact
- Valorization of the territory
- Implementation
- Safety
- Compatibility with the known projects
- Railway impact (before and after construction)

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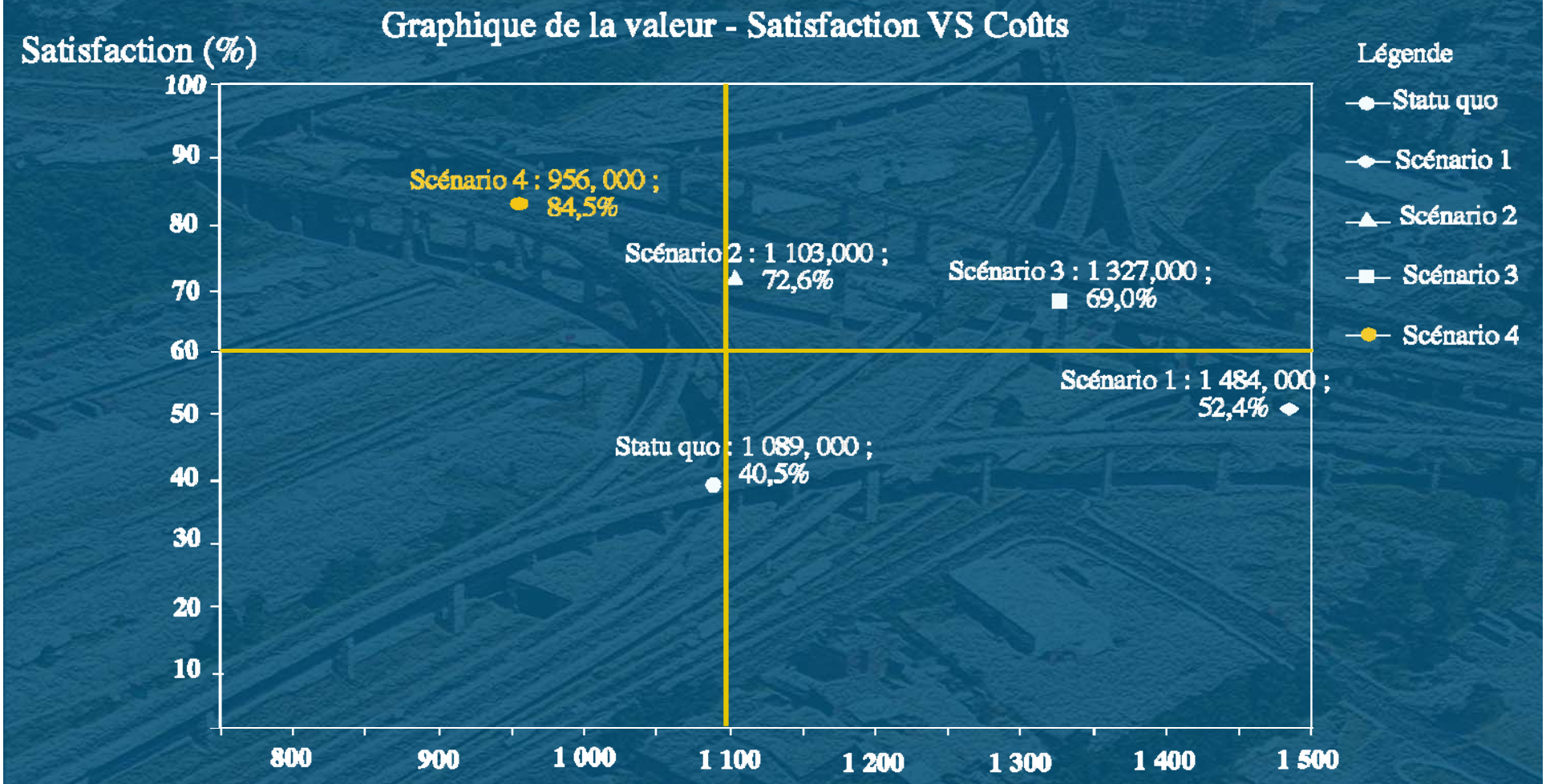
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Results obtained

Evaluation of scenarios







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Results obtained
The fourth scenario




- Creation of a railway and road corridor at the bottom of the cliff
  - Estimated cost : 1 G$
  - Discriminating advantages:
    - Maximum valorization of the territory valorization (consolidation of the sector «Falaise – canal Lachine»)
    - Life-cycle cost of the infrastructures cost (Elimination of the need to rebuild for 75 years)

