CLIC Tool Case Study: Prince George

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INTRODUCTION

The Community Lifecycle Infrastructure Costing (CLIC) tool is the result of a multi-year process driven by the British Columbia Ministry of Community, Sport, and Cultural Development (MCSCD). During the pilot phase, six BC communities were engaged and in 2015 the first version was released to the public. One of these pilot communities was the City of Prince George, which has continued as an active participant in applying the tool and providing advice on ongoing tool development.

This case study was originally published in Planning West. It was written in collaboration by Lourette Swanepoel (Stantec Consulting) and Tiina Shaeffer (City of Prince George).

PRINCE GEORGE'S JOURNEY

In 2007, the City of Prince George established an Asset Management Division. During the initial years, the focus was on implementing software to model the lifecycle cost of infrastructure networks and to analyze the current situation. In 2012 the results were shared with Council indicating an annual infrastructure liability (gap) of approximately $12 million. This was a watershed moment for the City's infrastructure and financial management.

The journey that ensued in search of remedies led the Asset Manager to reach out to the Long Range Planner. After all, it was the planning decisions that commit the community and their tax dollars to assets for decades, if not centuries.

The City of Prince George pursued CLIC as part of its Asset Management Policy and Asset Management Workplan to get at the front-end land use decision making of how they take new assets on, through the long-range planning function. CLIC further linked to a number of Council Strategic Goals, the OCP's growth management direction, and the City's Sustainable Finance Guidelines.

Excerpt from Asset Management Policy:

The organization shall make informed decisions, identifying all revenues and expenses (including operations, maintenance, renewal, replacement, and decommission) associated with asset decisions, including additions and deletions.

The organization shall manage assets sustainably considering the City's environmental, social and economic responsibilities and the life cycle costs of

Excerpt from OCP:

The City should prioritize public investments for Growth Priority Areas, including capital investments…Repairs and maintenance should also be prioritized in these areas…
To establish clear community preferences, increase certainty for redevelopment and infill projects, and establish detailed priorities for capital investment, the City should prioritize

Excerpt from Sustainable Finance Guideline:

The City's Capital Expenditure Plan is closely coordinated with its OCP so that land use policies reflect the City's ability to fund growth and development and so that financial planning reflects the need to invest in infrastructure.

Figure 1: The policy context behind piloting CLIC in Prince George.

APPLYING CLIC IN PRINCE GEORGE

Led by the long-range planning function, Prince George used the CLIC tool to compare two typical development scenarios.

	Low Density New Subdivision Scenario	Medium Density Infill Scenario
Net Density (u/ha)	28	52
Population	8,635	10,824
Gross Area (ha)	188	127
Residential area	71%	70%
Connectivity	• interconnected road network, some trail and bike • some transit access • 9.4 km from central business district	• interconnected road, trail and bike network • excellent transit access • 1.0 km from central business district
Mix of land use	• Primarily residential: single-family detached, townhouses	• Primarily residential: single-family detached, narrow lots single family, townhouses, mid-rise & low-rise apartments
Roads total length	20,672 m	21,624 m

Figure 1: Characteristics of the two scenarios tested by Prince George.

In comparing these two planned neighbourhoods with similar land area, residential area, and road length, it provided an opportunity to better understand the implications of 100-year life cycle costs based on servicing needs, density changes and location.

Tiina Schaeffer, Manager of Sustainable Community Development, led the update of data inputs. Input values were sourced with the help from subdivision development engineers, infrastructure engineers, long range planner, asset managers, finance staff, and GIS technicians. Sources included:

- Greenfield costing data from subdivision applications and financial reporting requirements where this data was being collected already
- City capital project data to source costing data for infill
- Finance department budgets (actuals from previous years)
- GIS to source typical development characteristics (such as length of road and total units) for the two scenarios
- External sources such as school district budgets and the BC Transit shared cost model to populate costs for schools and transit

Once costing values were defined, the remaining steps were relatively straight forward. The process of identifying the data inputs took about 10 days effort over a period of one to two months.

THE PRINCE GEORGE RESULTS

Using CLIC, the City was able to demonstrate that:

- ***Initial capital costs in the infill scenario are a mere fraction (about 94-97% lower) than that of the subdivision scenario.*** This difference is due to the upfront investment required in new infrastructure for the low density neighbourhood, compared to the infill scenario where infrastructure already exists. The infill scenario accounts for the age of existing infrastructure (in terms of when replacement is needed) but capital cost for capacity upgrades to existing infrastructure were not required as a result of the redevelopment.

