

CLIC-Tool Case Study: City of Terrace

November, 2018

INTRODUCTION

In Spring 2018 the Green Communities Committee, a joint Provincial-UBCM committee established under the Climate Action Charter, launched a CLIC Tool Implementation Project to support local governments in achieving their Charter commitment to create complete, compact, more energy efficient communities.

The Ministry of Municipal Affairs and Housing's CLIC Tool is a free open source, excel-based tool that helps communities understand the long-term infrastructure cost implications of their land use decisions by facilitating the comparison of different development scenarios. The CLIC Tool has proven to be beneficial to informing land use decisions from site specific to broader land use policy development (e.g., Official Communities Plan). In most cases, it identifies that more compact growth scenarios are the most financially sustainable.

Five communities were selected to partake in this 5–6 month process, of which the City of Terrace was one. This case study highlights their team, experience using the tool, key results, and lessons learned for future users of the tool. The process was led by:

- **Champion** (facilitated process and prepared case study):
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- **Core Team:**
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TERRACE'S JOURNEY

The City of Terrace is a smaller urban centre located in NW British Columbia in the Coast Mountains and along the beautiful Skeena River valley. With a population approaching 12,000 persons, Terrace is a service and supply centre with a regional population of approximately 40,000 within a 1-2 hour drive.

Terrace has experienced moderate growth since 2001 in each national census year and anticipates seeing dramatic change and growth with the recent announcement of the LNG Canada project. Though this \$40Billion LNG export facility will be constructed in Kitimat, the impacts to Terrace will be significant. In addition to this major industrial project, several other initiatives are set to drive population growth at potentially significant rates over the next 5-10 years. Development is underway to service 1400 acres in the Skeena Industrial Development Park which will provide large sites for manufacturing and heavy industry. This road access and a new municipal water system are under construction for this area.

Terrace's land base is separated in two distinct municipal boundaries; the traditional historic city area bounded on the south by the Skeena River and the airport lands. All of the lands designated in the OCP for residential uses are located within the historic city boundary and land development and growth are constrained by mountains on the east and river valleys on the south and west. Population growth needs to be managed in an efficient and sustainable manner to ensure the land base will accommodate new residents and other land uses well into the future.

The City has undertaken an asset management inventory and is in the process of developing a strategy to manage and replace all our municipal assets. Planning for growth that achieves a reduced demand on the limited tax base and with compact and efficient land use forms is critical for future financial stability.



**Excerpt from OCP:
Compact and Complete Neighbourhoods**

“A complete neighbourhood and community provide access to a range of services and amenities within walking distance of all residences. A complete neighbourhood is mixed use, compact, walkable and provides a range of transportation and recreation options.”

Excerpt from (DRAFT) Asset Management Policy:

“Sustainable service delivery ensures that current community services are delivered in a socially, economically and environmentally responsible manner that does not compromise the ability of future generations to meet their own needs.”

Figure 1: The policy context behind piloting CLIC.

APPLYING CLIC IN TERRACE

Using CLIC, staff set out to assess four scenarios. These scenario characteristics are summarized below.

	Scenario 1 - Cory Drive SFD 30 lot SD	Scenario 2 – Cory Drive SFD 46 lots SD	Scenario 3 – Cory Drive Townhouse GF	Scenario 4 – Davis Ave Townhouse IF
<i>Gross Area (ha)</i>	3.63	3.63	1.75	0.58
<i>Net Density (u/ha)</i>	10	16	30	48
<i>Location</i>	Greenfield	Greenfield	Greenfield	Infill
<i>Total units (hh)</i>	30 Dwelling Units	46 Dwelling Units	57 Dwelling Units	28 Dwelling Units
<i>Zoning</i>	R1 – Single Detached Residential	R1 – Single Detached Residential	R3 – Low Density Multi-Family Residential	R4 – Medium Density Multi-Family Residential
<i>Mix of land use</i>	Single Family Dwelling (SFD)	SFD	Townhouse, Row (Phased Strata)	Townhouse, Stacked (Phased Strata)
<i>Roads, total length (m)</i>	350m – local road	350m – local road	145m – local road	Infill Development on existing roads
<i>Describe other differentiating features (if any, such as location, road pattern, asset triggers)</i>	<ul style="list-style-type: none"> • Growth area on greenfield site • Minimal supporting uses (i.e.: commercial) • Close to schools & college • No sidewalks • Typical historical large SFD lot subdivision form • Limited park space • Near transit route 	<ul style="list-style-type: none"> • Growth area on greenfield site • Minimal supporting uses (i.e.: commercial) • Close to schools & college • No sidewalks • Typical historical large SFD lot subdivision form • Limited park space • Near transit route 	<ul style="list-style-type: none"> • Growth area on greenfield site • Minimal supporting uses (i.e.: commercial) • Close to schools & college • No sidewalks • Typical historical large SFD lot subdivision form • Private amenity space • Limited park space • Near transit route 	<ul style="list-style-type: none"> • Infill near downtown core • Shopping and services within 5 minute walk • Close to recreation facilities and park space • Limited on-site amenities • Close to public library

