



TyPlan Planning and Management (TyPlan) (www.typlan.ca) provides both public and private sector clients services related to hydroelectric and utility planning, economic impact assessment, economic development, strategic land use and resource planning, business case preparation, First Nations economic development and public consultation. Specific to the Manitoba Public Utilities Board requirements TyPlan has undertaken studies related to:

- Economic impact assessments associated with hydro projects
- Socio- economic/community assessments/social benefit studies associated with hydro projects
- Community Needs Assessments for regions and local communities in the north; and,
- Aboriginal/First Nations economic development and benefit agreement planning associated with hydro projects

TyPlan has worked directly with private sector power development firms and government utilities over 25 years of practice. Mr. Tyson has been involved with the socio-economic component of the Ontario Manitoba Interconnection Project (OMIP) (Ontario Hydro and Manitoba Hydro), and more recently with BC Hydro having prepared environmental impact assessment sections for navigation and aviation for the proposed Site C Clean Energy Project, inclusive of the preparation of an Outdoor Recreation Management Plan.

TyPlan works with the majority of independent power producers in British Columbia.

TyPlan has prepared community needs assessments in northern communities and First Nations to assist in provincial funding allocations for infrastructure.

TyPlan has worked in Northern Manitoba (Churchill, Manitoba) having been involved with the Churchill Northern Studies Centre (CNSC), an arctic research and education centre, for over 10 years. TyPlan was initially responsible for the preparation of a tourism needs study and subsequently, authored both business plans associated with the CNSC re-development. That experience provided insight into issues facing northern communities related to access, cost of living and services and protection of local culture.

TyPlan works with British Columbia (BC) Stats on a regular basis utilizing the British Columbia Input Output Model (BCIOM) to assess project economic benefits for linear corridor projects and hydroelectric power projects.

TyPlan prepares local employment opportunity studies, in which proposed infrastructure project employment opportunities are matched with local and regional service providers, the intent of which is to optimize local benefits.

TyPlan works with First Nations, providing advise on both economic/tourism development and in the preparation of benefit agreements. TyPlan is working with a First Nation involved the development of a hydro power project within their traditional territory.

Mr. Tyson has provided expert witness advice to the Alberta Energy Board (EUB) related to a planning economic development and BC Hydro Site C Clean Energy Project.

Russ Tyson M.Pl., MCIP, RPP, PLE

Russ Tyson is the principal consultant of TyPlan Consulting. He has over 25 years of experience in a broad range of planning/economic expertise. His professional and academic credentials include the following:

- Member, Canadian Institute of Planners (MCIP)
- Member, Clean Energy BC
- Member, Project Management Institute (PMI)
- Member, Planning Institute of British Columbia (PIBC)
- Member, Ontario Provincial Planners Institute (OPPI)

His educational credentials include:

- Master of Urban Regional Planning, Queen's University (M.Pl.)
- Masters Certificate in Project Management, University of Victoria
- Honours Degree in Urban Geography, University of Western Ontario
- Executive Management Development Program (Business), Simon Fraser University
- Certificate, Conflict Analysis and Management, Royal Roads University

Manitoba Experience

Churchill Northern Studies Centre (CNSC): Tourism Strategy (2004)

TyPlan was retained by the CNSC to prepare a tourism strategy and revenue model to ascertain the market potential and revenue expectations associated based on expanding revenues. In addition, potential expansion priorities associated with the centre were identified. Historic data, tourism trends, access and transportation were assessed as part of the project review. Revenue expectations and associated infrastructure improvements were identified for the Boards consideration.

Churchill Northern Studies Centre (CNSC): Tourism Strategy (2006)

Building upon the results of the tourism strategy, TyPlan was retained to prepare a business plan to assist the CNSC further pursue expansion possibilities. Specific tourism niches reviewed included the expansion of polar bear excursions, northern lights, birding and related education and training opportunities and revenues. The development of a vision for the centre was a central focus on the initial plan.

Churchill Northern Studies Centre (CNSC): Business Plan (2011)

TyPlan was retained to prepare a comprehensive business plan for the CNSC to satisfy the requirements of the Weston Foundation requiring the CNSC have sound and defensible business plan to enable the

foundation to invest in CNSC renewal objectives. The business plan included infrastructure costs and plans, marketing plans, fundraising plans and a comprehensive financial model.

Ontario Manitoba Interconnection Project

While employed by MM Dillon, Mr. Tyson worked on the Ontario Manitoba Interconnection project (OMIP), which consisted of a utility corridor to connect Ontario with Manitoba.

