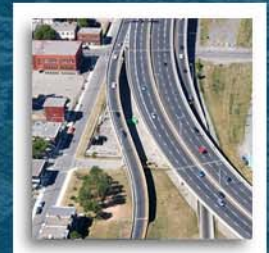


A one-day workshop... *A worthy investment!*

The striking example of the
Turcot Complex Interchange
Rehabilitation Project

CSVA Conference
October 28, 2008

Alain-Marc Dubé, ing. M.Sc. directeur, Bureau de projet du Complexe Turcot, MTQ
Richard Vézina, ing., M. Sc. A., CVS, directeur de Pratique, RCGT



Presentation Agenda



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



Context



Context



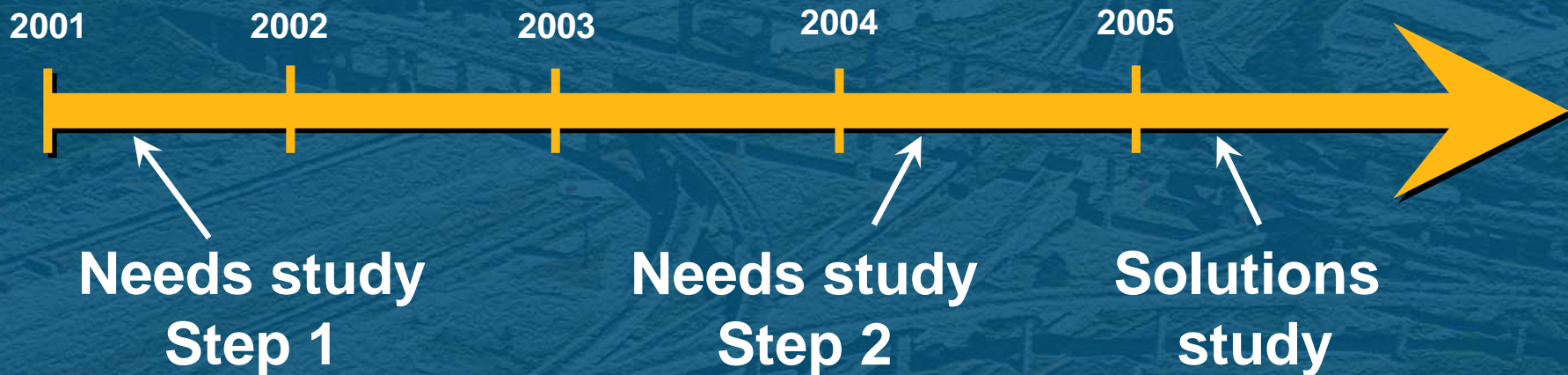
Context



Context



Context



Context

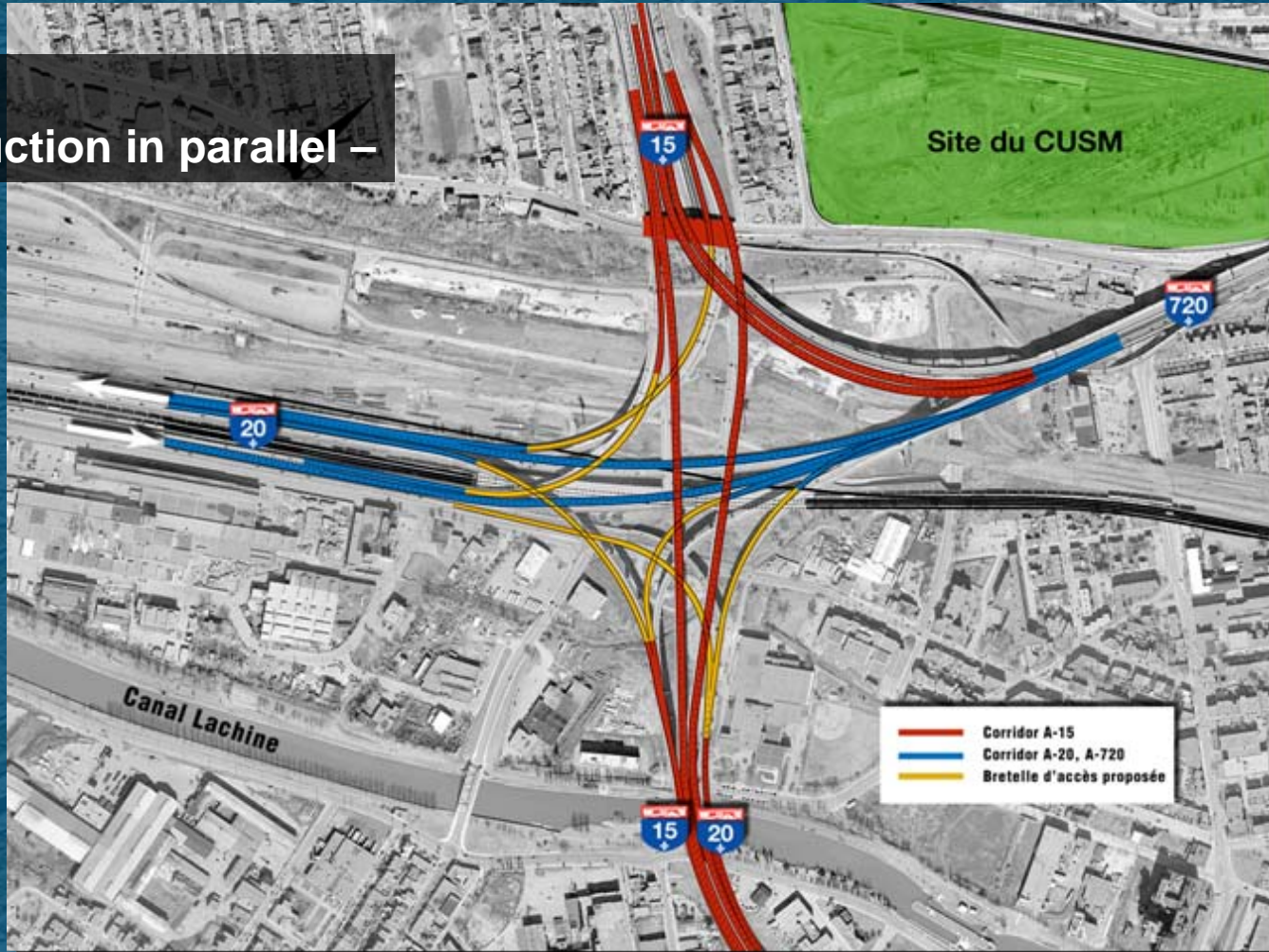


- The Complex integrates some structures older than 40 years old
- The level of deterioration of some structures require a major intervention
- The project is currently at the step of « Opportunity study – *solutions identification* »
- Three scenarios were identified to this day

