Poised for Development,  
Ready for Growth

Prepared for: Thunder Bay Ventures

Date: June 19, 2013

Prepared By:
Dr. Dadgostar, Bahram
Dr. Gradojevic, Nikola
Dr. Lento, Camillo
Dr. Peterson, Karen
Small Business Consulting Service
About the Authors

Dr. Dadgostar, Bahram
- Dr. Dadgostar is a full professor and Dean of the Faculty of Business Administration at Lakehead University. He has provided consulting services to a variety of organizations, including Thunder Bay Ventures, Thunder Bay Telephone, Port of Thunder Bay and Transport Canada, Ministry of Northern Development and Mines, Thunder Bay Police Association and Thunder Bay National Training Center.

Dr. Gradojevic, Nikola
- Nikola Gradojevic received the Ph.D. degree in financial economics from the University of British Columbia, Vancouver, BC, Canada, in 2003. He also holds an M.A. in Economics from University of Essex and Central European University and an M.Sc. in Electrical Engineering (System Control Major). Currently, he is an Associate Professor of Finance at the Faculty of Business Administration, Lakehead University, Thunder Bay, Ontario, Canada. During his career he took positions at the University of British Columbia, Bank of Canada, Federal Reserve Bank of St. Louis, and in the private sector as a consultant. He has held visiting appointments at Rouen Business School in France and University of Novi Sad, Faculty of Technical Sciences. He is a Research Fellow at the Rimini Center for Economic Analysis in Italy.

Dr. Lento, Camillo
- Dr. Camillo Lento is an Assistant Professor of Accounting in the Faculty of Business Administration at Lakehead University. He received his Ph.D. from the University of Southern Queensland, and both his Masters (MSc.) degree and undergraduate degree (HBComm) from Lakehead University. Camillo is a Chartered Accountant (Ontario), a Certified Fraud Examiner and a student member of the Canadian Institute of Chartered Business Valuators. Camillo is a Contributing Editor for Canadian MoneySaver magazine and has authored numerous articles on personal tax planning matters. His tax planning articles have also been featured in The Globe and Mail’s Report on Business, Canada Business (online) and Money Sense.
Dr. Peterson, Karen

- Dr. Karen Peterson is a planner and educator for regional and community development with a particular emphasis on northern and Aboriginal communities. She holds a PhD in Planning from the University of Calgary, Faculty of Environmental Design; a Masters in Environmental Studies Degree from York University; and a Bachelor of Environmental Studies, Geography Major from the University of Waterloo. Dr. Peterson combines academic and practical knowledge regarding how communities and organizations operate and how institutional frameworks, cultural diversity and social interaction affect the outcomes of initiatives.

Small Business Consulting Service

- Small Business Consulting Services (SBCS) is a business operated by Lakehead University Honours Bachelor of Commerce students. The organization has been in existence since 1972 and has been able to successfully utilize student education to serve the needs of the region. The business operates out of the Lakehead University campus and through its non-profit status, is able to provide assistance with affordable fees.
Acknowledgements

This report would not have been completed without the assistance of many individuals. Specifically, we acknowledge the contributions from the following individuals:

- Mike Belliveau, Technology Officer, FedNor
- Steve Demmings, Manager, Thunder Bay Community Economic Development Commission
- Barb Eccles, Manager Technology Transfer, Economic Development and Innovation Office, Lakehead University
- Sam Garofalo, Vice-President, Finance and Chief Financial Officer for both Rockex Mining Corporation and Metalcorp Limited
- Timo Hiiback, Business Development Manager, TBayTel
- Ross MacKay, Data Extract and Research Officer, Enterprise Solutions Branch, Canadian Intellectual Property Office
- Piero Pucci, Development Officer, Thunder Bay Community Economic Development Commission
- Judy Sander, Manager, Northwestern Ontario Innovation Centre
- Des Stolz, Manager, Building Division, City of Thunder Bay
- Clifford Tibishkogijig, Councillor Whitesand First Nation
- Paul Tulonen, Industrial Technology Advisor, National Research Council of Canada, Industrial Research Assistance Program
- Whitesand First Nation Chief and Council
- Whitesand First Nation community members
Executive Summary

In 1993, Thunder Bay Ventures (TBV) initiated a research project intended to increase the understanding of the Northern Ontario Economy. Since that time, the economy of Thunder Bay’s Census Metropolitan Area (CMA) has drastically changed in terms of demographics, infrastructure, primary and manufacturing industries, as well as in the service and retail sectors. Additionally, the City of Thunder Bay has been experiencing an increasing population of Aboriginal people, an increase which results in a significant, yet often overlooked, economic benefit.