Mr. TYSON was involved with the socio-economic aspect of the environmental review, undertaking sighting studies intended to minimize social effects of related to corridor routing

Economic Impact Assessment: Pitt River Power Project

The British Columbia Input Output Model (BCIOM) was utilized to determine the economic impact of the proposed development of seven hydro projects in the Upper Pitt River, in the lower mainland of British Columbia. Based on construction cost estimates provided by the project engineers the BCIOM was utilized to determine:

- employment benefits in person years by sector of the economy
- contributions to household income
- contributions to gross domestic output
- federal and provincial taxes

The report formed part of the environmental impact statement filed for the project.

Economic Impact Assessment: Upper Lillooet River Hydro Power Project

The British Columbia Input Output Model (BCIOM) was utilized to determine the economic impact of the proposed development of three hydro projects in the Pemberton Valley north of Whistler BC. Based on construction cost estimates provided by the project engineers the BCIOM was utilized to determine:

- employment benefits in person years by sector of the economy
- contributions to household income
- contributions to gross domestic output
- federal and provincial taxes

The report formed part of the environmental impact statement filed for the project.

Economic Impact Assessment: STB (Stave, Tretheway and Big Silver Creek) Hydropower Project

The British Columbia Input Output Model (BCIOM) was utilized to determine the economic impact of the proposed development of three hydro projects in the Harrison Lake watershed in the Fraser Valley of British Columbia. Based on construction cost estimates provided by the project engineers the BCIOM was utilized to determine:

- employment benefits in person years by sector of the economy

- contributions to household income
- contributions to gross domestic output
- federal and provincial taxes

The report formed part of the environmental impact statement filed for the project.

Economic Impact Assessment: Skookum Creek Hydro Electric Project

The British Columbia Input Output Model (BCIOM) was utilized to determine the economic impact of the proposed development of the Skookum Creek hydro electric project in Squamish BC. Based on construction cost estimates provided by the project engineers the BCIOM was utilized to determine:

- employment benefits in person years by sector of the economy
- contributions to household income
- contributions to gross domestic output
- federal and provincial taxes

The report formed part of the environmental impact statement filed for the project.

Socio-economic and Local Job Opportunity Assessments (LJOA)

Socio-economic: STSB Projects

Cloud works Energy Inc. proposed the development of four waterpower projects in the Harrison Lake Watershed including the Statlu Creek, Tretheway Creek, Shovel Creek, and Big Silver Waterpower Projects, with a total capacity of 82.5 MW. TyPlan prepared a socio-community assessment of the Fraser Valley Regional District, Agassiz and Harrison Hot Springs communities as they related to the proposed STSB projects. Population, housing, labor force, occupations, average income, household income, education levels and availability of emergency services were identified and presented as part of the review.

- Locational context,
- Economic base,
- Population growth,
- Income levels,
- Labor demand,
- Labor supply,
- Participation rates; and,
- Population receiving either employment insurance or income assistance.

The information was derived from the following sources:

- FVRD Regional Growth Strategy and Official Community Plans;
- BC Stats Community Profiles (2006 Census);
- BC Stats; and,
- Local Chamber of Commerce.

Socio-economic: Upper Lillooet Hydro projects (ULHP)

TyPlan prepared a socio-community assessment of the Squamish Lillooet Regional District for the UPHP as they related to the proposed STSB projects. Population, housing, labor force, occupations, average income, household income, education levels and availability of emergency services were identified and presented as part of the review.

- Locational context,
- Economic base,
- Population growth,
- Income levels,
- Labor demand,
- Labor supply,
- Participation rates; and,
- Population receiving either employment insurance or income assistance.

The information was derived from the following sources:

- SLRD Regional Growth Strategy and Official Community Plans;
- BC Stats Community Profiles (2006 Census);
- BC Stats; and,
- Local Chamber of Commerce.

LJOA Upper Lillooet Hydro Electric Project

Based on the results of the BCIOM, which identified the types of employment by sector of the economy in person years, the municipal economic development departments, local Chambers of Commerce and Rotary Clubs were contacted with the intent to identify all local service providers within the local community and regional economy, that could potentially provide both construction and operational goods and services related to the construction of the hydroelectric project. Employment opportunities by sector of the economy, were matched with local and regional service providers and a strategy developed to help both the local service providers and contractors optimize opportunities.