Proposed solutions



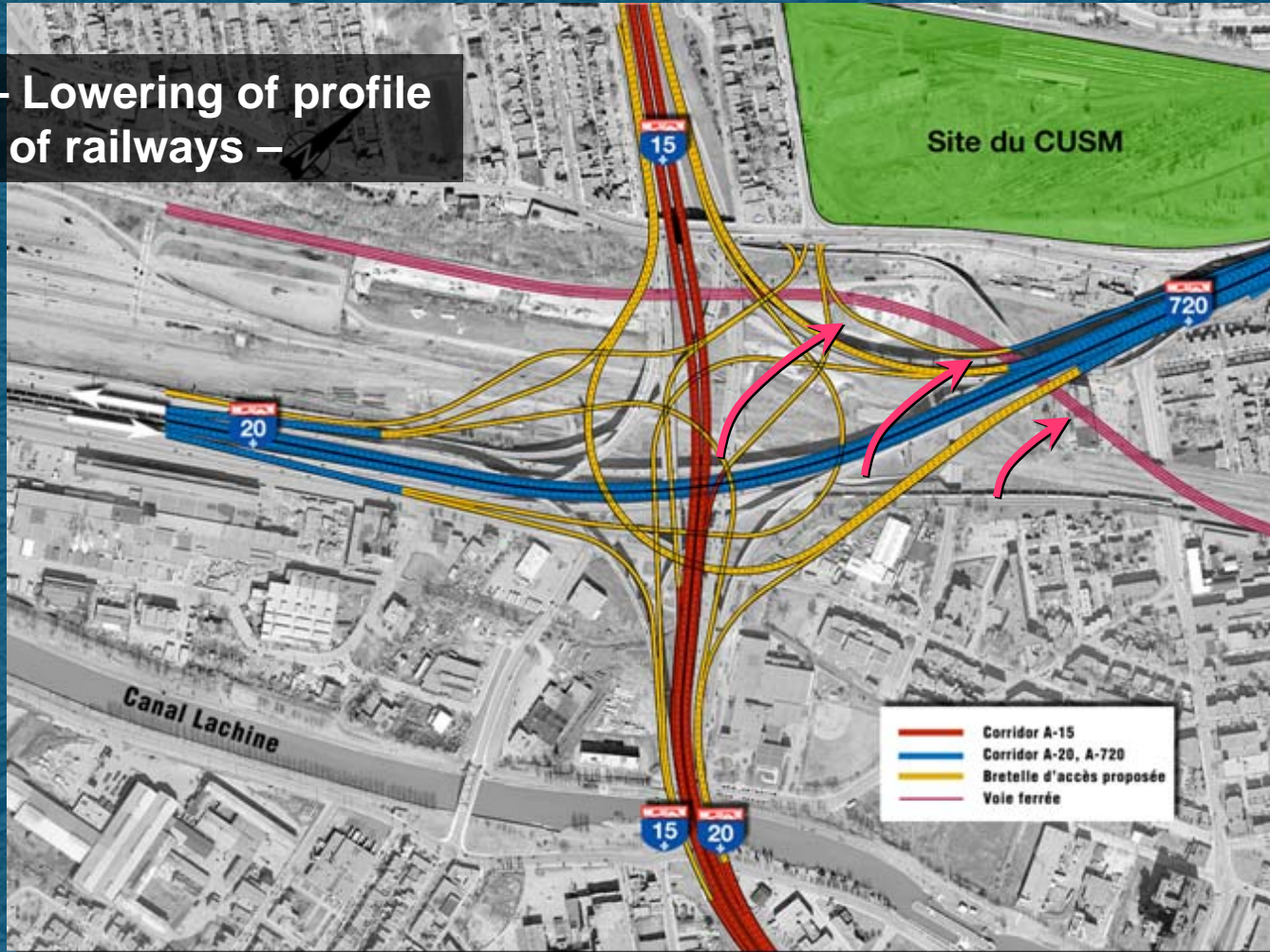
Scenario 1
– Reconstruction in parallel –



Proposed solutions



Scenario 2 – Lowering of profile and moving of railways –



Proposed solutions



Scenario 3 – Lowering of lanes –



New elements



- **June 2004 : announcement of the construction of the new McGill University Health Centre (MUHC)**
 - ◆ **Site : Glen Yards**
 - ◆ **Budget : \$1.2G**
 - ◆ **Construction : 2009-2013**

New elements



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

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



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 alternate 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

