

**Technology Road Map – Town Hall Meeting  
Halifax, NS – February 5, 2003**

**Flip Chart Notes**

**Issues**

- Life Cycle => Funding
- Responsibility => Accountability
- Information Cycle Process
- Marine Transportation Side
- Railway/moving people
- Remote/moving people
- Remote communities
- Link TRM with other Initiatives (ex. Transport Canada)
  - 1) Barriers/obstacles?
  - 2) Technological means to resolve it?
- Innovative Spectrum

**Discussion A: CIS Short/Medium Term Technology Development Needs**

- 1) Better identify the community's needs
- 2) Praise competency
- 3) Better planning
  - a. establishment of priority planning
  - b. upgrade local standards
- 4) Standardization
- 5) Public education
  - a. Asset management
  - b. Legislative Requirements
  - c. Understand the technical needs
- 6) Education at political level regarding asset management
- 7) Cultural shift to adopt new technology: material, techniques, etc.
- 8) New funding mechanisms to foster development of new technologies/process (Explore & implement, ex. Green fund)

- 9) Technologies that self-contain (It has to make itself work).
  - a. material that lasts longer
  - b. design for durability
- 10) Consider exporting our technologies
- 11) Low bid procurement (adopt/acceptance of LC procurement)
- 12) Adapt standards (LC Analysis) to regional climatic conditions & soil
- 13) Move towards grade specifications
- 14) Decision based life cycle costs and determine the cost of non-adoption
- 15) Better proofs of deterioration factors
- 16) Technology that assess information and exchange.
- 17) Assess the entire costs; life cycle analysis:
  - a. Link to the decision model process
  - b. Take into consideration social, environmental & economical perspectives
- 18) Understand deterioration and life service (failure mechanism)
  - a. More predictive tools
- 19) Mobilize public/political opinion (See #5 & #6)
- 20) Study all possible funding sources
- 21) Create and investigate an environment where we can share ownership?
- 22) Cooperative efforts (a Canadian owned consortium)  
Industry + government => delivery of services
- 23) Identify and understand the value/benefits (real costs) of the CIS assets
  - a. (People will pay) It is a question of sustainability
  - b. Ongoing deliverance of message (P.R. campaign)
  - c. (cultural shift)
- 24) Cost-effectiveness
  - a. material
  - b. building
- 25) Allow to make this a free market
- 26) Risk sharing mechanism

- 27) Share the information
- 28) Capital Investment with broad-bands
- 29) New demonstration project to showcase capacities in order to accept new technologies
- 30) A culture where we could allocate a percentage of money towards innovation (R&D)
- 31) Have a promotion/communication system between academia, researchers and owners
- 32) Tie research with commercialization network (See #23)
- 33) Databank of problem ("Failures")/solution
- 34) GIS/Database re: inventory

## Discussion B: Consensus - Top Priorities

- 1) Identifying, understanding and communicating the real costs/value/benefits of the CIS assets
  - a. cultural shift
  - b. on-going
  - c. P. R. Campaign

<b>Barriers</b>	<b>Technical Solutions</b>
Abstract costs	<ol style="list-style-type: none"> <li>1) Standardized method of accounting</li> <li>2) Standard format/template</li> </ol>
Public apathy taken for granted	<ol style="list-style-type: none"> <li>1) Report the asset value</li> <li>2) Should be part of the decision-making process</li> <li>3) Show them the value they spend.</li> <li>4) Report to the public as well. Show the depreciation rate.</li> </ol>
Public accounting methodology in Legislation	<ol style="list-style-type: none"> <li>1) Have a "Body" to deal with legislation</li> <li>2) Review other interaction models</li> </ol>
Assess the state (the value) of infrastructure	<ol style="list-style-type: none"> <li>1) Tools that will track/identify/predict the state and value.</li> <li>2) Education (P. Campaign)               <ul style="list-style-type: none"> <li>- Tool that can track/assess the added benefits that show the impacts</li> <li>- Tool that can assess an Holistic Model</li> </ul> </li> </ol>
No incentive for Public to adopt a Policy. No rewards/benefits	<ol style="list-style-type: none"> <li>1) Have Insurance sector track failures and costs associated versus LCA</li> <li>2) Tracking successes</li> <li>3) Benchmarking</li> <li>4) Revise accounting methods</li> </ol>
Level of Service	

- 2) Education, Political/Public level RE: Asset Management

<b>Barriers</b>	<b>Technical Solutions</b>
Not a perceived priority for the Public	<ol style="list-style-type: none"> <li>1) Need for a National academy with a sustainable mandate</li> <li>2) Target message to the audience and the spokespersons</li> <li>3) Place engineers in Leadership positions</li> </ol>
Have fully Informed Decisions	<ol style="list-style-type: none"> <li>1) Systems that provide costing options</li> <li>2) Simple analogies (ex. Car maintenances)</li> </ol>
Lack of Integration	<ol style="list-style-type: none"> <li>1) Integration decision-making models &amp; tools</li> <li>2) Prioritization decisions</li> </ol>

decision making	<p>3) Certification Program</p> <ul style="list-style-type: none"> <li>- Tie criteria &lt;=&gt; Funding</li> <li>- Automated trigger(s)</li> <li>- Program funding; dedicated reserves</li> </ul> <p>4) Inventory of material/innovative methods of replacement/rehabilitation (aimed at optimizing durability)</p> <p>5) Integrate multi-discipline databases and their applications</p>
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### 3) Low Bid Procurement

- To adopt of Life cycle principles for procurement

<b>Barriers</b>	<b>Technical Solutions</b>
Open to misuse and to abuse	Develop a method that: (includes) innovation in the bid procurement
Taking risks	Include LC Approach principles
Industry not willing to pay for the price of innovation material process	<p>1) End results specifications (warranties) Build in the design: quality =&gt; durability =&gt; longevity</p> <p>2) Tools that would quantify value, benefits (non-quantifiable)</p> <p>3) Tools that could assess the value added (of innovation) in the bid procurement. Must be part of Asset Management.</p>
A set (fixed) Capital # methodology	<p>1) Show all demonstration project(s) based on a different procurement model</p> <p>2) Investigate (ex. Carbon base model)</p> <p>3) New delivering models</p>

### 4) Better Planning

- To establish a prioritization process/systems

<b>Barriers</b>	<b>Technical Solutions</b>
HR competencies	1) A model of

at some comm. Levels	Planning \   => assistance technical / 2) More knowledge about inventory of CIS
Reliability of #'s	
Turnover of Consultant RE: Bid procurement	