



# MAJOR CAPITAL PROJECTS

## WORKSHOP REPORT



**CBTU SMCC**

CANADA'S BUILDING TRADES UNIONS  
LES SYNDICATS DES MÉTIERS DE LA CONSTRUCTION DU CANADA  
Value on Display, Every Day. Valeur sûre à tous les jours.

[www.learnacademy.ca](http://www.learnacademy.ca)





## INTRODUCTION

Countries are building full-scale cities faster than we can commission a single major capital project in Canada. Whose fault is it? Why is this happening? What can we do about it, and most importantly, are we prepared to do what it takes to change the way we do business? Major capital projects shape our world, yet not a lot has changed over the years. Success depends on adapting to improve performance and reduce risk and, quite frankly, we are not doing so well with either. We can no longer afford to bury our heads in the sand. Everyone has a role to play.

Executives from stakeholder groups including: Owners, Construction Contractors, Contractor Associations, Engineering/Architectural firms, Labour Organizations, Indigenous Communities, Environmental Groups, Regulatory Agencies and Federal, Provincial and Municipal Governments met in Calgary on June 21, 2018 to participate in a workshop to discuss and debate:

- Why are major capital projects not being approved; why are major capital projects being delayed after approval? and
- Are we confident in our ability to deliver these projects to predictable outcomes?

Invited executives shaped the thought-provoking discussion and debate that is changing the way everyone thinks about major capital projects. These executives developed a set of recommended actions for all stakeholders of major capital projects in Canada. Recommended actions include:

- Change in Mindset
- Project Delivery Model or Process
- Dealing with Risks
- Dealing with External Stakeholders and External Issues
- How to Govern and Lead Projects
- Improve Productivity
- Ethical and Legal Obligations
- Build Collaborative Relationships
- Labour Organizations
- Message to External Stakeholders

This report describes the workshop and the recommended actions that should be taken by all stakeholders of major capital projects in Canada. We recommend that national action committees of representatives from stakeholder groups be formed with mandates to address particular issues, seek improvements, resolutions and solutions.

## WORKSHOP MODERATORS

- Dr. George Jergeas, Professor, Centre for Project Management Excellence (CPME), in the Schulich School of Engineering at the University of Calgary
- Arlene Dunn, Deputy Director, Canada's Building Trades Council (CBTU)



## WHY A WORKSHOP TO ADDRESS MAJOR CAPITAL PROJECTS?

- There has been a sea change in globalization. Investors are shopping for low cost sources of supply. If they can get a better return on their investment elsewhere, that is where they are going. Pre-fab components being built overseas are becoming the norm.
- While unemployment in highly skilled engineering and construction jobs is the new reality and skill loss is the result, countries are building full-scale cities faster than we can commission a single major capital project in Canada.
- Whose fault is it? Why is this happening? What can we do about it, and most importantly, are we prepared to do what it takes to change the way we do business?
- With less funding available and confidence at an all-time low, we can no longer afford to accept the status quo. Major capital projects shape our world, yet not a lot has changed over the years.
- Success depends on adapting to improve performance and reduce risk and, quite frankly, we are not doing so well with either.
- Organizations world-wide are looking for a better way to deliver major capital projects.
- We can no longer afford to bury our heads in the sand. Everyone has a role to play.
- Several stakeholders told us, prior to this workshop, that it is time to get serious and find a solution to these issues.

## WHO WAS INVITED?

Executives from stakeholder groups including: Owners, Construction Contractors, Contractor Associations, Engineering/Architectural firms, Labour Organizations, Indigenous Communities, Environmental Groups, Regulatory Agencies and Federal, Provincial and Municipal Governments

See the organizations represented at this workshop at the end of this report.

## WORKSHOP SPONSORS

### **LEARN academy™**

LEARN academy™ is in the knowledge business. We motivate and inspire business and project leaders to plan, organize, lead and manage major capital projects that encompass social, economic, political, environmental and cultural challenges.

### **Canada's Building Trades Unions (CBTU)**

Canada's Building Trades Unions (CBTU) is the national voice of over half a million Canadian construction workers who are members of 15 international unions and work in more than 60 different trades and occupations, generating 14% of this country's GDP.





## WHAT HAPPENED AT THIS WORKSHOP?

1. Invited executives were asked to discuss and debate:
  - a. Why are major capital projects not being approved; why are major capital projects being delayed after approval? and
  - b. Are we confident in our ability to deliver these projects to predictable outcomes?
2. Invited executives shaped the thought-provoking discussion and debate that will change the way everyone thinks about major capital projects.
3. The executives actively participated and were fully engaged in the discussion and debate throughout the day-long workshop.
4. The discussion was brutally honest and even a bit controversial.

