

LONG-RANGE FINANCIAL PLANNING – INFRASTRUCTURE FUNDING STRATEGY

Recommendation

The Commissioner of Finance & Corporate Services, the Acting Director of Budgeting & Financial Planning and the Director of Reserves & Investments in consultation with the City Manager and the Senior Management Team recommends:

1. That the following report and presentation on the proposed Infrastructure Funding Strategy be received;
2. That Council provide direction with respect to an infrastructure repair and replacement funding strategy; and
3. That the strategy be incorporated into the 2007 budget.

Economic Impact

The financial impact associated with adopting an infrastructure funding strategy will depend on which strategy Council adopts. There are four (4) options provided in the report.

Purpose

The purpose of this report is to provide the Budget Committee with infrastructure funding options and receive direction.

Background

City of Vaughan History

The need for fiscally prudent long-range financial policies and funding for infrastructure repair and replacement was recognized by Finance in 1994. In 1996, Finance brought forward and obtained Council approval for recommendations to begin partially funding future infrastructure repair and replacement costs in conjunction with the implementation of fiscally prudent long-range financial policies. Although this put the municipality in a stronger financial position and ahead of most municipalities as it relates to reserve balances, recent findings indicate additional critical funding is required to address current and future infrastructure repair and replacement spending requirements.

Since that initial study the City adopted a new strategic vision with specific commitments to revitalize infrastructure and ensure long-term financial stability. In recognition of the City's desire to continue to manage municipal assets in a fiscally prudent manner, Finance staff again acknowledged the challenge and initiated another Long-Range Financial Planning study, which complimented and built upon the financial planning work previously conducted.

On March 20th 2006, staff presented Council with a report on Long-Range Financial Planning. The purpose of this report was to provide Council with an overview of the current Long-Range Financial Planning process and outcomes. The prevailing theme throughout the Long-Range Financial Planning study was that infrastructure repair and replacement is significantly under funded and an infrastructure funding strategy is desperately needed to begin addressing the backlog of unfunded projects and future infrastructure requirements.

Current Municipal Environment

The challenge of funding the significant costs of infrastructure repair and replacement is a paramount concern for most municipalities across Canada. As stated in a 2003 Municipal World article, "Canadian municipalities are facing a \$50 billion infrastructure backlog and are falling behind at \$2 billion per year". This is largely caused from new facility construction having been primarily funded through development charges, leaving the municipality to fund future infrastructure repair and replacement of those rapidly aging assets at a later date from the municipality's tax base.

Infrastructure renewal has become a common topic in the media and illustrated below are a few key events in the municipal world, which further validate the seriousness and magnitude of the infrastructure challenge.

- Toronto staff are proposing another 9% water and sewer rate increase necessary to replace and repair Toronto's aging water and sewer lines. Toronto projects significant increases, approximately 62% overall, will be required for this issue.
- The Federal and Provincial government's recent willingness to share a portion of the gas tax demonstrates other levels of government are beginning to recognize the infrastructure pressures municipalities are currently facing.
- Most recently, the Public Sector Accounting Board (PSAB) introduced a new accounting guideline regarding local government tangible asset reporting. This guideline requires municipalities to report capital assets in their financial statements, including information on the condition of those assets. The emergence of this requirement clearly indicates a need to gather information on municipal infrastructure to better assess the situation.

The Infrastructure Funding Challenge

The above illustration is not unlike the situation in Vaughan, where over the past two decades the City of Vaughan has grown at an unparalleled pace, adding new facilities, parks, and transportation networks on an annual basis. Vaughan is now entering an era where these assets require significant investment to ensure they are maintained in an acceptable state of repair. This is evident by the recent increase in capital funding requests and corresponding unfunded infrastructure repair and replacement backlog. As Vaughan ages and continues to transition from a rapidly growing township to a thriving mature City, infrastructure repair and replacement requirements will begin to accumulate at a pace similar to which they were constructed. Without further infrastructure investment, Vaughan's infrastructure network will deteriorate potentially compromising community health, safety, and service levels. The condition and state of municipal infrastructure is an important factor in assessing a community's overall quality of life and economic health. Consequently, it is critical to understand that there is a great need and benefit for further infrastructure investment in order to protect, sustain, and maximize the use of Vaughan's infrastructure assets.

