


Municipal Cost Index Analysis

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Introduction

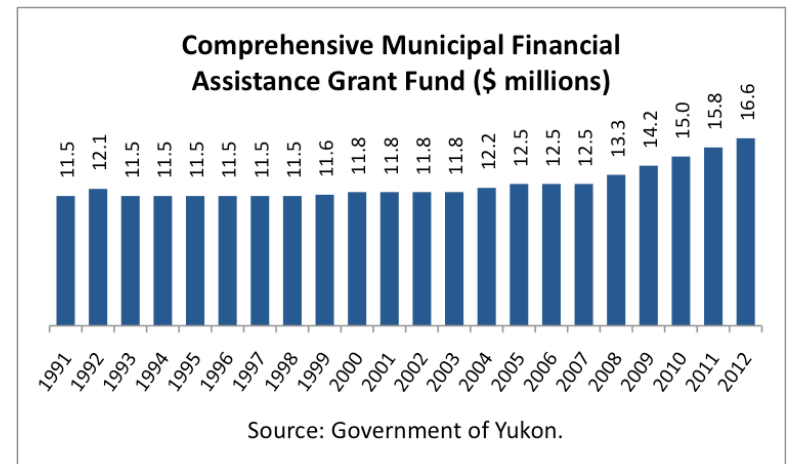
The Municipal Fiscal Framework Review Committee was established by the Minister of Community Services to investigate how the Yukon Government can support the success of Yukon municipalities as part of the Our Towns, Our Future initiative. One element of the Committee’s mandate of the Municipal Fiscal Framework Review Committee was a review of municipal ‘funding levels and administration’.

The *Our Towns, Our Future Summit* was hosted at the conclusion of the initiative and was attended by more than 40 delegates, including mayors, councilors, senior administrative officers and Yukon government staff. Summit participants worked together to identify priority action items and develop a work plan to implement the 75 findings of the Our Towns, Our Future municipal sustainability review.

A key outcome of the Summit discussion was a commitment to design options for an increase to the Comprehensive Municipal Financial Assistance Grant Fund in preparation for a new five-year grant program in 2013-14. The purpose of this project is to identify and evaluate a selection of approaches to increasing the Comprehensive Municipal Financial Assistance Grant Fund.

The Comprehensive Municipal Financial Assistance Grant Fund

The Comprehensive Municipal Grants paid to each incorporated municipality in the Yukon are funded through an annual Yukon Government appropriation called the Comprehensive Municipal Financial Assistance Grant Fund (CMFAGF). The chart to the right illustrates the value of the CMFAGF from its inception in 1991 to 2012.¹ Each year, the total value of the CMFAGF is divided up among the eight incorporated municipalities in the Yukon according to the methodology laid out in the *Municipal Finance and Community Grants Act*.



¹ The months included in the Yukon Government fiscal year are different than the months included in the fiscal year of incorporated municipalities. The fiscal year of the Yukon Government runs April 1 to March 31 and the fiscal year of incorporated municipalities runs January 1 to December. This paper adopts the style of the *Municipal Finance and Community Grants Act* which references the municipal calendar year. Thus, 2012 refers to the 2012/13 fiscal year, 2011 refers to the 2011/12 fiscal year, and so on.

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The Comprehensive Municipal Financial Assistance Grant Fund is a *closed-ended* appropriation. This means that the sum of the eight community municipal grants cannot be greater than the value of the Comprehensive Municipal Financial Assistance Grant Fund. The only way for all municipalities to receive more funding is if the CMFAGF increases. As shown in the table to the right, the Comprehensive Municipal Grant Fund² increased in each of the last four years (2008 to 2011) and will increase again in 2012. The five successive increases are the result of an amendment to the *Municipal Finance and Community Grants Act* made in 2007.

The increases in the Comprehensive Municipal Grant Fund (CMGF) from 2008 to 2012 were based on projected increases in the Consumer Price Index for Whitehorse.³ The projected annual increases in Whitehorse CPI were used as a proxy for the ongoing increases in service delivery costs faced by Yukon municipalities. Without a subsequent legislative amendment, the value of the Comprehensive Municipal Grant Fund will remain at \$16,575,510 for years after 2012.