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

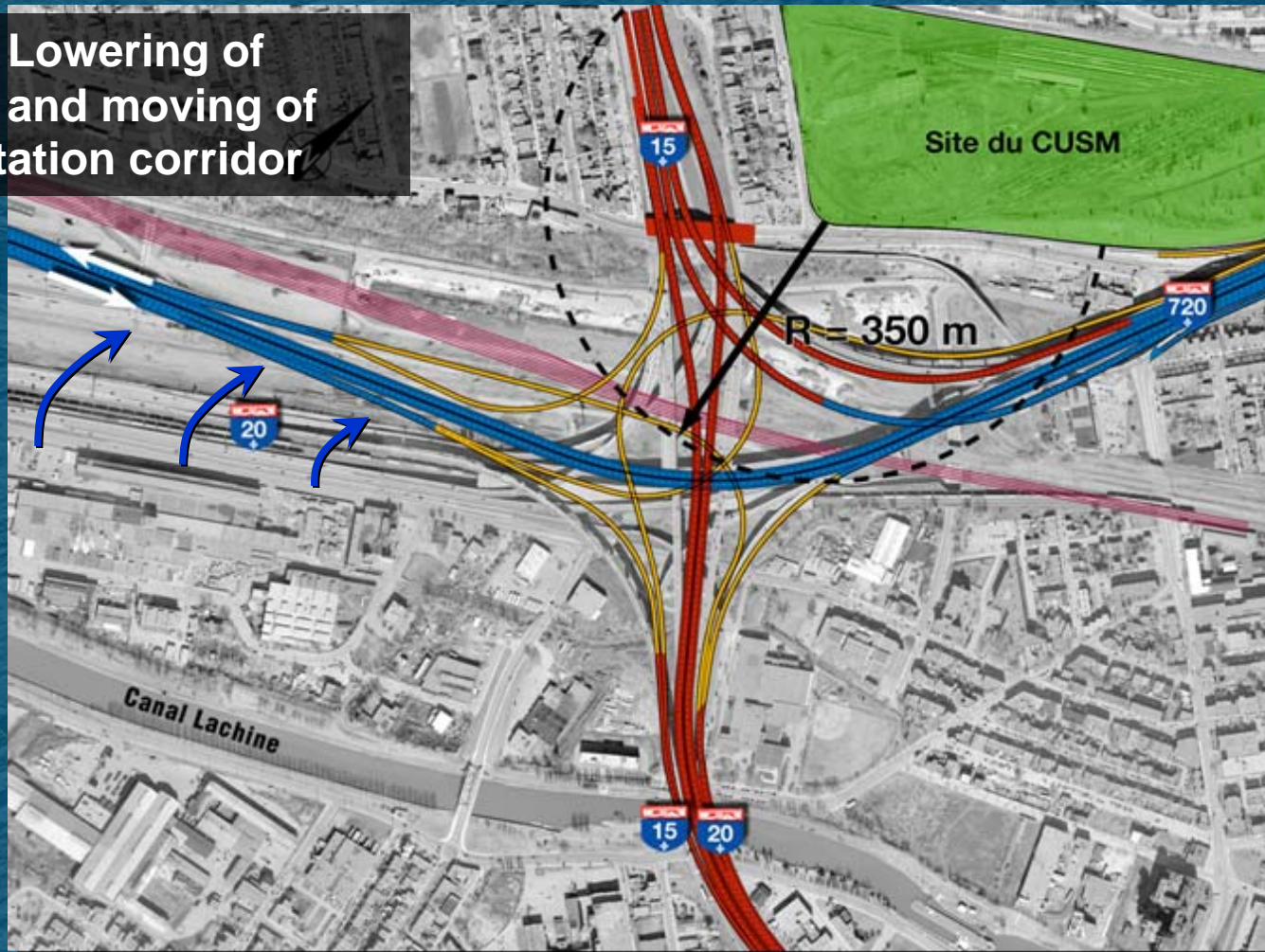
- Design of an *additional scenario*
- *Fourteen opportunities* for optimization



Results obtained



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



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)