Accordingly, TBV commissioned the study, Poised for Development-Ready for Growth, with the intent to understand the changing nature of Thunder Bay’s economy by identifying key economic trends, examining four important economic areas and providing recommendations to facilitate future growth. The four areas analyzed in detail are (1) Economic Contributions of the Aboriginal Community, (2) Direct Investments, (3) The Knowledge Sector, and (4) The Mining Service Sector.

Key Economic Trends

This study develops a single index, the Thunder Bay Economic Activity Index (TBEA Index), which is unique to Thunder Bay’s economy and provides insights into the trends exhibited by the economy. The methodology used to develop the index is replicable for other cities in Northwestern Ontario and can be periodically updated in the future to track Thunder Bay’s economic development.

In the period from 2003 to 2012, the TBEA Index reached its maximum in 2006, a value which is consistent with the accelerated rebound of the real economy from the recession of the
early 2000s. This was followed by a sharp drop that reflects the contraction of the real economy partially caused by the subprime mortgage crises in the United States (U.S.) and a decline in the forestry industry in Northwestern Ontario. The minimum value was recorded in 2009, and the TBEA Index has been growing steadily until present time.

The following is a summary of the trends in Thunder Bay’s economy across other key economic metrics:

- Thunder Bay’s GDP has grown by 3.4 percent between 2002 and 2012. This represents a 0.30% cumulative annual growth rate (CAGR). Over the same time period, the Canadian GDP grew by 19.8%, or a 1.92% CAGR. Clearly, Thunder Bay has underperformed over the past ten years in comparison to the Canadian economy. An appreciation of the Canadian dollar and the global credit crisis had a more severe impact on the economy of Thunder Bay than on Canada as a whole.

- Thunder Bay’s labour productivity peaked in 2006, which was also the peak year for the total GDP. Labour productivity declined significantly from 2006 to 2009 and has not regained its previous high levels.

- The three most dominant employer sectors are the retail trade industry, construction industry, and health care.

- Thunder Bay’s population has essentially experienced zero growth over the forty year period from 1971 to 2011. This is in stark contrast to the growth experienced by the Province of Ontario (66.8%) and Canada (55.2%) over the same time period.
• The composition of Thunder Bay’s population has been changing over the past forty years due to an increasing out migration of youth to pursue economic opportunities elsewhere, an aging population as the “baby boom” generation enters its senior years, and an increasing Aboriginal population moving to the city from rural areas and through natural increase. It is worth noting that the Aboriginal population is younger than the general population and has higher birth rate.

• Per capita income for Thunder Bay is $37,000, which is an increase of approximately 6% from 2006 to 2012. This figure is comparable with the Canadian average.

• The real estate market in Thunder Bay is currently very strong. The housing starts index is greater for Thunder Bay than for Canada from 2005 to 2012 and resale prices have reported an annual increase since 2004 with the most significant growth from 2007 to 2012. From 2002 to 2012, the median single family home resale price had increased by approximately 42%.

Economic Contributions of the Aboriginal Population

The Aboriginal community makes a significant contribution to the Thunder Bay economy. Specifically, the contribution of the Aboriginal workforce to Thunder Bay’s GDP was estimated to be in the range of 5.09% ($254.38 million) to 7.67% ($383.33 million) in 2012. Although not comprehensively accounted for in the current study, it is important to stress that the Aboriginal community in the surrounding region also has a significant impact on Thunder Bay’s economy as community members, students, businesses, community leaders and their staff
frequently travel to the city for business and personal purposes. The Aboriginal economic activities, organizations and businesses provide employment opportunities for both Aboriginal and non-Aboriginal residents in Thunder Bay. Given the population trends and a growing Aboriginal economy, it is expected that the Aboriginal contribution to the City’s economy will continue to grow and contribute to urban sustainability as regional economies develop and labour force participation rates continue to rise.

Direct Investment

The average annual direct investment from residential, commercial, industrial, and institutional building permits is approximately $124.1 million. The composition of direct investment from residential, commercial and institutional investors is fairly equal although industrial investments are significantly smaller. Over the past three years, direct investments have been above the historical (2002 to 2012) average, with the largest direct investment occurring in 2012.

The importance of direct investment in an economy is highlighted through the strong relationship between direct investments and changes in employment as identified as follows:

- Total direct investments of $1 million in the trades, transport, equipment operators and related occupations lead to the creation of 10 – 12 direct jobs and 20 to 25 indirect and induced jobs, for a total of 30 to 37 new jobs created.