## CURRENT CHALLENGES FACING MAJOR CAPITAL PROJECTS

### Project Delivery

1. Changing schedule and budget priorities
2. Get everyone to look beyond short-term problems to long-term potential
3. Inability to execute/deliver projects
4. Reduce the cost and schedule of major capital projects
5. Choosing appropriate project delivery models/processes
6. Selecting unsuitable contracting strategies
7. Personnel changes in project teams on very long-term projects
8. Lack of projects
9. Solutions to recurring/ongoing problems
10. Smaller projects get lost in boom times – how to manage smaller projects in bust times
11. Unpredictable project outcomes
12. Ineffective risk mitigation
13. Decisions made in isolation – unintended consequences – ripple effect
14. Ineffective team and collaborative relationships to meet project needs
15. Lack of concrete ways to move forward quicker

### Labour

1. Transient workforce
2. Persistent shortages of skilled labour
3. Young people not interested in the trades
4. Inability to adapt to changing population demographics
5. Exporting workers across provincial borders
6. Getting people back to work
7. Lack of experienced highly skilled workforce
8. Boom then bust – inconsistent/unstable workload – lack of stability – low volume of work
9. Getting young people, women and indigenous into the skilled workforce
10. Developing a skilled workforce that is available when needed
11. Zero tolerance policies on drugs and alcohol
12. Increase productivity



### **Regional and Global Issues**

1. Differences across provinces and regions – investment, projects, boom/bust
2. Global competitiveness
3. Attract investment/business to Canada
4. Environment changing from provincial to national to international
5. Sustained investment in Canada

### **Indigenous Communities**

1. Indigenous communities are sovereign nations – independent stakeholders
2. Training in indigenous communities
3. High expectations of indigenous communities to work in the trades – appropriate training

### **Outside Influences**

1. Public interest and scrutiny
2. Changing political and environmental risks
3. What does the future look like?
4. Changing regulations/requirements

### **Differences Between Stakeholders**

1. Relationships beyond single project
2. Transactional relationships between contractors and labour
3. Owners, contractors, engineers and labour are transient
4. Variable construction site policies
5. Creating a project culture
6. Diverse cultures and ideas

### **Differing Expectations**

1. Different public perspectives
2. Changing health and safety requirements
3. Early engagement in a multi-stakeholder environment
4. Inability to learn from others
5. Difficulty in finding common ground
6. Trust among stakeholders – public, investors, politicians, labour and owners among others
7. Different stakeholder perspectives
8. Continual learning and sharing among stakeholders

We could continue this list of current challenges but we think you get the idea that major capital projects are very complex.





## RECOMMENDED ACTIONS

### Recommended Action One – Change in Mindset

We recommend that lessons learned from past projects be applied to new projects to produce expected results. We also recommend that it is our responsibility to publicly promote, take ownership and communicate a fresh approach to all stakeholders.

#### Discussion

- Do business differently – the current approach is not working
- Adopt a fresh approach from lessons learned
- Do not be stuck in one particular project delivery process/model
- Manage complexity – major capital projects are very convoluted
- Commit to the vision and goals of the project
- Balance business needs with project needs
- Define the scope completely
- Have realistic expectations
- Expect and anticipate changes
- Aspire to be a team – owners, contractors, engineers, labour
- Take ownership of the project
- Accept reasonable schedules and budgets
- Develop a comprehensive project execution plan
- Communicate to all stakeholders

### Recommended Action Two – Project Delivery Model or Process

We recommend that the project teams understand and follow project delivery models or processes which serve as procedural guides and references. We recommend that project teams be innovative throughout the project life cycle and be flexible and agile as they implement the steps in a project delivery process for different types of projects to balance business and project requirements.

#### Discussion

- Understand different project delivery processes or models – understanding is not enough; implementation is equally important
- Commit to follow only one project process or model
- Be agile to react to unexpected changes/events
- Innovate during the project life cycle – expect to adjust to changing environment
- Make commercial, marketing, technical, execution decisions collaboratively, not in isolation
- Eliminate fast tracking – leads to poor scope definition, unrealistic estimates, unrealistic expectations, inadequate project execution plan
- Be bold – dare to change the completion date when changes dictate
- Make health and safety your top priority over cost and schedule
- Accept responsibility for productivity and predictability
- Do not bypass any decision gate – can lead to change and uncertainty
- Revisit the approved budget and schedule after detailed engineering is complete
- Know and understand roles and responsibilities of all team members



### Recommended Action Three – Dealing with Risks

We recommend that the project teams consider, analyze and quantify the various types of risks, account for them in the project estimate and allocate them to the party best able to control and manage those risks. We also recommend that it is our responsibility to accept and manage those risks that are rightfully ours.