Recognizing the importance of this issue staff developed options with respect to an infrastructure funding strategy, which works towards addressing infrastructure repair and replacement spending requirements while ensuring long-term financial stability. The infrastructure funding strategies are multiple part plans and will be detailed in a later section of this report.

Long-Range Financial Planning Process

The core foundation of the infrastructure funding strategy is the Long-Range Financial Planning model. The long-range-financial planning model is a mechanism which articulates Vaughan's long-term (25 year) financial requirements and infrastructure repair and replacement trends. The model brings together information from multiple sources with appropriate forecasting drivers and assumptions (e.g. inflation, interest, population, lifecycles, etc), which when applied in combination to specific model elements provided realistic projections. Although the model incorporates both operating and capital requirements the focus of this report will be solely on infrastructure funding requirements.

The infrastructure repair and replacement forecast incorporates most major capital asset categories e.g. building components, vehicles, roads, parks infrastructure, fire equipment, computer infrastructure, etc. In addition, the model forecasts the tax-supported portion of the capital program, Capital from taxation programs and debt repayment. The focus of the forecast was to identify the gap between the City's infrastructure requirements and available funding sources.

Infrastructure repair and replacement is the largest component of the model and is primarily based on life cycle forecasting, which schedules asset replacement based on the asset's estimated useful life, termed life cycle, and computes the timing and amounts necessary to fund infrastructure requirements. Life cycle forecasting was a significant and major accomplishment and is an on-going annual requirement to update the model. All asset life cycles were provided by departments based on the best information available and their professional experience. This process required extensive input and collaboration with departments on a citywide basis and involved working jointly with key City department staff to:

- Gather infrastructure inventories
- Determine the timing of new infrastructure
- Define infrastructure components, installation dates and estimate life cycles to better predict replacement requirements
- Calculate future replacement timing and values

One exception to the above lifecycle forecasting process is roads repair and replacement, which is based on a Council approved Engineering roads study, not life cycle costing. Nevertheless, road repair and replacement requirements are included in the Long-Range Financial Planning model and funded from long-term debt, as is the current practice. Engineering is currently endeavoring to update the study and once final, any changes will be incorporated into the plan.

Departmental review sessions were conducted to communicate cumulative outcomes and ensure departmental "buy-in" on the forecast, assumptions and drivers. This process resulted in a sensible long-range forecast based on logical and supportable assumptions.

As mentioned above, the Long-Range Financial Planning model captures the majority of Vaughan's infrastructure. However, the model does not include or forecast Water and Wastewater and development charge reserves, as they are funded entirely from utility rates or developer contributions, which do not impact Vaughan's budget or tax rate. In addition, there are a few minor asset category items outstanding due to unavailable information (e.g. streetlights, walkways, entrance features, etc). Notwithstanding there is some minor outstanding data, the model is still relevant, if somewhat conservative, and is a very useful and important tool in that it forecasts key trends and potential outcomes.

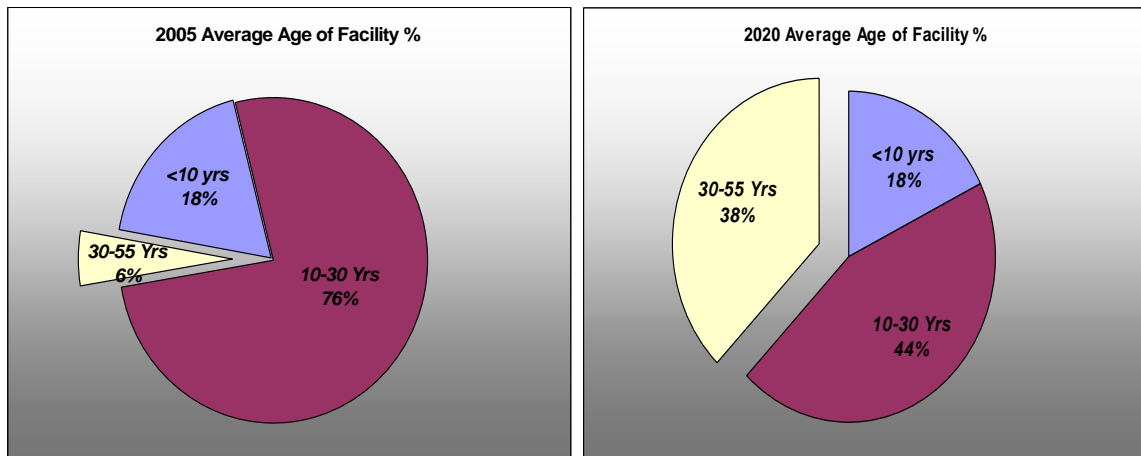
It is also necessary to stress that Long-Range Financial Planning is not an exact science and that projections, extending over any period of time, will likely change. It should be noted, the model was never intended to predict exact tax rate increases, but rather to illustrate financial trends, impacts and patterns to stimulate insightful and constructive discussion.