- Total direct investments of $1 million in the social science, education, government service and religious sectors lead to the creation of 12 – 15 direct jobs and 18 to 22 indirect and induced jobs, for a total of 30 to 37 new jobs created.
Total commercial investments are associated with changes in employment in management, business, finance and administrative occupations. However, the relationship between these investments and direct job creation was not robust enough to allow for a reliable estimation of direct, indirect, and induced employment changes.

Therefore, it can be concluded that investment is vital to the creation of employment in an economy.

The Knowledge Economy

The knowledge sector is an important part of Thunder Bay’s economy that allows for innovations, increases in labour productivity, and diversity from the goods and retail sectors. This report analyzes Thunder Bay’s knowledge economy relative to six other Ontario cities for the following indicators: 1) the number of businesses that operate in the knowledge economy, 2) total employment in the knowledge sector, 3) education level of the population, 4) diversity level of the population, 5) patent generation, and 6) infrastructure requirement.

Thunder Bay ranked fifth out of seven Ontario cities with the highest rank of three of the Northern Ontario cities. Ottawa had the highest ranking, followed by Kitchener-Waterloo. In regards to Thunder Bay’s performance in the individual rankings, the employment and diversity indicators had the highest rankings. The diversity indicator was driven by the Aboriginal population. Thunder Bay’s two lagged indicators are the knowledge generation (i.e. Canadian and U.S. patent filings) and the total number of businesses. Thunder Bay’s results are comparable to other Northern Ontario cities (i.e. Sudbury and Sault Ste. Marie).
A SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis of Thunder Bay’s most innovative companies reveals that key institutions, such as the Thunder Bay Regional Research Institute, Lakehead University, and Confederation College, are seen as strengths/opportunities for further development of this sector. The main weaknesses/threats are the ability to attract and retain qualified and skilled employees, and access to capital for product development and/or research and development.

Mining Service Sector

The mining service and supply sector in Ontario is estimated to be $5.65 billion in terms of annual output while employing approximately 23,000 individuals. Thunder Bay’s share of the output and employment is 6.2% and 7.0%, respectively. The average output per employee in Thunder Bay’s mining service and supply sector is $245,652, which is below the average output for Sudbury and North Bay, but above that of Timmins.

Agglomeration economies or clusters of linked industries and institutions usually enjoy a competitive advantage. Sudbury, the market leader in Ontario’s mining service and supply sector has approximately 60% to 70% of the total output and employment. It has promoted the development of an agglomeration economy through the development of a mining service and supply association, i.e. the Sudbury Area Mining Supply and Service Association. The development of a mining association in Thunder Bay, i.e. the Northwestern Ontario Mining Supply and Service Association or NOMSSA, was explored by surveying key companies in Thunder Bay’s mining service sector.

The survey indicates that roughly 60% of the respondents view that an organization, such as NOMSSA, would be beneficial for the mining service and supply sector in Thunder Bay, while the remaining 40% of the respondents are unsure. None of the respondents indicated that
NOMSSA would not be beneficial. The Thunder Bay Chamber of Commerce was selected by 32% of the respondents to act as a central planner for NOMSSA, and only 12% indicated that the City of Thunder Bay should take such a role.

Respondents also indicated that the most important activities that should be offered by an organization, such as NOMSSA, are to: 1) help promote the member companies; 2) network with customers, clients, and potential partners; 3) help maximize the sales opportunities of the member companies; and 4) provide a website presence for members.
Recommendations

Based on the analysis in this report, the following recommendations are provided. These recommendations are not specific to any single sector of the industry due to the interdependent nature of an economy. Therefore, a single recommendation will have implications for the economy as whole.

Economic Activity Index

It is important to monitor the health of an economy in order to make the necessary and appropriate policy choices to ensure economic growth and sustainability. This is the first known study to develop an economic activity index customized for the economy of Thunder Bay. The development of this index leads to our first recommendation:

Recommendation #1  Monitor the economy of Thunder Bay on a regular basis using the Thunder Bay Economic Activity (TBEA) Index.

The regular monitoring of the economy can be achieved through the following:

- Develop a bi-annual newsletter that reports on the TBEA index, led by Thunder Bay Ventures,
- Review the index annually for any required adjustments to the key variables, and
- Encourage other cities in the region to replicate the methodology for their community.

