

# Use of Cash Flow Forecasting in Operations

The original recommended practice was developed by the Government Finance Officers Association (GFOA). Some aspects of the practice have been revised by the Financial Management Capacity Building Committee (FMCBC) for use by Nova Scotia municipal governments. The original GFOA recommended practice is *Use of Cash Flow Forecasting in Operations*, approved by the GFOA Executive Board in 2008. Other sources used are footnoted in the text.

## Recommendations

The GFOA recommends that cash flow forecasts in operations should be integrated into a municipal government's financial policies, and the GFOA advises that specific elements be incorporated in the development of cash flow forecasts in operations. The GFOA recommends that cash flow forecasting must be done at an organizational level, and all operating departments need to be involved in developing planned expenditures. The GFOA also recommends that expenditures should be prioritized as a function of the municipality's goals. Forecast time frames also need to be accurately reflected in the receipts of the municipality. Furthermore, historical data should be used to measure the nature of receipts and disbursements in the cash flow forecast. In addition, forecast receipts should include cash, maturities, and short-term investments, while forecast disbursements should recognize the organization's priorities. Cash forecasters should also recognize the items that influence a municipality's float, and develop strategies that favour the collection of receipts and delay disbursements. Lastly, the GFOA recommends that forecasts should also include room for variances.

## Purpose

The purpose of a cash flow forecast is to show cash inflows and cash outflows during a certain time period (weekly or monthly). This ensures that the municipality has adequate cash on hand to address its needs and at the same time maximizing return on available cash. With a proper cash flow forecast, there are proper indicators where disbursements are exceeding projections or other targets are not being met.<sup>1</sup>–

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<sup>1</sup> "Implementation Guidelines for the Service Manager's Guide to Joint Local Transfer Planning." Guide to Risk Management for Projects in Difficulty. April 8, 2002.

## Background

The objective of cash management is to maximize the municipality's cash position by ensuring that cash balances are sufficient to meet its obligations without forgoing investment income. Cash management is the process whereby the cash inflows and outflows are controlled so that current obligations will be met on time and any excess cash can be invested to earn income. At some points in the year, municipalities have excess cash that is not immediately required, while at other points in the year, the cash inflow may be insufficient. By exercising proper cash management, a municipality can potentially increase its interest revenue and reduce its bank service charges.<sup>2</sup>

A cash flow forecast is a detailed projection of the timing and amounts of cash inflows and outflows for a specified time period, generally covering one year broken down into weekly or monthly time periods.<sup>3</sup> A cash flow forecast records receipts and disbursements when the money is received or paid. Cash flow forecasting offers the following benefits:

- A format for planning the most effective use of available cash.
- A schedule of anticipated cash receipts and a method of verifying whether that schedule is achieved.
- A measure of the significance in terms of cash of unexpected changes in circumstance (reduced receipts or unexpected disbursements).
- An estimate of the money needed to pay suppliers and employees on time.

## Considerations for Policy Development

When developing a cash flow forecasting strategy, municipalities should consider six different factors (see *Appendices I-VI*).

## Appendices

Appendix I: Components that Should be Considered when Developing a Cash Flow Forecast

Appendix II: Steps for Designing Cash Flow Forecasts

Appendix III: Designing a Cash Flow Worksheet

Appendix IV: Historical Cash Flow Analysis

Appendix V: Importance of Ensuring Liquidity

Appendix VI: Cash Flows and Capital Disbursements

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<sup>2</sup> Service Nova Scotia and Municipal Relations. Local Government Resource Handbook. Halifax, NS: Province of Nova Scotia, October, 2000.  
[http://www.gov.ns.ca/snsmr/muns/manuals/PDF/LGRH/LocalGovernmentResourceHandbook\\_3.pdf](http://www.gov.ns.ca/snsmr/muns/manuals/PDF/LGRH/LocalGovernmentResourceHandbook_3.pdf).

<sup>3</sup> Ibid.