Infrastructure Outcomes and Trends

A primary objective of the Long-Range Financial Planning study was to quantify future infrastructure spending requirements and summarize key financial trends in order to identify long-term implications and their aggregate affects. An analysis of Vaughan's infrastructure and funding position was conducted in 2005 and key findings presented to Council in March 2006. This report is based on that information. Although, the outcomes and trends are based on 2005 data the overall picture remains relatively unchanged. Key findings based in the last Long-Range Financial Planning item are summarized below:

1. Infrastructure is rapidly aging

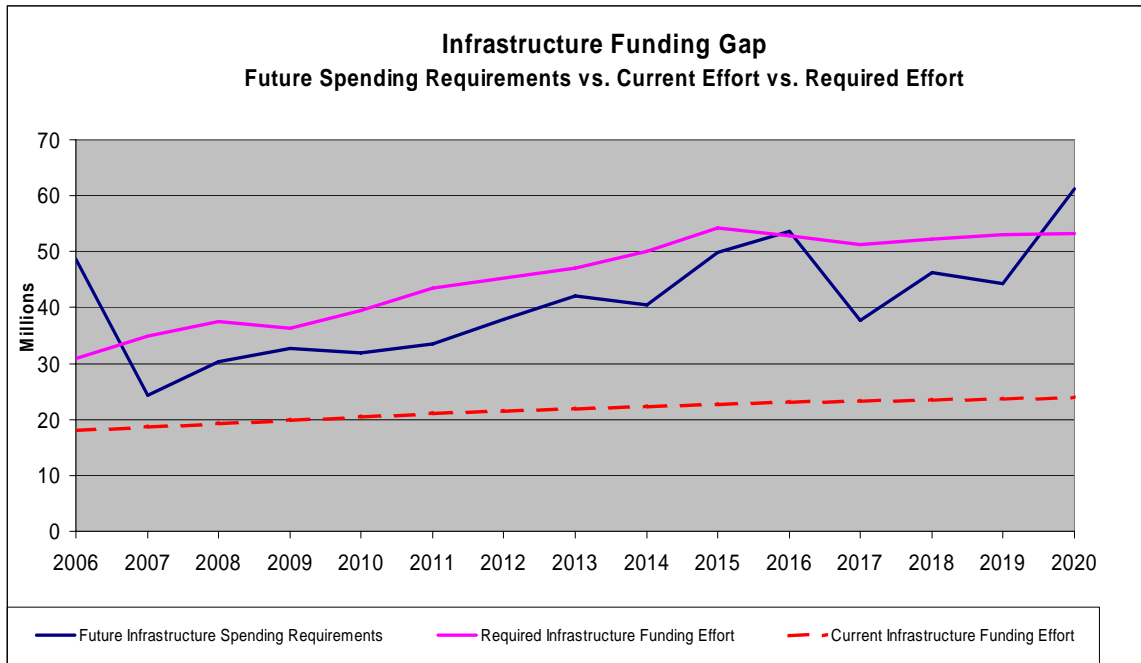
This is a relatively new challenge for Vaughan, as most infrastructure items were recently constructed over the last two decades. There is a relationship between asset age and rehabilitation costs. As Vaughan's new infrastructure ages, significant repair and replacement funding will be required to sustain its condition and functionality. The Facility Age graphs below, clearly illustrate infrastructure is rapidly aging and demonstrates that a significant portion (32%) of facilities will migrate to the 30-55 year age category over the next 15 years.