Comprehensive Municipal Grant Fund		
Year	Fund Value	Increase
2008	\$13,345,510	6%
2009	\$14,153,010	6%
2010	\$14,960,510	6%
2011	\$15,768,010	5%
2012	\$16,575,510	5%

Source: Yukon Government.

As recognized in the *Our Towns, Our Future* commitment to design options for how to increase the Comprehensive Municipal Grant Fund, service delivery costs for Yukon municipalities will continue to increase in years after 2012. An “ideal” municipal service delivery cost index will reflect increases in costs relevant to all aspects of service delivery by all Yukon municipalities. As will be demonstrated a bit later in this paper, the use of the Whitehorse CPI as a proxy for changes in service delivery costs in Yukon municipalities was prudent for a variety of reasons. However, the legislative expiry of CMGF increases, and the *Our Towns, Our Future* commitment, together present an opportunity to revisit the question of how best to reflect increases in municipal service delivery costs. The remainder of this paper will seek to answer the question of whether an alternate proxy that better reflects increases in municipal costs can be identified.

A price (or, cost) index is a mathematical method for measuring the extent to which prices for a basket of items has changed between one period of time and another. For example, the Consumer Price Index measures how the costs of goods and services consumed by individuals and households (e.g., food, shelter, household operations, transportation, recreation, fuel, etc.) change from month to month or from year to year. The Whitehorse Consumer Price Index for a full basket of goods and services was 119.0 in September 2011. A year previous (September 2010), the Whitehorse Consumer Price Index for a full basket of goods and services was 115.1. The percentage change in the CPI between the two time periods, 3.4%,⁴ is referred to as the inflation rate for September 2011.

While the CPI is a very widely applied measure of price (cost) inflation, the items in its basket are representative of the purchases made by consumers, not by municipal governments. Major expenditure categories for municipal governments typically include salaries and benefits,

² The “Comprehensive Municipal Financial Assistance Grant Fund” is referred to as the “Comprehensive Municipal Grant Fund” in the 2007 amendment to the *Municipal Finance and Community Grants Act*. The change in nomenclature is adopted from this point forward in the paper.

³ A Yukon-wide calculation of the consumer price index is not available from Statistics Canada.

⁴ Calculated as $[(119.0-115.1)/115.1 \times 100]$.

construction materials, contractual services and capital equipment. Municipal government expenditure categories – or basket items – have very little overlap with items in the basket of goods and services used to calculate the consumer price index.

Identification of Cost Index Approaches

So, given that the Consumer Price Index does is not very representative of the municipal purchasing experience, what are the possible alternative measures for changes of price in the basket of goods and services purchased by Yukon municipalities? The following five approaches to the calculation of a Municipal Cost Index to be applied to the Comprehensive Municipal Grant Fund have been identified:

1. **Whitehorse Consumer Price Index** – the Consumer Price Index measures how the costs of goods and services consumed by individuals and households (e.g., food, shelter, household operations, transportation, recreation, fuel, etc.) change over time. Available for Whitehorse only.
2. **Final Domestic Demand Implicit Price Index (FDDIPI)** - calculated and published quarterly by Statistics Canada. FDDIPI is defined by Statistics Canada as:

“The sum of personal expenditure on consumer goods and services, net government current expenditure on goods and services, government gross fixed capital formation and business gross fixed capital formation.”⁵

FDDIPI is an *implicit* price measure, it is the derived result of a mathematical deflation calculation. As such, FDDIPI is not a periodic measurement of changes in the value of a fixed basket of goods as is the consumer price index. Available at the Yukon level.

3. **Yukon Government Main Estimates** – paragraph 7(3) of the *Municipal Finance and Community Grants Act* provides that the Comprehensive Municipal Grant Fund may be increased by in the current year by the percentage increase in the Main Estimates in the two preceding years.⁶ As Territorial Formula Financing generally accounts for more than two thirds of territorial revenues, overall increases in Main Estimates amounts have been driven largely by increases in the Territorial Formula Financing Grant.