## **Appendix I: Components that Should be Considered when Developing a Cash Flow Forecast**

### **Development of Cash Forecasting Procedures**

Cash forecasting procedures should be developed so that the most current information (such as accounts payable and accounts receivable) is reflected in the forecasts and that the forecasts are as accurate as possible. One component that should be considered is a cheque-clearing system that can derive statistics from the accounts payable system, and the bank clearing data.<sup>4</sup>

### **Computerized Forecasting System**

Information systems should be in place to ensure the current information can be gathered and updated promptly for accurate cash forecasts. Cash management systems and procedures should make use of appropriate and modern administrative practices. Staff involved in these positions should have the ability to work and maintain these systems.<sup>5</sup>

### **Long-Term Cash Flows**

Both short and long-term cash forecasts should be prepared to support short and long term investment decisions. It is important for those purchasing and selling investments to know when to match the maturity dates with the dates of cash requirements or surpluses. The cash forecasting system should provide at least a one-year rolling cash forecast that should be constantly updated for changes. The annual cash flow forecast will be changed to include all cash inflows in addition to outflows.<sup>6</sup>

### **Variance Reporting of Cash Forecasts**

Significant variances between actual and forecasted cash flows should be measured, monitored, and reported on an on-going basis to management. The performance indicators should be included in the appropriate program overview. The variances should be recorded and explained – what caused the variance to happen, along with solutions if required to correct the variance, and establish actions to avoid a recurrence if required.<sup>7</sup>

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<sup>4</sup> City Hall, Saskatoon, SK. Minutes of Regular Meeting of City Council. September 9, 1991.  
[http://www.city.saskatoon.sk.ca/org/clerks\\_office/council/m1991/m\\_council\\_090991.pdf](http://www.city.saskatoon.sk.ca/org/clerks_office/council/m1991/m_council_090991.pdf).

<sup>5</sup> Ibid.

<sup>6</sup> Ibid.

<sup>7</sup> Ibid.

## Appendix II: Steps for Designing Cash Flow Forecasts

It is important to ensure that cash flow forecasts are as accurate as possible, so a solid framework for cash flow forecasting should be designed. A cash flow forecast is an estimate of when revenue will be received and when expenses will be paid. A cash flow forecast shows all cash receipts, as they are expected to be received, and all cash payments determines whether the revenue generated is sufficient to meet monthly expenses.

### Steps to Preparing a Cash Flow Forecast

#### 1. Examine previous years monthly financial data

- For an accurate prediction, previous monthly financial data should be examined when forecasting the succeeding year's potential receipts and disbursements.

#### 2. Design a cash flow work sheet

- Helps organize cash flows through projected receipts and accounts receivable.<sup>8</sup>
- A practical example of a cash flow worksheet can be found in *Appendix III*.

#### 3. Consider cash flow receipts

- For new operations (i.e. programs), the average monthly revenues of a similar size municipality or operation in Nova Scotia can be compared as a benchmark.
- For existing operations, receipts from the same month in a previous year, adjusting for any current circumstances for that month in the succeeding year.
- Cash receipts can be predicted by taking into consideration tax bill due dates, tax sale dates, and expected payment dates of transfers from other governments.<sup>9</sup>

#### 4. Consider cash flow disbursements

- Municipalities should only show the cash you expect to pay out each month.

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<sup>8</sup> Department of Fisheries and Oceans. *Harbour Authority Manual – Cash Flow Forecast*. Government of Canada. [http://www.dfo-mpo.gc.ca/sch/Manual/HA-AP-FINANCES\\_e.html](http://www.dfo-mpo.gc.ca/sch/Manual/HA-AP-FINANCES_e.html).

<sup>9</sup> Canada Business Service Centres. *Preparing a Cash Flow Forecast*. Government of Canada. [http://www.cbsc.org/servlet/ContentServer?cid=1102940230901&pagename=OSBW%2FCBSC\\_WebPage%2FCBSC\\_WebPage\\_Temp&c=CBSC\\_WebPage](http://www.cbsc.org/servlet/ContentServer?cid=1102940230901&pagename=OSBW%2FCBSC_WebPage%2FCBSC_WebPage_Temp&c=CBSC_WebPage).

- Cash disbursements can be predicted by using past year's payroll information and pay dates for the coming year, information on transfers to other governments and their due dates, and information on other contractual payments (for example: debt charges or rental charges).
- For example, if the municipality is paying the supplier in 30 days, the cash payouts for January's purchases will be shown in February. If you can obtain trade credit for longer terms, then cash outlays will appear two or even three months after the purchase has been received and invoiced.<sup>10</sup>

## **5. Reconciliation of the cash receipts to cash disbursements**

- The reconciliation section of the cash flow worksheet begins by showing the balance carried over from the previous months' operations.
- The total of the current months' receipts are added and the total of the current month's disbursements are subtracted. This adjusted balance will be carried forward to the next months' disbursements. This adjusted balance will be carried forward to the first line of the reconciliation portion of the next month to become the base where the next month's cash flow activity will be added and/or subtracted.<sup>11</sup>
- Cash flows should be managed to maintain minimum balance requirements.