Increase Awareness of Significance of Aboriginal Economic Contributions

Aboriginal people are important players in the socio-economic life of the city and can be a major driver of economic growth, diversity and labour pool supply. Increasing Aboriginal human capital will drive up productivity for business and is the key driver to a better standard of living, decreased government cost, increased government revenue (Sharpe & Arseneault, 2010)
and safer communities. The mutual benefit of investing in Aboriginal education and skill development needs to be recognized. If these individuals do not possess the necessary skills, business will suffer (Sharpe & Arsenault, 2010). This leads to the following recommendation:

Recommendation #2a: Create awareness in the business community and general population of the significance of Aboriginal population’s economic contributions to the city of Thunder Bay.

Awareness can be improved through the following:

- Collaboration between the city and the Aboriginal community to develop a strategy for awareness and education through local media, social networks, etc.,
- Facilitate the amalgamation of events between Aboriginal and non-Aboriginal forums, workshops, conferences, events, etc., and
- Training and skill development for Aboriginal workforce.

Creating awareness regarding the contribution of Aboriginal people to the city’s economy can be further enhanced by creating a positive experience for all visitors to the city both from the region and internationally. This leads to the following recommendation:

Recommendation #2b: Create a welcoming urban environment

A welcoming urban environment can be achieved by:

- Creating an inclusive and safe community for students arriving from rural and remote communities to attend schools in Thunder Bay, so the city becomes a home away from home,
- Awareness training, education and skills development of the service and supply industry (e.g., retail, restaurants, materials handling, etc.),
- Creating linkages with rural communities that foster mutual benefit through economic activity and contributes to socio-economic development, and
• Determining gaps in service and/or supply that could be offered/developed in Thunder Bay to reduce out-sourcing from the region to other cities.

Further Research on Aboriginal Economic Contributions

This study makes significant strides for understanding the economic contributions of Aboriginal people to the city of Thunder Bay. The results showcase the many and significant contributions of the Aboriginal peoples to the economy. Although this study has forged new ground, the availability of data has limited the scope of the analysis. This leads to the following recommendation:

**Recommendation #2c: Undertake a comprehensive study to define the impact of Aboriginal economic activity, led by a coalition of Aboriginal partners in the CMA with the support of the Municipal, Provincial, and Federal governments.**

The following steps are necessary to undertake a comprehensive study:

• Create a task force of key Aboriginal and non-Aboriginal stakeholders to oversee the project,
• Primary data collection is essential for further analysis and will require the development of unique and customized methodologies specific to Aboriginal peoples,
• Primary data collection should be overseen by Aboriginal organizations and leaders, and
• A central database should be developed for future studies.

Mining Service Sector

An important component for the development and sustainability of base economic activities (e.g., mining, forestry, etc.) is the service and supply sector. The mining service and supply sector can be an important driver of future economic growth, given the recent surge in activity in the mining industry. Currently, Sudbury is the hub for mining service and supply in
Northern Ontario while Thunder Bay is lagging behind both Sudbury and North Bay in terms of output per employee within this sector.

In order to reduce the dependency on mining service providers from outside the region and to increase the efficiency and effectiveness of local suppliers, it is vital that a service and supply centre is established for Northwestern Ontario. This leads to the following recommendation:

**Recommendation #3: Establishment of a Northwestern Ontario Mining Supply and Service Association (NOMSSA), headquartered in Thunder Bay**

The NOMSSA should be developed with the following characteristics:

- Utilize a private-public partnership to organize the NOMSSA concept,
- The NOMSSA mandate should include the following:
  - Promote member companies, including collaboration and partnerships with Aboriginal companies and communities,
  - Network with customers, clients and potential partners,
  - Maximize sales opportunities,
  - Provide web access for members and customers,
  - Create a catalogue of suppliers/products and services,
  - Promote tradeshows,
  - Encourage research and development, and
  - Provide educational opportunities
- Although the coordination and pooling of skilled labour is an important feature of the NOMSSA, the focus should also be placed on research and development as a means of increasing productivity and innovation within this sector, and
- The Aboriginal community should be an important player in the development of the NOMSSA with linkages to rural and urban based supply and service organizations.
Economic Diversity

Thunder Bay’s economy has a significant reliance on the public sector. The public sector employs approximately 53% to 64% of Thunder Bay’s workforce. A large percentage of the private sector employment is generally in lower-paying and part-time positions. This situation leads to the following recommendation:

**Recommendation #4: Diversify the economy by retaining, expanding and attracting private enterprise into Thunder Bay.**

The diversity of the economy can be expanded by:

- Encouraging sectors that depend on international markets to diversify export destinations to enhance employment sustainability,
- Providing incentives to attract public and private investments focused on upgrading and expanding the productive capacity of the economy,
- Developing regional policies to attract private investments in technology and infrastructure. The Northern Ontario Policy Institute can be an important player in developing the appropriate regional policies, and
- Encourage Aboriginal entrepreneurship and social enterprise.