⁵ Statistics Canada Cat. No. 13-001, *National Income and Expenditure Accounts*, glossary.

⁶ The Main Estimates increase is to be net of the \$33.7 million increase that resulted from the devolution of administrative responsibility to the Yukon Government from the Government of Canada.

4. Municipal Government Price Index – a price or cost index measuring price inflation tailored to the expenditure patterns of a specific municipality. Several examples exist including the *City of St. Albert Municipal Price Index*, the *Municipal Price Index for the City of Calgary*, the City of Ottawa’s *Municipal Price Index* and the *South Australia Local Government Price Index*. A common feature of all of the examples is a rather detailed list of cost factors or components. As an example, the table below lists the 14 components included in the Municipal Price Index for the City of Calgary and their associated weights.

Municipal Price Index for the City of Calgary	
Component	Weight
Wages, Salaries and Benefits	0.56
Contract and General Services	0.16
Contracted Service Providers	0.02
Materials and Commodities	0.04
Fuel and Oil	0.02
Vehicle and Equipment Charges	0.03
Maintenance/Rental Equipment	0.02
Waste Management	0.00
Natural Gas/Propane	0.01
Electricity	0.01
Water and Sewer	0.00
Transfer Payments	0.06
Interest Expense	0.03
Gross Debt Charges	0.04
<i>Total of Weights</i>	<i>1.00</i>
Source: Walters, P. and Dunfield, J. (2010). “Developing a Municipal Price Index”. <i>Government Finance Review</i> .	

Calculation of the MPI for Calgary is accomplished through the matching of an appropriate inflator from an external source to each cost component. To the extent that they are available, price indices (inflaters) are sourced from Statistics Canada and the Conference Board of Canada. Prices indices not available from third-party sources are calculated using internal City of Calgary data.

5. Whitehorse Consumer Price Index combined with Wage Settlement Adjustments – a key advantage of the Consumer Price Index is that it is based on on-the-ground price measurements in Whitehorse (i.e., Statistics

Canada agents visit stores in Whitehorse and record actual prices). The largest cost component for the City of Whitehorse, and likely all Yukon municipalities, are salary and benefit costs, accounting for approximately half of total expenditures in a given year. Human Resources and Skills Development Canada (in collaboration with Statistics Canada), publishes wage settlement adjustment percentages for all Canadian jurisdictions.⁷ While some data is available for Yukon, the data series is not complete for all years. Wage settlement adjustment data for a broader jurisdiction (e.g., Canada) could be used. Each measure (CPI and WSA) would be assigned a weight of 0.5.

⁷ available at: http://www.hrsdc.gc.ca/eng/labour/labour_relations/info_analysis/wages/settlements/2011/08/yearly.shtml.

Evaluation of Potential Approaches

Per the terms of reference for this project, the identified approaches to the calculation a Municipal Cost Index are to be evaluated according to a series of four criteria. Each of the criteria are described below:

- a) **administrative simplicity** – an indication the straightforwardness of the measure and the degree to which the required data is readily available. Does the calculation involve the application of a single index or the weighted average of a variety of indices and proxies? Does the calculation make use of readily available third-party data or does it require the collection and manipulation of internal administrative data?
- b) **predictability** – the potential for variability in the measure from year to year. Is the measure highly variable i.e., does it swing back and forth between positive (e.g., stable or increased service delivery) and negative (e.g., reductions in staffing and service delivery) or is it relatively stable from one year to the next?
- c) **transparency** – the degree to which the methodology for the calculation is simple enough that it can be easily explained and whether the data needed for the calculation is available in the public domain or is proprietary. In other words, how easily could someone with no prior knowledge learn the methodology and replicate the calculation?
- d) **relevance to the actual cost of delivering local services** – the extent to which the measure is representative of changes in actual costs of delivering the full range of municipal services in Yukon municipalities (Carmacks, Dawson City, Faro, Haines Junction, Mayo, Teslin, Watson Lake and Whitehorse) from year to year.

For purposes of the evaluation, each criteria was assigned one of three ratings – high, medium or low – which describes the degree to which the criteria is reflected in a particular approach. The results of the evaluation are presented in the table on the following page.