## **6. Cash flow maintenance**

- Cash flow forecasts should be revised on an ongoing basis and should be constantly modified to current circumstances and new conditions.
- At the end of each month, actual cash flow figures should be compared to the planned figures to determine if there is a great discrepancy between the two sets of figures.
- If significant variances exist, they should be analyzed, and assumptions should be adjusted to reflect the actual figures more closely.<sup>12</sup>

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<sup>10</sup> Canada Business Service Centres. *Preparing a Cash Flow Forecast*. Government of Canada. [http://www.cbsc.org/servlet/ContentServer?cid=1102940230901&pagename=OSBW%2FCBSC\\_WebPage%2FCBSC\\_WebPage\\_Temp&c=CBSC\\_WebPage](http://www.cbsc.org/servlet/ContentServer?cid=1102940230901&pagename=OSBW%2FCBSC_WebPage%2FCBSC_WebPage_Temp&c=CBSC_WebPage).

<sup>11</sup> Ibid.

<sup>12</sup> Department of Fisheries and Oceans. *Harbour Authority Manual – Cash Flow Forecast*. Government of Canada. [http://www.dfo-mpo.gc.ca/sch/Manual/HA-AP-FINANCES\\_e.html](http://www.dfo-mpo.gc.ca/sch/Manual/HA-AP-FINANCES_e.html).

In addition to the steps involved in designing cash flow forecasts, municipalities should also be aware of certain components of their financial activities. Municipalities should ask themselves the following questions when designing cash flow forecasts.

- Does the municipality send out an interim tax bill?
- Is the interest rate on past due taxes high enough to discourage the paying of other bills before the tax bill?
  - **Municipal Government Act Section 113 – Tax Collection: Incentives and Interest**
    - (1) The council may provide incentives for the early payment of taxes.
    - (2) The council may impose interest, at a rate determined from time to time by policy, for non-payment of taxes when due.
    - (3) Interest shall be added to the unpaid taxes and shall be collected as if the interest originally formed part of the unpaid taxes.
    - (4) Interest shall be calculated according to the length of default in payment.
    - (5) The council may provide that interest be compounded, not more frequently than a month.
    - (6) The council may provide that interest shall be calculated from the date the tax rate is set if taxes are not paid within thirty days of the due date.
    - (7) The council may adopt a formula by which, and the time when, the rate of interest on overdue taxes is automatically adjusted.
    - (8) Unless the council otherwise provides, incentives shall be allowed and interest charged on area rates and rates collected for any other body at the same rates and under the same terms and conditions as the council has provided for its own taxes.
- Does the municipality have a tax sale policy?
  - **Municipal Government Act Section 134 – Tax Collection: Tax Sale**
    - (1) Property may be sold for taxes if the taxes with respect to the property are not paid in full for the taxation year immediately preceding the year in which the tax sale proceedings are commenced, but the proceedings shall not commence before June 30<sup>th</sup> in the year immediately following that taxation year.
    - (2) Property shall be put up for tax sale if taxes are in arrears for the preceding three fiscal years.
    - (3) The council may defer tax sale proceedings for property for up to two years.
    - (4) A municipality is not required to put a property up for tax sale

- a. If the solicitor for the municipality advises that a sale of the property would expose the municipality to an unacceptable risk of litigation;
- b. If the amount of taxes due is below the collection limit established by the council, by policy;
- c. If the property has been put up for sale three times in the preceding three years and no satisfactory offer has been made with respect to it;
- d. If the municipality and the taxpayer have entered into a tax arrears payment arrangement and the taxpayer is in compliance with the agreement.

(5) Where the municipality and a taxpayer have entered into a tax arrears payment arrangement, the period for which the tax lien is effective is extended by the period of the tax arrears payment arrangement.

- Does the municipality send invoices promptly?
- Does the municipality make daily bank deposits?
- Does the municipality take advantage of all discounts offered on invoices by suppliers?
- Does the municipality hold invoices until the due date or do they pay invoices when received?<sup>13</sup>
- Does the municipality take advantage of any related technologies (i.e. electronic payments)?