In addition, Finance conducted an analysis, based on department provided information, to assess the value of items exceeding projected lifecycles. The result of the study was alarming, indicating approximately \$28 million or just under 5% of the of City's recorded inventory has met or is exceeding anticipated usefulness. This does not imply items are broken but rather indicates a high probability of service failure and an immediate need for preventative measures to guarantee uninterrupted service. Comparatively, the value of items nearing or past estimated usefulness is relatively reasonable when considered as a percentage of accumulated inventory value. Notwithstanding Vaughan is a relatively "young" municipality, without an appropriate strategy these figures are expected to rise rapidly. This is evidenced by the recent increase in infrastructure capital requests that have occurred over the last few years.

2. Infrastructure spending requirements are significantly under funded

The prevailing theme throughout the Long-Range Financial Planning model is that infrastructure spending is significantly under funded. This is illustrated below in the Infrastructure Funding Gap graph, which compares the current infrastructure funding effort (e.g. reserve contributions, capital from taxation, LTD, etc) to infrastructure spending requirements based primarily on lifecycles and approved studies. Infrastructure reserve withdrawals are not factored into the below graphical representation as these balances are currently used to sustain the 50% discretionary reserve ration policy, which will be further discussed in a later section of the report. The following conclusions can be drawn from the infrastructure funding gap graph illustrated below.



- Infrastructure spending requirements are initially more than double the available infrastructure funding effort. A significant portion of this balance represents the accumulated back log of infrastructure requirements, based on departments estimated replacement timing, as a result of unavailable funding in prior years.
- Future infrastructure spending requirements steadily climb over the next 15 years. As mentioned above, Vaughan is a high growth community and overtime the aging of existing and future infrastructure will further increase the infrastructure spending burden.
- Existing infrastructure funding effort levels will not keep pace with the spending requirements and necessitate significant incremental investment in order to reduce the existing accumulated infrastructure backlog and sustain the City's infrastructure network.

3. Infrastructure reserve balances and funding levels will not sustain requirements

An infrastructure reserve adequacy study was performed which estimates the infrastructure reserve balance requirements based on forecasted life cycle contribution requirements. The outcome indicates that existing infrastructure reserve balances are short \$90 million, and the shortfall will continue to increase over time without additional continuous funding. This analysis is very significant as it illustrates the organization's on hand funding availability to meet both short & long-term infrastructure requirements. The outcomes of this analysis are illustrated in the chart below

Notes: Reserve balances estimated as at Dec. 31, 05 based on Dec. 19th proposed 2006 Budget

Infrastructure Reserves	Reserve Balance	Reserve Adequacy	Surplus (Deficit)	Items Past Life-Cycle
Building & Facilities	9,682,115	53,073,529	(43,391,414)	14,970,768
Vehicle Replacement	8,115,101	9,377,104	(1,262,003)	3,051,061
Parks Infrastructure	1,763,411	34,151,028	(32,387,617)	8,549,049
Fire Equipment Replacement	1,137,679	12,503,985	(11,366,306)	837,887
City Playhouse	83,309	83,309	-	-
Uplands Reserves	(121,752)	1,370,728	(1,492,480)	446,323
Heritage Fund	(45,913)	694,195	(740,108)	390,241
Total	20,613,950	111,253,878	(90,639,928)	28,245,329

Of particular interest is that reserve balances cover only 71% of the value of estimated items past lifecycles. Provided an infrastructure funding gap currently exists, it is unlikely any improvement in the above measures will transpire without additional investment.

4. The Need for Discretionary Reserve Balances

Minimum discretionary reserve balances are required to help stabilize and smooth out a multitude of future spending requirements. In 1995, Council adopted a policy of a 50% discretionary reserve balance as a percent of own source revenues. This ratio is a strong indicator of Vaughan's financial stability; ability to finance operations internally and also has an impact on credit ratings that could affect interest rates used for borrowing debentures. Discretionary reserve balances also include the infrastructure reserve balances that are required to address the future costs of infrastructure repair and replacement as reflected in this report. These are part of the reason why the 50% discretionary reserve balance was recognized in 1995, and continues to be recognized as an important financial policy and performance measurement indicator for the municipality.

Discretionary reserve balances also serve as a safeguard against unanticipated economic downturns, which place significant pressure on cash flows. To illustrate the importance of reserves on hand and cash flows within the Long-Range Financial Planning study, a model was developed to demonstrate the affects of a recession. Using data similar to the recession experienced in the early 1990's, the result was that discretionary reserves and Vaughan's available line of credit would be completely exhausted in order to sustain municipal operations. This further signifies the importance of cash management and the need to maintain a discretionary reserve balance at a minimum of 50% own source revenues. However, the implication of maintaining a minimum 50% discretionary reserve ratio may require restricting infrastructure reserve spending until overall discretionary reserve balances exceed set targets.