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Evaluation of Potential Approaches to the Calculation a Municipal Cost Index					
	Administrative simplicity	Predictability	Transparency	Relevance to actual cost of delivering local services	Comments
Whitehorse Consumer Price Index	high	medium	high	low	The default and incumbent choice to increase the Comprehensive Municipal Grant Fund on an annual basis. A valid choice to the extent that the Consumer Price Index for Whitehorse tracks closely with changes in costs for delivering services in Yukon municipalities.
Final Domestic Demand Implicit Price Index (FDDIPI)	high	low	medium	low	While FDDIPI uses a basket of goods and services more broadly based than the one used for CPI, FDDIPI is a mathematical construct derived from gross domestic product calculations. As such, FDDIPI features less predictability than CPI. It is also is far less familiar and therefore less transparent.
Yukon Government Main Estimates	high	medium	high	low	While referenced in the <i>Municipal Finance and Community Grants Act</i> , the use of YG Main Estimates appears intended to serve more as an upper limit on CMGF increases than a measure reflective of changes in service delivery costs. As such, this measure has slim relevance to local price changes.
Municipal Government Price Index	low	medium	low	high	Featuring the highest degree of relevance to the cost of delivering local services among the five approaches examined, this approach is also administratively complex and the least transparent. A potentially workable solution in a large southern city where third-party supplied price measures specific to the city are available.
Whitehorse Consumer Price Index combined with Wage Settlement Adjustments	high	medium	medium	low	Combining the Whitehorse CPI with aggregate wage settlement adjustments for Canada would build on the strengths of the CPI measure and improve the representativeness of the service delivery cost index.

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Outcome of Potential Approaches

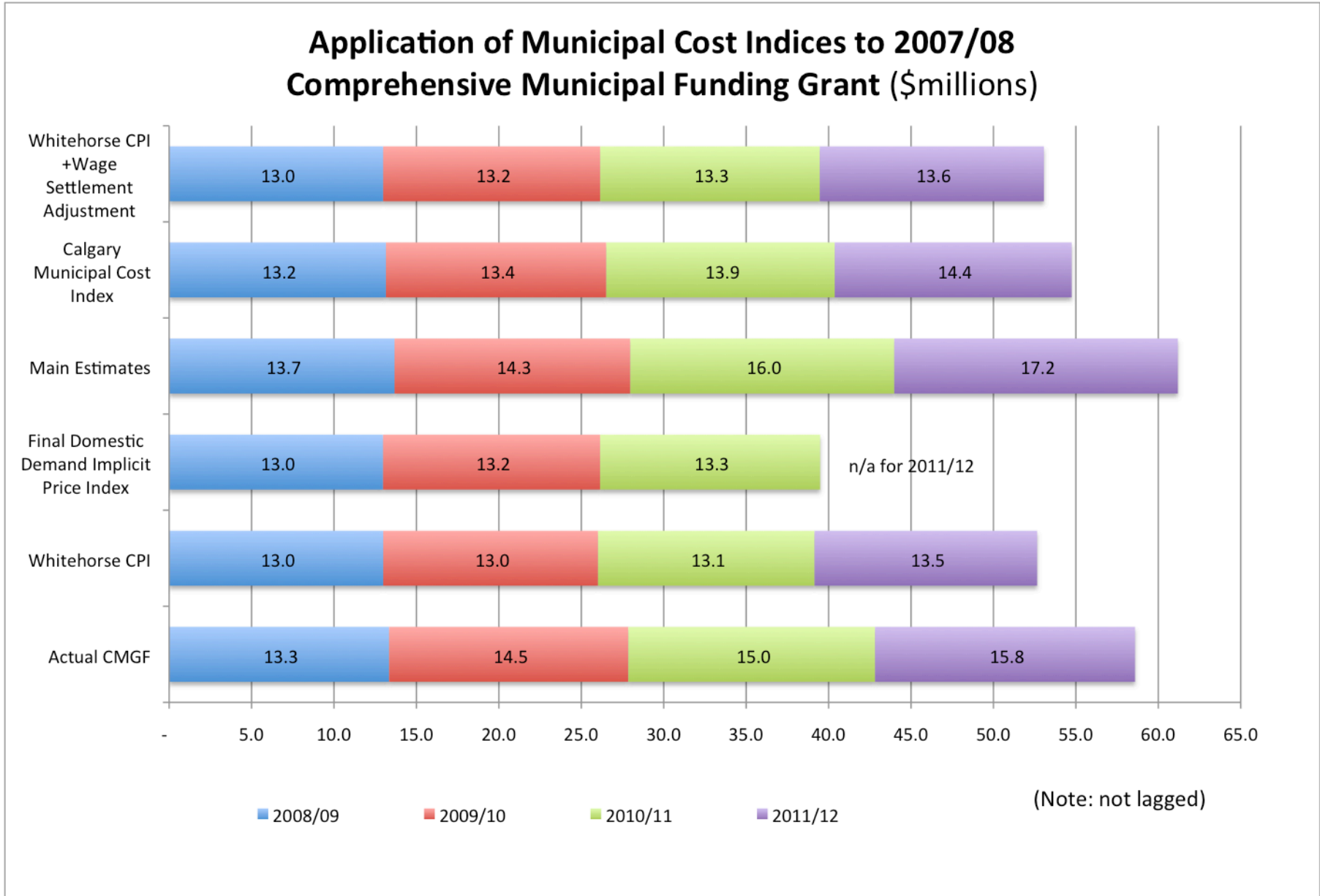
To help evaluate the potential approaches to the calculation of a municipal cost index, annual escalator values were applied to the 2007/08 Comprehensive Municipal Funding Grant (\$12.538 million). The escalator values are presented in the table below.