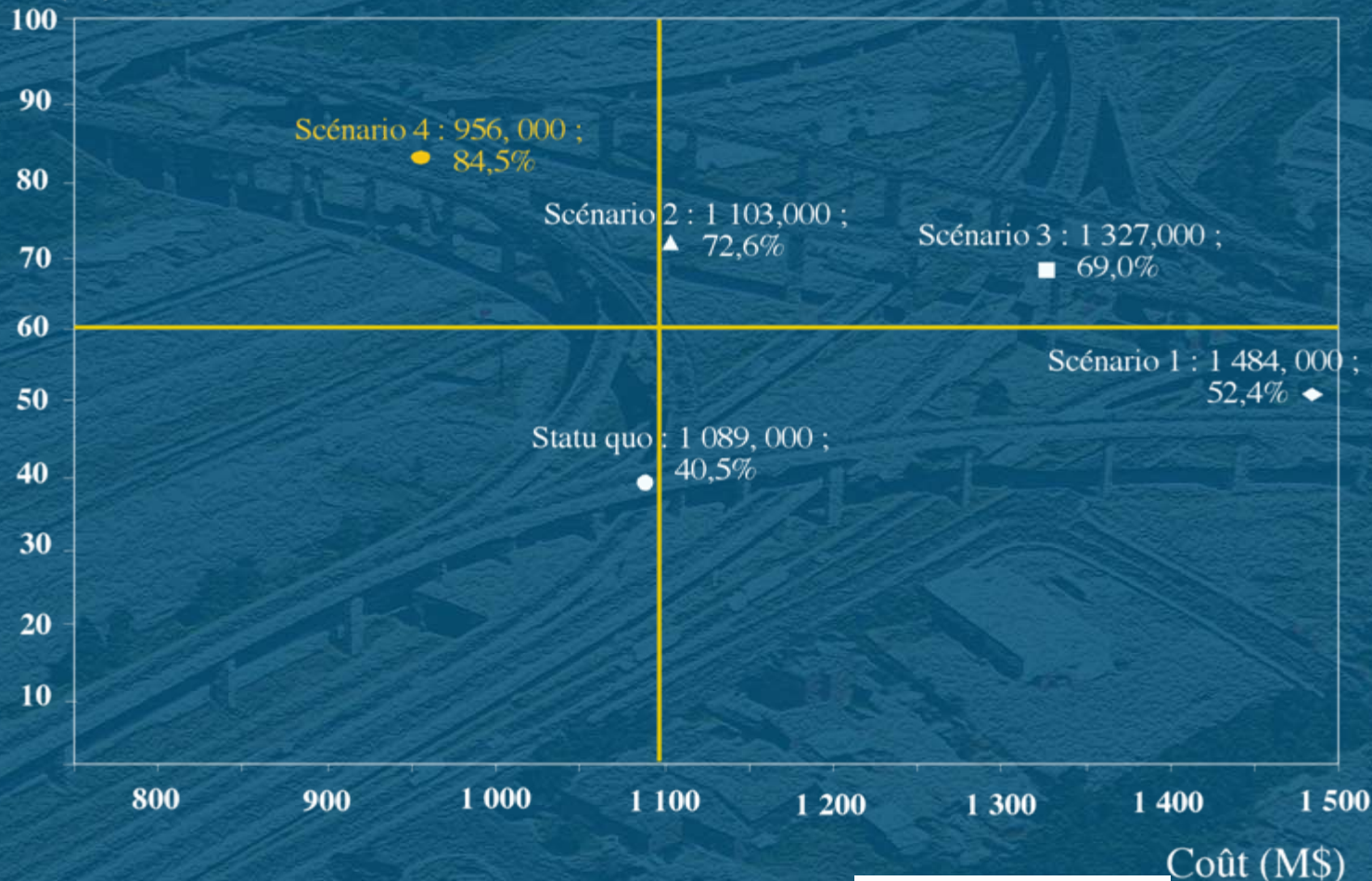
Results obtained

Evaluation of scenarios



Graphique de la valeur - Satisfaction VS Coûts

Satisfaction (%)



Légende

- Statu quo
- ◆ Scénario 1
- ▲ Scénario 2
- Scénario 3
- Scénario 4

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 (consolidation of the sector «Falaise – canal Lachine»)
 - Life cycle cost of the infrastructures cost (Elimination of the need to rebuild for 75 years)