#### Discussion

- Embrace uncertainty and ambiguity during execution – projects do not proceed as planned
- Write unambiguous contracts
  - Identify expectations, role and responsibilities
  - Ambiguity is responsibility of contract writer
- Understand three types of risks and contingencies
  - Operational/Project Risks
    - Addressed by the project team
    - Availability of resources, efficiency, health and safety, timeliness
    - Contingency must be used only for operational risks
    - Scope change is not a project cost overrun
    - Some organizations consider any change as a project cost overrun
  - Strategic/Enterprise Risks
    - Addressed by executive/management
    - Project life cycle, maturity of project definition at sanction, execution strategy, changes to project objectives, acceptance of project/business risk exposure, scope change
    - Scope Reserve must be used only for strategic risks
  - Contextual/Global Risks
    - Addressed by executive/management
    - Project location, business practices, market conditions, geopolitics
    - Management Reserve must be used only for contextual risks
- Risk allocation must be fair
  - Accept and manage risks that are rightfully yours
  - Allocate risks to party best capable of controlling them
  - Compensate fairly if risks are imposed

### Recommended Action Four – Dealing with External Stakeholders and External Issues

We recommend that:

- Owners take a lead role in knowing our stakeholders and their position, issues and concerns – early engagement is an owner's role prior to public announcement
- We communicate with respect to understand stakeholders
- We explore shared interests, values, needs and fears to identify and implement win-win solutions
- We strengthen stakeholder relations and collaborations
- We accept our duty to consult and accommodate rightsholders and stakeholders
- We recognize indigenous stakeholders as rightsholders





## Discussion

- Recognize and engage stakeholders – we must do better
- Indigenous communities want to be included prior to projects being announced
- Must better the lives of indigenous communities
- Explore shared interests, values, needs and fears
- Almost impossible to make everyone happy

## Recommended Action Five – How to Govern and Lead Projects

We, the owners of major capital projects, recommend that:

- We appoint Benevolent Dictators and empower them to lead and make timely decisions without fear or blame
- We establish a comprehensive governance structure
- We conduct oversight of issues – risks, budget and schedule estimates, stakeholder engagement, selecting engineering firms and construction contractors
- We conduct oversight on each decision gate in a project delivery model or process
- We empower our project team to make timely decisions without fear or blame

## Discussion

- Governance establishes responsibility and accountability, from strategy through to project delivery and everything in between
- Governance controls who has power, who makes decisions, how parties make their voices heard and how accountability is rendered
- The objective of governance is to enable efficient and effective decision-making
- Appoint two Benevolent Dictators who are demanding leaders and accept the responsibilities that ultimate authority demands; make timely decisions, often with incomplete information; challenge their teams to meet and surpass high performance targets by setting clear goals; develop and sustain a trusting relationship with others and create a respectful workplace; enhance timely decision-making with a no-blame culture
- Benevolent Dictators are less about intimidation, power, threats and restrictions and more about decision-making, trust, respect and collaboration
  - Project Sponsor on the business/corporate side
  - Project Executive Officer (PEO) on the project side
- Establish governance levels:
  - Executive governance level
    - Address corporate goals, strategy, ownership and accountability
  - Sponsor governance level (Benevolent Dictator #1)
    - Align major capital project with corporate goals
  - Project Executive Officer governance level (Benevolent Dictator #2)
    - Interpret corporate and project strategy and scope
    - Manage project team
  - Project Manager governance level
    - Deliver the project
- Confirm that your organization is ready to manage a major capital project





## **Recommended Action Six – Improve Productivity**

We recommend that these factors and actions be followed:

- Improve front-end planning, engineering and construction planning and scheduling
- Select appropriate contracting strategies
- Clarify roles and responsibilities
- Select the best qualified engineers and contractors
- Supervise and support our workforce
- Effectively manage labour relations and working environment
- Insist that governments support major capital projects throughout their life cycle by providing the necessary infrastructure and a barrier-free working environment

### **Discussion**

- Achieve complete front-end planning
- Enhance design and engineering quality
- Standardize design, material, equipment
- Maximize modularization
- Apply 80-100 rule – 80% of engineering complete before mobilizing to site, 100% of IFC (issued for construction) drawings before construction
- Select appropriate contracting strategies
- Prioritize and sequence construction activities
- Ensure supplementary infrastructure is in place when needed
- Ensure workforce is ready to work – training, tools, equipment, material, drawings
- Work together, be flexible
- Apply best practices to improve tool time
- Collaborate to get the work done effectively