Annual Escalator Values for Potential Municipal Cost Index Approaches					
	Whitehorse CPI	Final Domestic Demand Implicit Price Index	Main Estimates	Calgary Municipal Cost Index	CPI+Wage Settlement Adjustment
2007/08	2.5%	3.0%	1.2%	n/a	3.0%
2008/09	3.6%	3.5%	9.1%	4.9%	3.5%
2009/10	0.4%	1.5%	4.6%	1.6%	1.4%
2010/11	0.8%	1.4%	11.9%	3.7%	1.2%
2011/12	2.8%	n/a	7.4%	3.7%	2.0%

The table below presents the results of the application of annual escalator values to the 2007/08 CMFG in dollar terms. Note that for purposes of comparison with actual Comprehensive Municipal Funding Grant levels, the application of the various cost index measures have not been lagged.

Application of Potential Municipal Cost Index Escalator Values to 2007/08 CMFG (\$millions)						
	Actual CMFG	Whitehorse CPI	Final Domestic Demand Implicit Price Index	Main Estimates	Calgary Municipal Cost Index	CPI+Wage Settlement Adjustment
2008/09	13.3	13.0	13.0	13.7	13.2	13.0
2009/10	14.5	13.0	13.2	14.3	13.4	13.2
2010/11	15.0	13.1	13.3	16.0	13.9	13.3
2011/12	15.8	13.5	n/a	17.2	14.4	13.6

The chart on the following page also presents the results of the application of annual escalator values to the 2007/08 CMFG in dollar terms.



Conclusion and Recommended Option

The development of an “ideal” municipal service delivery cost index which reflects increases in costs relevant to all aspects of service delivery by all Yukon municipalities is constrained by data availability. For example, while the calculation of a Calgary-style municipal cost index would likely more accurately reflect changes in costs faced by Yukon municipalities on an annual basis, such an approach would be starved for data in the Yukon context. This circumstance was confirmed by an attempt in the preceding analysis to combine Whitehorse CPI with price changes in the dominant cost category for municipalities (salaries and benefits) which foundered due to an incomplete Yukon data series. So, unless there is appetite to take quite a different tack, in the form of needs based approach (similar to how Territorial Formula Finance Grants are calculated), it is recommended that efforts here continue to be kept simple and the Consumer Price Index for Whitehorse continue to be used to escalate the Comprehensive Municipal Grant Fund on an annual basis.