Figure 2: Characteristics of the scenarios under comparison

The City’s core team identified the scenarios in order to assess typical residential density of subdivision in order to compare that with potential relative higher density forms of residential land development. Townhouse on low density multi-family zoned lands is being introduced in the local market and the project allowed the City to quantify the benefits of a more compact and walkable form of land use. Recent infill townhome development on pre-zoned lands near the downtown core versus similar land use on a greenfield site in a residential growth area provided an interesting contrast for comparison.

Data collection was not difficult as most of the relevant data relating to capital costs, annual O&M and infrastructure replacement timelines etc. was already being collected and documented, however, the forms of data collection, such as linear metres vs. square meters, for major infrastructure (roads, deep utilities) required some re-calculation to input to the CLIC Tool. It was more challenging to allocate, on a per house hold dwelling unit (h/h) level, other costs related to broader municipal services such as transit, policing and parks functions.

THE TERRACE RESULTS

The City team chose scenarios 1 & 2 that compared typical single-detached large frontage residential subdivision with the same land being developed at maximum density/lot widths. They also used this pilot to assess townhouse forms of higher density residential development in a greenfield versus an urban infill location. The second form of development contrasted new growth areas requiring capital costs for new roads, water and sewer with development on existing infrastructure with minimal capital off-site costs.

In the single-detached subdivision scenarios CLIC was able to demonstrate that:

- Initial capital costs in the single-detached scenarios are identical while return on investment for a developer increase, and O&M and replacement costs to the municipality decrease by 12-13%.
- Annual revenues to the municipality increase by 18% due to the fact that the smaller SFD lots generate the same tax revenue based on anticipated assessed values. This provides the potential for additional revenue to provide enhanced service or to consider reducing tax rates. This also results in 15% lower annual life-cycle costs to the municipality.
- Of note: while the capital costs related to land development are virtually identical there is a decrease by nearly 1/3 per household with an increase in number of lots due to narrower frontage, which theoretically should result in lower lot prices and an improvement in market housing affordability. It is expected that developers pass all increased costs to future lot buyers and by spreading upfront capital costs over an increased number of residential lots their revenues may also increase.

In the Low Density Multi-Family comparison where townhouses are developed rather than SFDs the comparison of scenarios using the CLIC was able to demonstrate that:

- Initial capital costs varied from zero in the infill location to fairly significant developer contribution on a Greenfield site while annual O&M costs were equitable. This was clearly reflected in the market sales values with significantly lower unit sale prices on the infill townhomes.
- While net revenue per household is lower for this more dense housing form when compared to SFDs the average lifecycle costs to the municipality were also lower off-setting this factor.

In all scenarios it was enlightening to confirm that annual municipal life-cycle costs were significantly exceeded by the revenues. At first glance this appears to be very positive but is not necessarily the case when factoring in an asset management program budget. Historically, and continuing to current practice, all revenue is going to current annual expenditures and none of the 'excess' revenue is being placed in an asset replacement reserve. For Terrace this implied that a tax increase may be necessary to account for future replacement costs while maintaining existing municipal service levels.

COMPARISON OF MUNICIPAL COSTS AND REVENUES

are intended to cover a wide range of services. Note Schools are not included in these costs.

ANNUAL MUNICIPAL LIFECYCLE COSTS AND REVENUES

Lifecycle Costs and Revenues (hh)	S1 - Cory Dr SFD - 30 Lot SD	S2 - Cory Dr SFD - 46 Lot SD	S3 - Cory Dr - Townhouse GF	S4 - Davis Ave Townhouse Infill
Municipal Portion of Residential Costs (hh)	\$1,413	\$1,194	\$804	\$857
Municipal Portion of Non-Residential Costs (hh)	-	-	-	-
Complete Municipal Costs (hh)	\$1,413	\$1,194	\$804	\$857
Municipal Portion of Residential Revenues (hh)	\$2,662	\$2,662	\$1,777	\$1,777
Municipal Portion of Non-Res. Revenues (hh)	-	-	-	-
Complete Municipal Revenues (hh)	\$2,662	\$2,662	\$1,777	\$1,777
Net Revenue (Residential Only) (hh)	\$1,248	\$1,468	\$973	\$920
Net Revenue (Non-Residential Only) (hh)	-	-	-	-
Net Revenue (Complete Developm.) (hh)	\$1,248	\$1,468	\$973	\$920