- ***Annual operating costs in the infill scenario are slightly less (about 14% lower) per household.*** It should additionally be noted that the O&M cost for the subdivision scenario would add an additional cost in the municipal operating budget (i.e. new assets being added that requires additional O&M), whereas the O&M cost for the infill scenario are, for the most part, already part of existing O&M cost.

- ***Annual lifecycle costs in the infill scenario are less (about 21% lower) per household.***

- ***Annual lifecycle revenues in the infill scenario are less (about 12% lower) per household.*** This can be expected given the higher number of small units in the infill scenario (i.e. apartments vs. single detached) that produce less tax revenue per unit due to the smaller lot size. Also, the City's proactive policies on charging DCCs for subdivisions and providing subsidies to infill scenarios are reflected here. However, when considering **total revenue collected per hectare, the infill scenario produced substantially higher (about 61% more) revenue** per annum over the 100-year lifecycle.

- ***Households also experience other non-tax-based savings (about 18% less) with the more compact infill scenario***, such as lower home energy costs, driving costs, transit costs, vehicle collision costs, air pollution, and climate change costs.

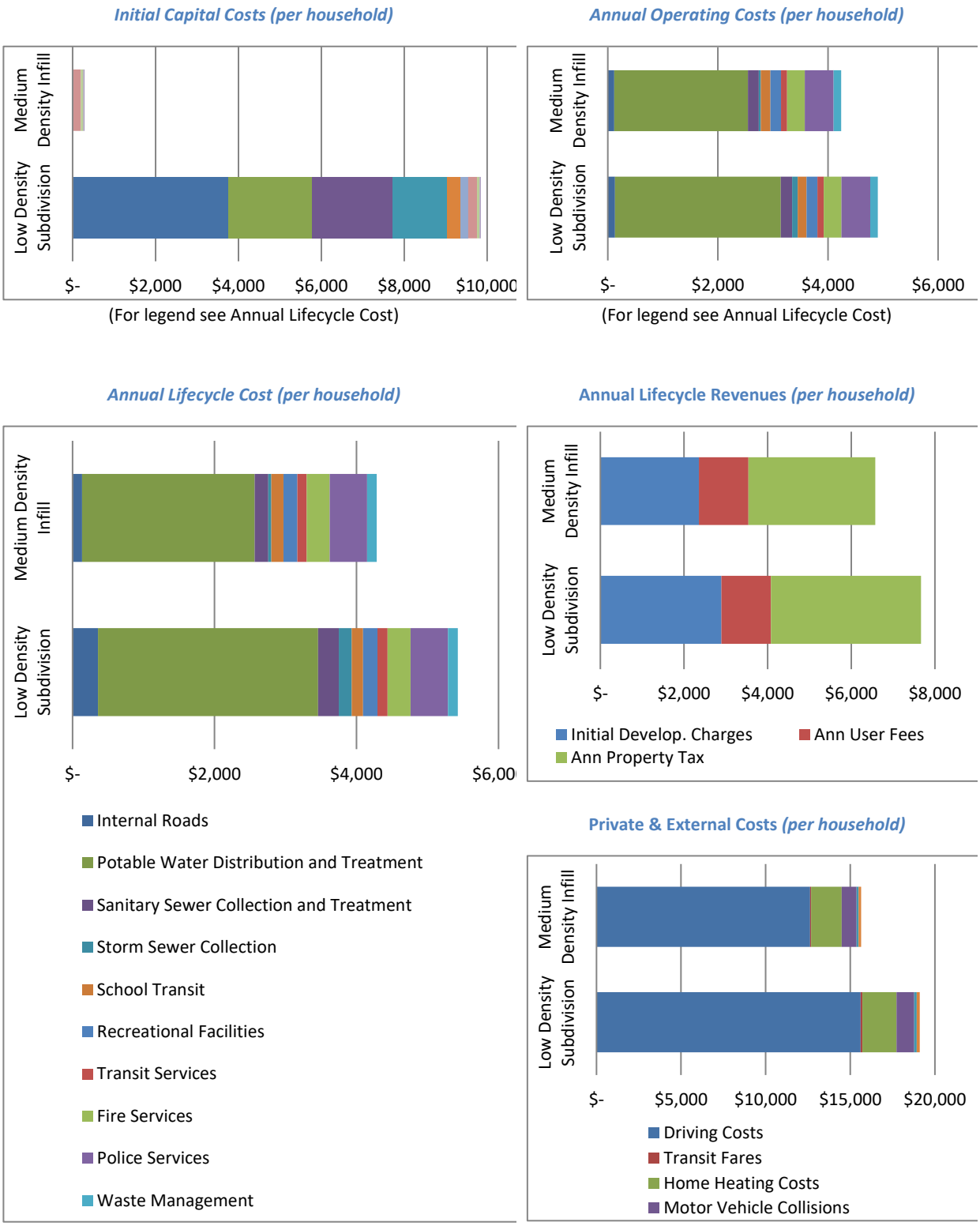

Figure 2: Snapshot of Prince George's CLIC Results.