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<sup>13</sup> Service Nova Scotia and Municipal Relations. Local Government Resource Handbook. Halifax, NS: Province of Nova Scotia, October, 2000.  
[http://www.gov.ns.ca/snsmr/muns/manuals/PDF/LGRH/LocalGovernmentResourceHandbook\\_3.pdf](http://www.gov.ns.ca/snsmr/muns/manuals/PDF/LGRH/LocalGovernmentResourceHandbook_3.pdf).

## Appendix III: Designing a Cash Flow Worksheet

There are a variety of ways that a cash flow forecast worksheet could be designed to suit the unique needs of a municipality. However, it is recommended that cash flow worksheets show only revenues from operations.

The format should allow for a double width column along the left side for the account headings, then two side-by-side vertical columns for each month of the year, beginning from the month you plan to open (i.e.: the first dual column might be labelled April Planned, April Actual, and April Variance). The cash flow worksheet often then breaks into three distinctive sections. The first section (at the top left portion of the worksheet, starting below and to the left of the month names) is headed Cash Revenues (or Cash In). The second section, just below it, is headed Cash Disbursements (or Cash Out). The final section, below that, is headed Reconciliation of Cash Flow.<sup>14</sup>

<b>ITEM</b>	<b>April Planned</b>	<b>April Actual</b>	<b>April Variance</b>	<b>May Planned</b>	<b>May Actual</b>	<b>May Variance</b>
<b>Cash Receipts</b>						
<b>Total Cash Receipts</b>	\$40	\$10	\$30	\$75	\$35	\$40
<b>Cash Disbursements</b>						
<b>Total Cash Disbursements</b>	\$50	\$60	\$10	\$60	\$70	\$10
<b>Reconciliation of Cash Flow</b>						
<b>Opening Cash Balance</b>	\$0	\$0	\$0	(\$10)	(\$50)	(\$40)
<b>Add: Total Cash Receipts</b>	\$40	\$10	\$30	\$75	\$35	\$40
<b>Deduct: Total Cash Disbursements</b>	\$50	\$60	\$10	\$60	\$70	\$10
<b>Closing Cash Balance (carry forward to next month)</b>	(\$10)	(\$50)	(\$40)	\$5	(\$85)	(\$80)

### Suggestion for Cash Flow Sub-headings:

#### Cash Receipts:

Tax Payments  
 Other Receivable Payments  
 Grants in Lieu (Federal, Provincial, Aliant, NSPI, etc)  
 Short Term Investment Maturities  
 Other (Debt Issued, Capital Cost Sharing)

<sup>14</sup> Canada Business Service Centres. *Preparing a Cash Flow Forecast*. Government of Canada.  
[http://www.cbcs.org/servlet/ContentServer?cid=1102940230901&pagename=OSBW%2FCBSC\\_WebPage%2FCBSC\\_WebPage\\_Temp&c=CBSC\\_WebPage](http://www.cbcs.org/servlet/ContentServer?cid=1102940230901&pagename=OSBW%2FCBSC_WebPage%2FCBSC_WebPage_Temp&c=CBSC_WebPage).

Miscellaneous (Fines, Fees, Deed Transfer Tax, etc)  
Interest Revenue

**Cash Disbursements:**

Salaries & Wages  
Benefits (Receiver General, Pension payments, etc)  
School Board Payment  
Regular Monthly Payments (Rent, Telecommunications)  
Contract Payments (Solid Waste Pickup, etc)  
Capital Disbursements  
Miscellaneous  
Short Term Investments

## Appendix IV: Historical Cash Flow Analysis

In addition to the structure of the cash flow forecasting mechanism, a municipality should also conduct the actual forecasting that is based on past cash flows. Some questions need to be addressed when analyzing past cash flows to help determine future financial decisions. Municipalities should ask:

- What was the operating cash flow generated by the provider during the past three years?
- What were the capital expenditures during the past three years?
- What were the other sources and uses of funds during the last three years?

Answers to these questions will help municipal financial officers determine future municipal financial situations, as well as cash inflows and outflows. After determining the historical aspects of a municipality's cash inflows and outflows, cash flow projections must be made.

- What are the provider's assumptions concerning the cash flow over the next five years?
- What is expected operating cash flow for the provider over the next five years?