1Total Municipal Costs = municipal service and Infrastructure costs from residential component of community

2Municipal Revenues = municipal revenue related to residential component of community, including taxes, development

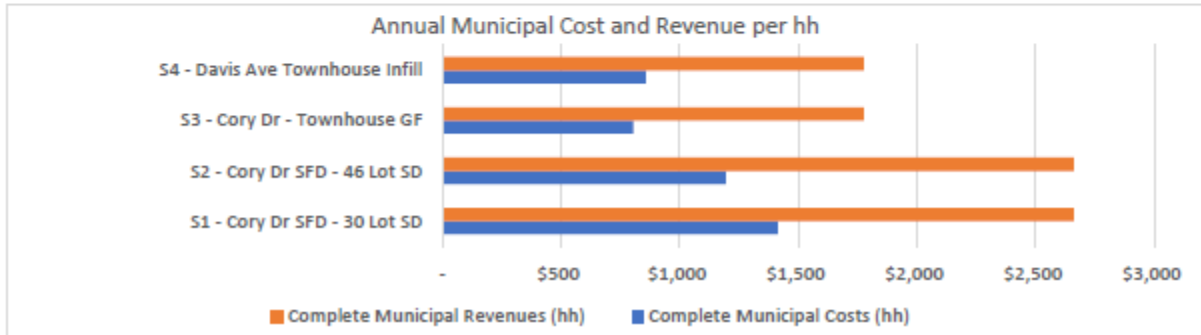


Figure 3: Snapshot of Community's CLIC Results

THE VALUE OF USING CLIC

The CLIC Tool provides a fairly straightforward way to input data already being collected or generated to produce comparative results for assessing land use and development patterns.

The key benefits for the use of this tool were:

- Ease of assessing differing land development scenarios to determine the impacts on costs and revenues. The tool is particularly useful in quantifying lifecycle costs for various forms of residential land development and density.
- The tool is extremely valuable in its clear calculation of infrastructure replacement costs which must drive a serious consideration of developing asset management reserve funds, or other means to allocate revenues to be available for future replacement of infrastructure.

“I was initially surprised to see the amount of excess tax revenue provided by a typical SFD until I realized that virtually none of this revenue is being set aside for future lifecycle replacement. All of the revenues, aside from those covering annual O&M costs, are going to general budget to provide the multitude of programs and services the municipality provides its residents” D. Block, Director of Development Services.

Working together as a team from the Planning, Public Works and Finance departments this project brought differing perspectives on assets and how the City manages them. It also raised awareness on the benefits of more compact and dense land development and infill development on existing infrastructure.

LESSONS LEARNED

Terrace has several lessons to share with other communities looking to use the CLIC Tool:

- Use of a tool like CLIC will provide feedback on a variety of land use and development options and can be a powerful way to educate elected officials on the benefits of more sustainable and efficient land use.
- The Tool clearly quantifies the revenues that are required to be placed in a reserve annually to ensure adequate funds are available when assets require replacement in the future. The challenge is how to do this when local governments are providing limited services and programs using all available tax revenues.
- Bringing together staff from different municipal departments to gather data and review the results has proven to be very beneficial.
- The Tool is continuing to be refined and this pilot project identified several areas the Tool needed to be revised. The CLIC tool is valuable and the effort to gather the necessary data was not overly time consuming. However, without the assistance of the project consultant it is clear this tool may still be difficult for smaller municipalities with limited staff capacity to utilize on their own.

NEXT STEPS FOR TERRACE

The next steps for the City of Terrace will involve completing an asset management strategy process and developing a policy for asset management. This will require broad education regarding the City's infrastructure deficit, the need to look into various means to set aside funds for future asset replacement or to generate new sources of revenue such as DCCs to fund infrastructure replacement.

Planning for growth and the subdivision approval process require a review of policy guiding land use and density at time of development. It is clear from this tool that compact development, higher density and more efficient land use will reduce the amount of infrastructure while increasing revenue.

The CLIC tool is available for free download at:

<https://www2.gov.bc.ca/gov/content/governments/local-governments/planning-land-use/local-government-planning/community-lifecycle-infrastructure-costing>