## **Recommended Action Seven – Ethical and Legal Obligations**

We recommend that:

- We advocate and exhibit ethical behaviour and respect in the workplace
- We accept contractual arrangements and negligence obligations
- We acknowledge claims and resolve disputes in a timely manner
- We comply with health and safety requirements
- We fulfill environmental responsibilities

### **Discussion**

- Advocate ethical behaviour
- Maintain an open and competitive environment
- Provide a safe and healthy work environment
- Disclose information
- Satisfy your obligations
- Recognize claims and disputes obligations - anticipate and address claims as they arise
- Apply due diligence – set policies, train, monitor, record, investigate, enforce, benchmark
- Comply with legal obligations
- Realize contractual and negligence obligations



## **Recommended Action Eight – Build Collaborative Relationships**

We recommend that:

- We adopt and apply the collaborative relationship model that includes the complete supply chain – understand roles and responsibilities – insure all parties are qualified
- We understand all contractual relationships
- We earn trust and gain respect by our actions
- We create a working environment that supports open and honest communications without fear or blame
- We be transparent

### **Discussion**

- Build collaborative relationships
- Open and honest communication
- Build a team for the entire project
- Be trustworthy and respectful
- Establish a code of conduct
- Think before speaking and acting
- Set achievable goals and objectives
- Maintain ongoing performance evaluations
- Create a culture that motivates
- Manage expectations
- Understand roles and responsibilities
- Empower team to make decisions
- Establish a no-blame culture

## **Recommended Action Nine – Labour Organizations**

We, labour organizations, recommend that we educate and train workers in:

- Hard skills including technical, math, numeracy and planning among others
- Soft skills including leadership, supervision, communication, adaptability, respect and trustworthiness among others
- Safety practices
- Alcohol and drug abuse
- Understanding owner and contractor perspective – planning, bidding, execution

## **Recommended Action Ten – Message to External Stakeholders**

We recommend that:

- We communicate openly and honestly with all stakeholders
- We insist that agencies, regulators and governments approve, in a timely manner, all major capital projects that meet or exceed specified regulations, terms and conditions
- We dismiss any unreasonable opposition from groups, governments, local communities and special interest groups among others that seek to delay or impede approved projects
- We insist that our governments remove any and all opposition that attempts to impede, obstruct, delay or otherwise stop approved major capital projects







### **Discussion**

- We include Indigenous communities in our projects
- We engage all stakeholders early and often
- We know that complete buy-in is not possible for all stakeholders
- We seek consensus which is better than stagnation
- We consult and arrive at acceptable solutions
- We establish a process for participation by all stakeholders

### **WHAT HAPPENS AFTER THIS WORKSHOP?**

We propose the following:

- Form national action committees of representatives from stakeholder groups
- Establish national action committee mandates to address particular issues, seek improvements, resolutions and solutions
- National action committees will report progress on their mandates at the next major capital project workshop
- Organize similar workshops that are provincial/territorial in nature to address the unique landscape for major capital projects in those locales – followed by the establishment of provincial/territorial action committees
- Provincial/territorial committees will report progress on their mandates at the next national major capital projects workshop

### **Discussion**

- Document and disseminate the results of this workshop widely (especially to owners)
  - Spread the word to any and all interested parties
- Seek buy-in from all stakeholder groups
- Encourage owners to lead and implement the results of this workshop
- Include indigenous communities, women in building trades and women in engineering
- Convince executives and government ministers to be involved in the discussion
  - Repeat since executives and ministers experience turnover
- Identify and promote early adopters
- Pursue several methods to reach stakeholders
  - Workshops, seminars, training sessions and conferences among others



## ORGANIZATIONS REPRESENTED AT THE WORKSHOP

- British Columbia and Yukon Territory Building and Construction Trades Council
- Building Trades of Alberta
- Canada's Building Trades Union (CBTU)
- CIMA+
- Construction Labour Relations of Ontario
- Construction Labour Relations of Saskatchewan Inc.
- Consulting Engineers of Alberta
- Conseil Provincial du Quebec des Metiers de la Construction International (CPQMCI)
- Encana Services Company Ltd.
- Independent Project Analysis (IPA)
- Infrastructure Canada, Government of Canada
- Laborers' International Union of North America (LiUNA)
- Manitoba Building Trades
- Manitoba Hydro / Hydro Projects Management Association
- New Brunswick Power
- Nova Scotia Construction Sector Council
- Ontario Construction Secretariat
- Progressive Contractors' Association of Canada
- Rosenstein Marketing
- Saskatchewan Building Trades Council
- TransCanada Pipelines
- University of Calgary, School of Public Policy



[www.learnacademy.ca](http://www.learnacademy.ca)