In addition to taking historical conditions into consideration and making the appropriate cash flow forecasting, the municipality should also have specific details of information available. Municipalities should have cash flow statements for the past three years, cash flow projections for future periods, cost reduction plans and progress towards targets, and a restructuring business plan.<sup>15</sup>

An accurate dollar forecast of revenues and expenditures cannot be completed without accounting for inflation and other changes in the value of the current dollar compared to past dollar values.

The following are some common assumptions that can be used in forecasting:

- CPI Inflation - [Nova Scotia, Annual Average (Jan - Dec)]
- Uniform assessment
- Interest rates
- Taxable assessment growth
- Municipal property tax revenue increases
- Residential and commercial expansion
- Fuel and oil prices
- General economic conditions.<sup>16</sup>

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<sup>15</sup> "Implementation Guidelines for the Service Manager's Guide to Joint Local Transfer Planning." Guide to Risk Management for Projects in Difficulty. April 8, 2002.

<sup>16</sup> Financial Management Capacity Building Committee. Financial Forecasting in the Budget Preparation

## Appendix V: Importance of Ensuring Liquidity

Since a key component to cash flow forecasting is ensuring that the municipality has enough liquid assets to cover daily costs, it is important to assess liquidity in a cash flow forecast. A municipality may have a large tax base and a budget surplus, but they may still be cash poor. Consequently, cash flow statements should be projected to the year-end using a list of assumptions.

When planning for the future levels of cash inflows and outflows, municipalities should be aware of the changing circumstances surrounding the cash flow. As a result, steps should be introduced to enhance projection.

- Changes to financial resources plan
  - Increase sources of cash
    - Borrow short-term cash needs
    - Borrow on a longer term basis
    - Shorten average collection period on accounts receivable through better collection efforts
  - Decrease the uses of cash
    - Reschedule capital projects and payments
    - Make arrangements with suppliers for extended payment terms
- Re-evaluate expenses
  - Examine expenses to determine if any can be reduced or eliminated.<sup>17</sup>

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Process. Halifax, NS: Province of Nova Scotia, 2003.  
<http://www.gov.ns.ca/nsmfc/documents/FinancialForecastingintheBudgetPreparationProcess.pdf>.

<sup>17</sup> Frankston, Fred. "A Simplified Approach to Financial Planning." Journal of Small Business Management. 19. January, 1981.

## Appendix VI: Cash Flows and Capital Disbursements

Capital disbursements are typically the most difficult to forecast. Municipalities should work closely with their departments to determine the timing of the outflows/major payment dates. Capital expenditures may be a significant portion of a municipality's budget, so it may be important to consider capital expenditures in cash flow forecasting.

By projecting capital expenditures, resources can be more effectively allocated, which may enable more capital projects to be developed. Since most capital projects may take more than one fiscal year, the total cost of the project should be allocated over the expected time to complete the project. This method of capital budgeting offers municipalities the potential to finance a greater number of projects concurrently, and to minimize the amount of idle capital by using smart cash management policies and practices. The project, once approved, represents a future commitment on the part of Council beyond the financing actually provided to the project under the cash flow budget.<sup>18</sup>

Sources of financing of project expenditures are to be identified in the project financing cash flow projection table. Regardless of the source of financing, whether it is tax levy, user rates, or debenture debt, it must be entered for each year of the cash flow projection and it must be equal to the expenditures projected for that year.<sup>19</sup>

One of the available tools for forecasting capital budgets is the Municipal Finance Corporation's 'Debt Affordability Model'. The debt affordability model can assist Councils in determining the appropriate level of debt for their municipality when deciding if they should launch a capital project. This model can help Councils determine how much debt they would acquire as a result of the capital project. This is done by the use of trend analysis, projections of economic and revenue growth, and future capital improvement needs. Debt affordability considers the municipality's future health by making sound long-term financial decisions using current information, past trends, and future projections.<sup>20</sup> For more information on the debt affordability model, please contact the Nova Scotia Municipal Finance Corporation.

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<sup>18</sup> Ministry of Municipal Affairs and Housing. Capital Budget Documentation. Toronto, ON: Queen's Printer for Ontario, 2002. <http://www.mah.gov.on.ca/Page1543.aspx>.

<sup>19</sup> Ibid.

<sup>20</sup> Municipal Finance Corporation. Municipal Debt Affordability Model - AMA 2005 Annual Spring Workshop. Halifax, NS: Nova Scotia Municipal Finance Corporation, 2005.

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