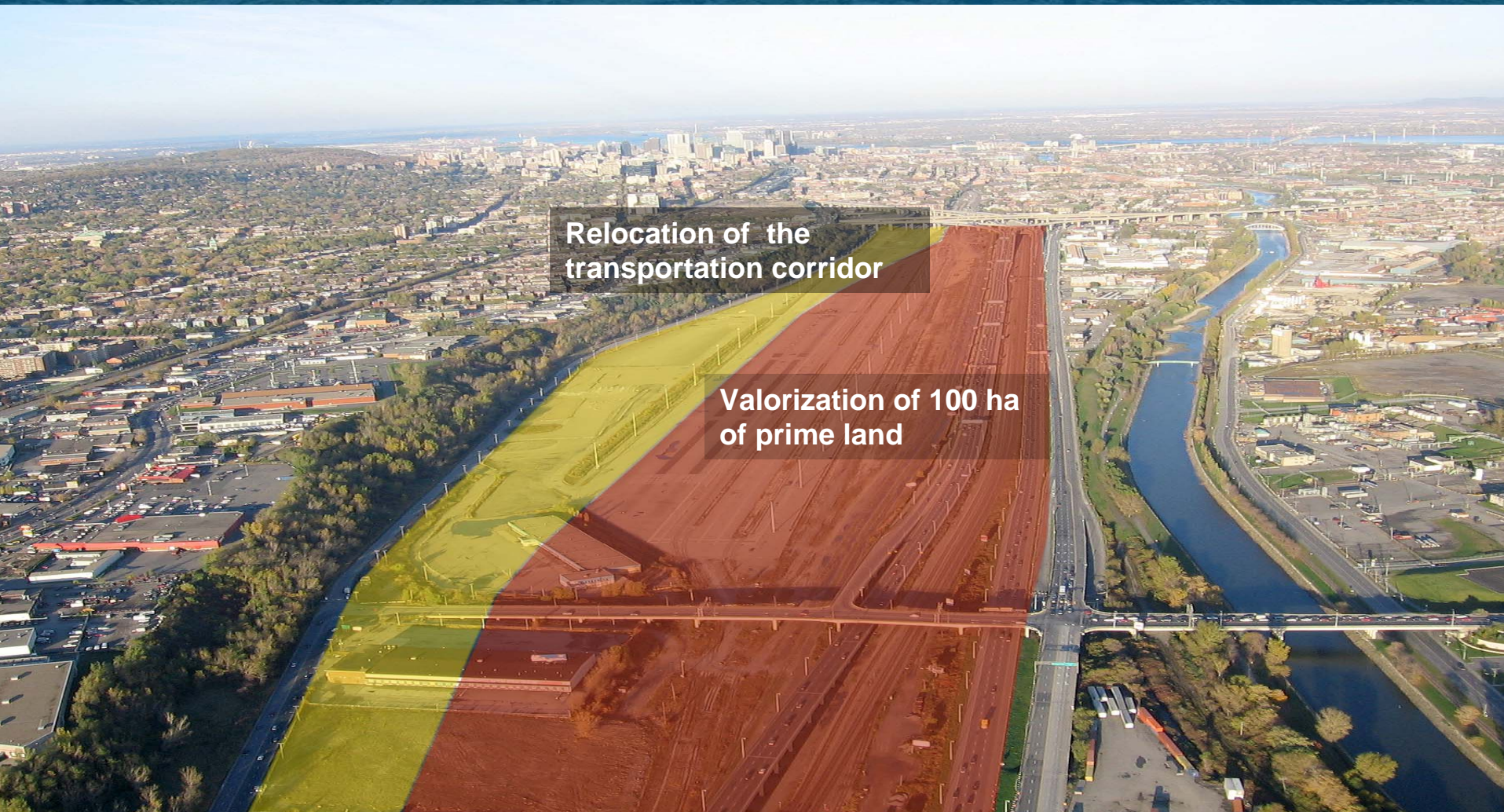
Results obtained



Results obtained



Recovered results



Relocation of the
transportation corridor

Valorization of 100 ha
of prime land

Follow up events...



Scenario 4 evolution since 2005 VA workshop

- Conceptual design and cost estimate – *Summer 2006*
- Officials' approval – *Spring 2007*
- Public announcement – *June 2007*
- Public consultation – *End of summer 2007*
- Project modifications to reflect concerns of public – *Summer 2008*
- Design and specifications
 - ◆ APP – 2008
 - ◆ APD – 2009
- Construction – *2010-2016*