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Results obtained







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Results obtained







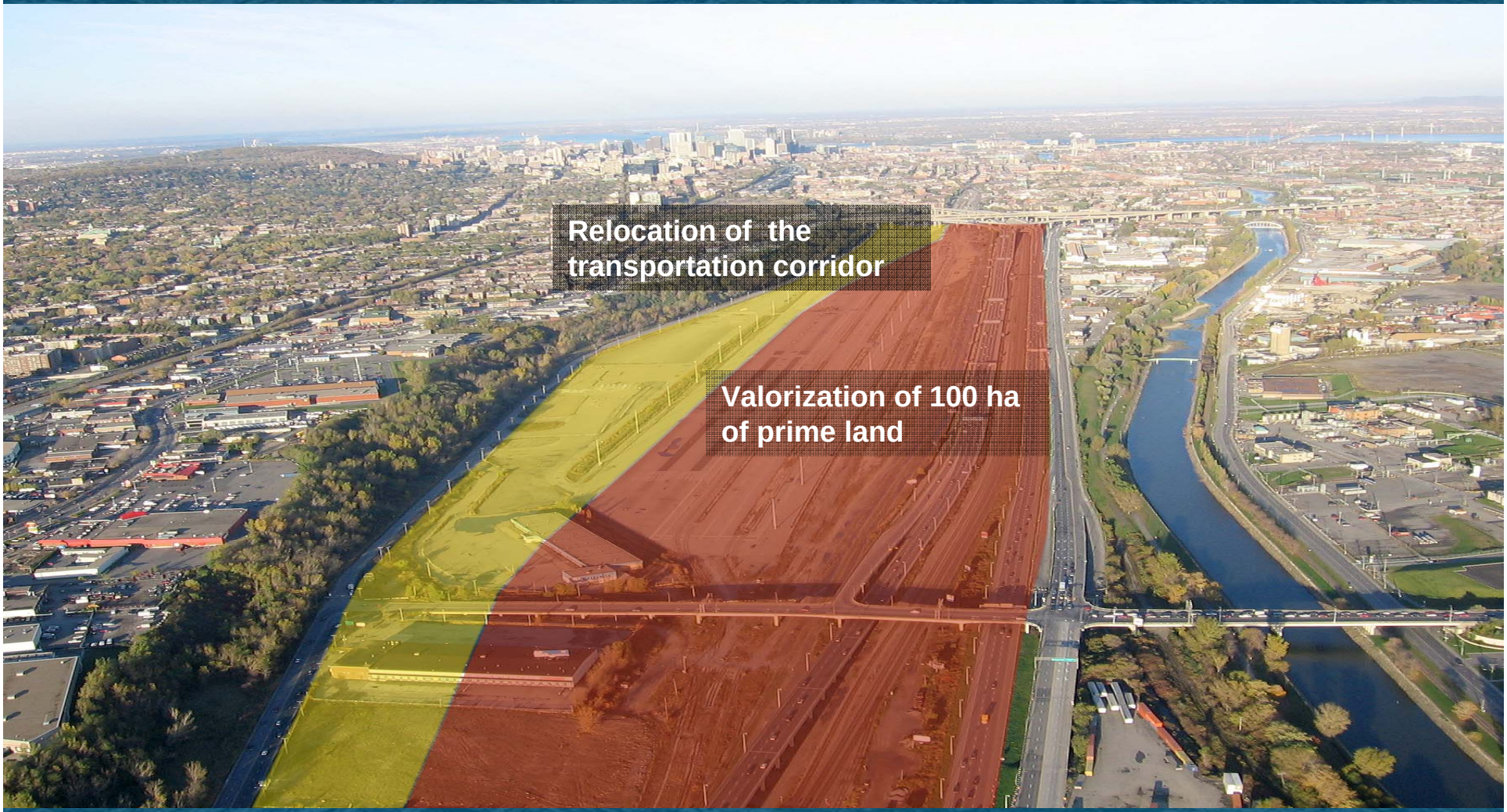
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Recovered results







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Conclusion



- The one-day value analysis workshop contributed in an ***exceptional*** manner to:
  - Make compatible two mega projects : Turcot and MUHC
  - Reduce capital costs
  - Maximize the urban value of more than 100 hectares of prime land
  - Enable the continuation of Turcot project planning process

Announcement of Turcot Project
June 2007





Échangeur Turcot: Québec confirme

La ministre des Transports, Julie Boulet, a confirmé hier midi la nouvelle publiée par le Journal concernant la démolition de l'échangeur Turcot à Montréal. Elle doit aujourd'hui donner les détails du projet.

LE JOURNAL

Mais du côté de Montréal, Gérald Tremblay et le comité exécutif de Montréal ne savaient pas il y a quelques jours que le MTQ avait décidé de démolir l'échangeur Turcot pour le rabâtir au sol. a confié au Journal une

MÉGAPROJET

ÉCHANGEUR TURCOT

Rendez-vous en 2015

Notre-Dame.

* LA TRIBUNE, 30 juin 2007, 35

LA RECONSTRUCTION DE L'ÉCHANGEUR TURCOT

Un des plus importants chantiers depuis 30 ans

PRESSE CANADIENNE

MONTRÉAL—Québec a finalement confirmé la reconstruction complète des échangeurs Turcot, De La Vérendrye, Angrignon et Mon-

L'échangeur Turcot avait été

a fait savoir

Complexe Turcot

Québec confirme la reconstruction des échangeurs

LIA LÉVESQUE

Québec a finalement confirmé

pendant ces longs travaux. Plus de 280 000 véhicules y circulent quotidiennement, dont 25 000 vé-

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TDA Complex





QUESTIONS ?

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