Human Capital

The competitiveness of an economy is important for long-term economic sustainability and is largely determined by labour productivity. This reality is especially true for regional, export-based economies with internationally determined factors for its export products. Thunder Bay’s labour productivity peaked in 2006 and declined significantly from 2006 to 2009 at which point it began to rise until 2011. Increasing productivity will reduce labour unit costs and reduce imports from other countries and provinces, thereby reducing out-shopping and increase
employment in the region. Labour force productivity is dependent upon several factors, education being among the most important. This leads to the following recommendation:

**Recommendation #5: Enhance human capital by providing training for skills in demand.**

Human capital can be increased by:

- Focusing on skill development, education and training,
- Developing policies and procedures to address the challenges faced by urban-Aboriginal people and support their inclusion into the city and urban labour force,
- Utilizing Lakehead University and Confederation College to provide the necessary training,
- Encouraging a culture of innovation and the development of the knowledge sector, and
- Attracting private and public investment into the economy.

The Knowledge Economy

The knowledge economy can also improve diversity and productivity of the economy. Fostering growth in the knowledge sector will be imperative to the long-term sustainability of the economy. The scarcity of professionals and skilled labour is an issue for the economy. The lack of expertise is a major threat to the economy, especially to those companies that operate in the knowledge sector. This leads to the following recommendation:

**Recommendation #6: Increase the availability of professionals and skilled labour**

The availability of professionals and skilled labour can be increased through:

- The University and College continuing to develop strong ties with key stakeholders and develop unique, co-op based programs and internships tied to the regional economy,
- The University and College continuing to encourage applied research tied to the regional economy,
- The University and College focusing on attracting and retaining qualified faculty and researchers,
- Fostering the inclusion of Aboriginal graduates into Thunder Bay’s labour force, and
- Developing a strategy by the city of Thunder Bay to attract immigrants from outside the region and internationally by
  - Showcasing the city’s business and employment opportunities, lifestyle options and urban-cultural amenities to improve the city’s profile,
  - Continuing to develop the city’s urban-cultural amenities,
  - Further developing the Northwestern Ontario Canada Immigration Portal,
  - Participating in national and international marketing campaigns, and
  - Developing novel advertisements that showcase the city’s unique features.

Entrepreneurship

Responses to the knowledge sector survey indicated that Thunder Bay’s greater population lacks an entrepreneurial spirit. This sentiment is corroborated by discussions with key city officials and stakeholders. Recently, this sentiment has also been corroborated by the Canadian Federation of Independent Business (2012) that utilized an entrepreneurial index to rank 103 Canadian cities in which Thunder Bay ranked 62, overall. This leads to the following recommendation:

*Recommendation #7: Foster an entrepreneurial culture in the city*

Fostering an entrepreneurial culture can be accomplished through

- Educational institutions playing a large role in the development of the entrepreneurial culture by:
  1. Further integrating entrepreneurship content into secondary and post-secondary curriculum,
  2. Providing students with opportunities for exposure and exploration of entrepreneurial environments during their studies, and
3. Exposing students to entrepreneurial activities at an early age.
   - Establish a Centre of Excellence in Innovation and Entrepreneurship to provide the community with training, education, workshops, research, networking and other opportunities, and
   - Continue to support the activities of existing institutions, such as the Northern Ontario Innovation Centre.

Business Expansion

In addition to a lack of skilled labour and entrepreneurial culture, the knowledge sector is confronted with another challenge. Most of the companies in the knowledge sector are relatively young and small in terms of both total revenue and number of employees. Micro-sized companies are faced with significant risks for sustainability due to a lack of diversified revenues, lack of talent within the organization and lack of available financing. This leads to the following recommendation:

**Recommendation #8: Focus on moving past business incubation**

In order to attract top-level talent and additional capital, small companies must move past business incubation. This can be accomplished by

- Developing government programs and allocating resources to help companies grow into larger, sustainable organizations,
- Supporting and enhancing the initiatives of angel investors, such as Northern Ontario Angel (NOA), and
- Provide the opportunities for business executives to further enhance their marketing and managerial skills.