The report formed part of the environmental impact statement filed for the project

LJOA: STB (Stave, Tretheway and Big Silver) Hydropower Project

Based on the results of the BCIOM, which identified the types of employment by sector of the economy in person years, the municipal economic development departments, local Chambers of Commerce and Rotary Clubs were contacted with the intent to identify all local service providers within the local community and regional economy that could potentially provide both construction and operational goods and services related to the construction of the hydroelectric project. Employment opportunities by sector of the economy, were matched with local and regional service providers and a strategy developed to help both the local service providers and contractors optimize opportunities.

The report formed part of the environmental impact statement filed for the project

Economic Benefit Study of the Contaminated Sites Sector within the Province of British Columbia

TyPlan undertook a economic benefit stud associated with the contributions of the contaminated sites sector of professionals on the economy of British Columbia. Detailed cost analysis of the various stages of remediation were identified and were utilized to ascertain such benefits.

Multiple Account Evaluations

Middle Arm Bridge Replacement

TyPlan supported engineering firms (Associated Engineering and Collins Johnson Inc.) undertake a Multiple Account Evaluation to support a business case for the replacement of the bridge. Accounts consisted of:

- Environmental Account - shoreline classifications as per Fraser River Estuary Management Plan (FREMP) and City of Richmond marsh habitat
- Social and Community Account - Displacement and disruption of properties, severance and visual impact's, conformity and consistency with official community plans
- Economic Development Account - employment, contributions to GDP, household income and tax revenues
- Customer Service Account - high level federal and provincial benefits
- Financial Account - preparation of NPV calculations for 3 replacement options

The evaluation was based on the Guidelines for Preparing MoT Business Cases: Multiple Account Evaluation Guidelines, prepared by the Highway Planning Branch, BC Ministry of Transportation.

Fraser River Crossing

TyPlan in association with Harris Hudema undertook a socio-economic impact assessment of the proposed Fraser River Crossing project which included extensive highway infrastructure improvements and a construction of a bridge over the Fraser River. The socio-economic evaluation consisted of determining both economic and social benefits. The results of which were integrated into the multiple account evaluation of the project.

BC Hydro Site C Clean Energy Project: Navigation and Aviation

TyPlan prepared the Navigation and Aviation section (section 26) of the envormental impact statement for the proposed Site C Clean Energy Project in Fort St. John BC. In accordance with the EIS guidelines a detailed report was submitted as part of the Panel board hearing. The report included baseline assessment impact assessment mitigation and residual effects analysis.

The assessment was prepared in accordance with Section 16 of the Environmental Impact Statement (EIS) Guidelines for the Project (CEA Agency and BCEA 2012).

BC Hydro Site C Clean Energy Project: Recreation Management Opportunities Plan

As a result of the effects on recreation and navigation resultant from the project a Outdoor Recreation Management Plan was prepared to address the effects associated with the creation of the reservoir on current recreational and use. Mitigation inclusive of new boat launches, funding to identify further recreational sites, and support in detail information set enable outfitters to select potential locations were considered as part of the plan. the establishment of an Outdoor Recreation Management Plan represented the key document to assist users identify opportunities and plan for future activities within the reservoir.

Mt Currie First Nation: Development Plan for Wedge Creek Hydropower Project

TyPlan assisted the Mt. Currie Indian plan in the preparation of a development plan for the proposed Wedge Creek Hydro electric project proposed by the band. Although considered a micro project it still required extensive study to meet the requirements of the development plan that supports the application to government. TyPlan was responsible for consultation associated with the project, recreation, navigation and consultation.

Katzie First Nation: Impact Benefit Agreement (IBA)

Typlan worked with Katzie First Nation and Run of River Power (over a 2 year period) in the preparation of a Impact Benefit Agreement associated with a proposed hydro electric project developed within the traditional territory of the Katzie.

Katzie First Nation: Economic Development Strategy

Katie First Nation in association with Run of River Power, undertook a economic development strategy to create eco-tourism developments associated with the proposed hydroelectric power project within the Katzie First Nation Traditional Territory, inclusive of hiking trails, fishing, outfitting, jet boating and a cultural lodge and educational centre.

Chemamus First Nation Physical Development Plan

While employed by UMA Engineering, Mr. Tyson prepared a physical development plan for the First Nation. The PDP outlined the required infrastructure to support future growth in the community inclusive of housing, social services and recreational infrastructure. The reporting was submitted to Indian and Northern Affairs Canada for funding.

Squamish First Nation: Physical Development Plan

While employed by UMA Engineering, Mr. Tyson prepared a physical development plan for the First Nation. The PDP outlined the required infrastructure to support future growth in the community inclusive of housing, social services and recreational infrastructure. The reporting was submitted to Indian and Northern Affairs Canada for funding.