THE VALUE OF USING CLIC

One of the most valuable outcomes from the process was the intentional “digging” to compile costing data from various groups into one common inventory of typical costs for critical infrastructure. Some information sought was not available and thereby identified some gaps in data and financial understanding.

The use of CLIC to provide a high level comparative lifecycle costing analysis has been a valuable part of Prince George’s asset management process. CLIC was effective in facilitating an understanding of costs associated with development across departments and was seen to be an important step before committing to the implementation, servicing and maintenance of assets over time.

Tiina Schaeffer, Manager of Sustainable Community Development, indicated that "What we've found with CLIC is that we’ve been able to break down silos and can see alignment of our work - planners now “see” alignment with the financial plan and asset management plans; asset management sees alignment of their work with the OCP and financial guidelines; and finance is starting to see alignment with the OCP and asset management plans".

Other ways in which CLIC added value included:

- Transforming planning arguments for more compact growth that focus on liveability and sustainability into quantifiable terms that demonstrate a business case for planning decisions from a long-term financial perspective
- Simplifying lifecycle costing to a few easy steps
- Increasing awareness of who pays for the long-term costs of development (community infrastructure)
- Connecting short-term decisions on how the City manages assets to the long term financial and land use planning decisions
- Exploring development options, policy directions or what-if scenarios (such as increased density, cost allocations, development cost charges, user fees, etc.) to see what the impact of variables decisions are on the lifecycle cost.

CLIC highlighted the benefit and need for the City to build and maintain better inventories that can help inform their subdivision approvals process (e.g. evaluating the accuracy of development costs and assessing if development fees are in line and fair with lifecycle costs) and inform their own capital project construction costs proposals.

LESSONS LEARNED & NEXT STEPS

Through their experience with CLIC, Prince George has several lessons to share with other communities looking to this tool:

- **Starting is the first step.** CLIC is free to download in an Excel format. Communities of all sizes are encouraged to download it and spend some time “playing “with it.
- **Identify a champion.** This can be a planner, engineering, asset manager or financial officer - anyone with familiarity of other functions of the organization and/or willing to learn and ask questions.
- **Engage a cross disciplinary team.** CLIC requires the integration of planning, engineering finance, and IT services departments for supporting data and getting everyone on board. A cross-departmental team effort will make the data collection effort smoother, and the process of getting buy-in on results easier.

- **Facilitate corporate buy-in from the outset.** Leadership and relevant departments should be aware of the value of CLIC and the process needed to engage in the use of it. Clearly explain it at the outset. Let others explore the tool to better understand how it may contribute to broader objectives.
- **Let go of certainty.** CLIC is intended as a high-level land use costing tool, not a budgeting tool, so let go of absolutes. The purpose of the tool is to provide high-level costing during the early land use planning. This kind of front thinking is typically never done. There will be gaps, inaccuracies, and assumptions, make a note of them and keep moving forward.
- **Maintain focus.** CLIC can be completed in a few weeks with dedicated effort. The most effort is setting up the costing values, but once that is set, it does not need to be repeated for future scenarios.
- **Reflect and learn.** Take time to reflect on the results and what the tool has enabled staff to learn. Explore future applications and next steps to embed it into the ongoing decision-making process.

NEXT STEPS FOR PRINCE GEORGE

The pilot was just the start of Prince George's exploration with CLIC. The Sustainable Community Development division continues to expand internal awareness of the tool and is looking at utilizing CLIC for a land use example under application review. Dialogues with staff are underway for exploring ways in which to integrate the tool into the decision-making framework should be considered, including possibilities of:

- Considering CLIC's integration with development applications
- Testing land use policies (e.g. urban containment boundaries, densification, cost charges)
- Exploring CLIC's potential to help inform public engagement on growth and asset management
- Providing triple-bottom-line/lifecycle costing information to Council and/or senior management for holistic decision-making.

The Prince George experience was helpful in identifying how CLIC can connect a community's land use planning and asset management planning processes. CLIC provided a high-level costing of the age-old planning principles regarding the cost of sprawl and if there is a business case for densification in Prince George's context.

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