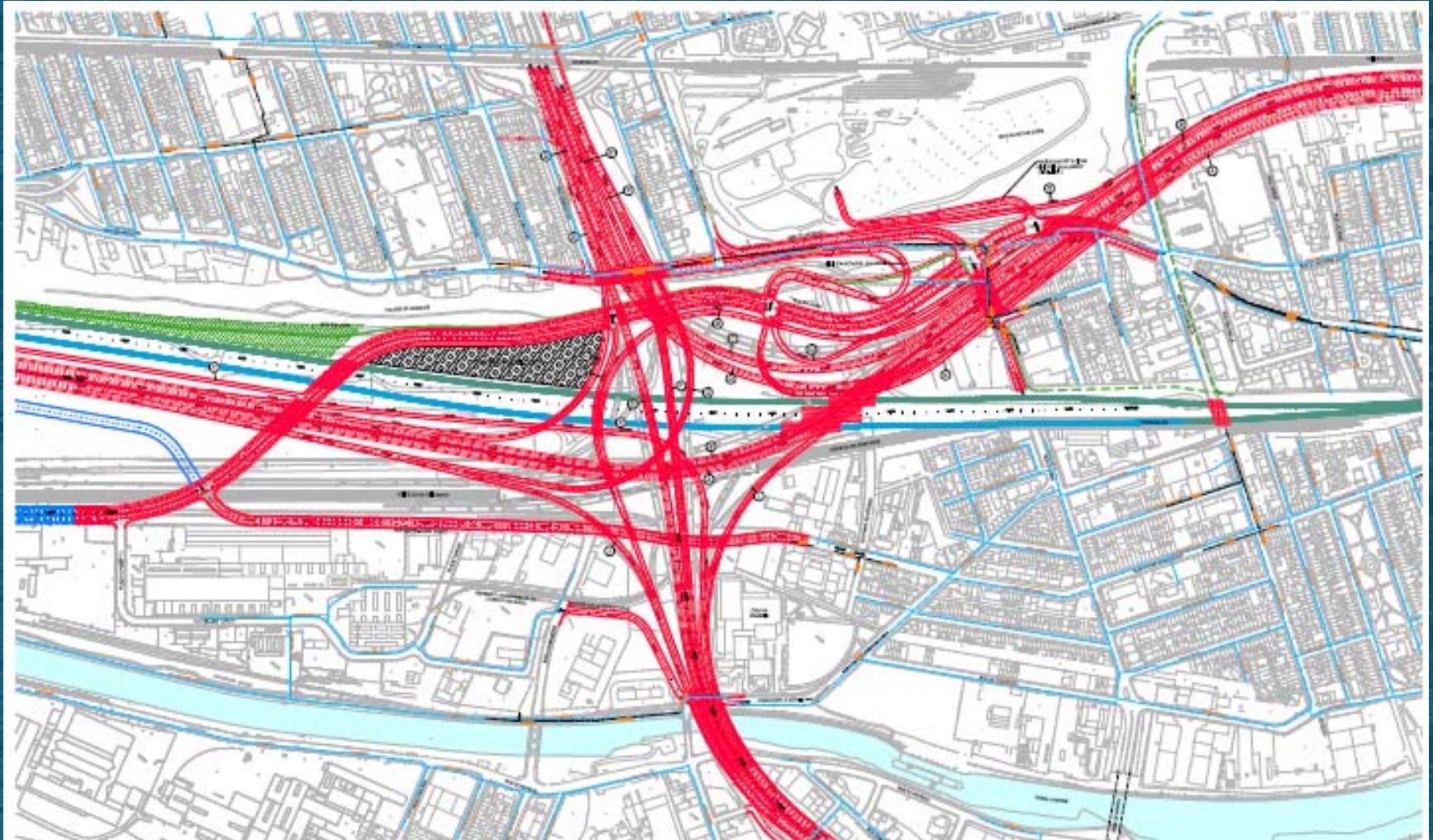
Concerns of the general public



- **Access (enclave) - closure of Saint-Rémi street**
 - ◆ **Praimont Cabot and Village de la Tannerie**
- **Affordable housing**
 - ◆ **Minimize expropriations**
- **Alternative transportation modes**
 - ◆ **Public transit**
 - ◆ **Car pooling**
 - ◆ **Bicycles**
- **Protection of Saint-Jacques eco-territory**
 - ◆ **Larger buffer zone between cliff and corridor**
 - ◆ **Noise impact for residents along cliff**
(move corridor closer to cliff)



Impact of concerns on concept



Conclusions



- The one-day value analysis workshop made an *outstanding* contribution to:
 - ◆ Enhancing the compatibility of two mega-projects: Turcot and MUHC;
 - ◆ Reducing capital costs;
 - ◆ Maximizing the urban value of over 100 ha of prime land;
 - ◆ Enabling the continuation of Turcot project planning process.

- Lessons learned:
 - ◆ Bring stakeholders into the process sooner.

- Second VA workshop needed to optimize Scenario 4 after changes to reflect concerns of the general public.

TDA Complex



QUESTIONS ?



Raymond Chabot
Grant Thornton

Transports

Québec 