5. Long-term debt requirements will increase

The approved roads rehabilitation requirement is approximately \$9 million per year. Issuing 10 year debentures at 5% yield for annual and outstanding roads program requirements will result in annual LTD payments progressively increasing from \$4 million to \$17 million within a 10 year period. Likewise, the corresponding long-term debt payment ratio will also rise, but is projected to keep within the City policy of 10% of own source revenue, unless significant debenture requirements are added. Engineering is currently in the process of updating their roads requirements and it is anticipated funding needs will likely exceed the currently approved program. This is just another example of the applied pressure Vaughan's aging infrastructure will have on the City's future tax base.

Infrastructure Funding Strategy

Given the significance and magnitude of the trends and outcomes presented above, it is recommended that Vaughan approve a funding strategy to address existing and future infrastructure spending requirements. However, as a result of the sheer size of the investment required it is suggested the Infrastructure funding strategy initially focus on addressing immediate infrastructure spending requirements based on infrastructure which is past its life cycle. Given the magnitude of the issue a 4-part plan is recommended as follows:

- 1) Advocating for greater assistance from other levels of government
- 2) Rethink infrastructure placement and replacement
- 3) Controlled Infrastructure Reserve Spending
- 4) Increasing Infrastructure Funding

Advocate Assistance from Other Levels of Government

Infrastructure renewal has become a common topic in the media and Provincial and Federal governments are beginning to recognize its importance. The Federal and Provincial government's recent willingness to share a portion of the gas tax demonstrates this fact. Although appreciated by Municipalities, the gas tax funding will only marginally assist in the formulation of a complete infrastructure funding strategy. Unless additional stable long-term funding is secured and/or appropriate financial tools created, the funding gap will continue to grow and burden municipalities with large tax increases or deteriorating infrastructure. As part of the plan, it is necessary that other levels of government assist with funding for infrastructure repair and replacement. A reduction or elimination of GTA Pooling could also assist with the funding issue.

Rethink Infrastructure Placement and Replacement

Since it is evident that funding infrastructure repair and replacement is a significant challenge, it is necessary to rethink the way in which new infrastructure is recommended and in the way that existing infrastructure is eventually replaced. This will potentially reduce the forecasted financial burden that the Municipality is currently facing. Therefore, the City should undertake a review of infrastructure placement and replacement in an effort to provide the same functionality at a more affordable replacement, repair, and maintenance spending level. This may require a need to reexamine the infrastructure service levels and consider alternative infrastructure choices.

Controlled Reserve Spending

As a result of the Long-Range Financial Planning policies established in 1996, the Municipality is in a stronger financial position and discretionary reserve balances have improved considerably and are now slightly exceeding the discretionary reserve ratio policy target. Achieving this target required fiscal management and a dedicated focus on building reserve balances. Currently, approximately 30% of the discretionary reserve balance consists of infrastructure reserves. Now that the established target has been maintained and exceeded, infrastructure reserves can begin to fund infrastructure spending requirements to the extent the approved discretionary reserve ratio is maintained and cognizant of other existing and future reserve considerations. This amount will be determined on an annual basis and it is recommended that it be dedicated to reducing the existing infrastructure backlog. There will be more discussion on this as part of the Capital budget process.

Increasing Infrastructure Funding Options

The largest part and most financially significant component of the funding strategy lie in increasing the infrastructure funding effort. This poses a complicated challenge as the initial requirements are overwhelming and will be financially difficult to overcome immediately. Recognizing this situation, Finance staff undertook an evaluation of different options to begin addressing the infrastructure funding shortfall. The following options were presented to Council on February 28th, 2006:

1. Fund now through tax increases based on life cycle costing
2. Fund over time through fixed annual increases
3. Fund all incremental infrastructure spending requirements through long-term debt
4. Hybrid – fixed tax increases, LTD, and reduced infrastructure spending requirements

It is important to reiterate that any tax rate increases associated with the above options are in addition to normal operating budget requirements and focus solely on infrastructure spending requirements. In addition, the above options exclude annual debenture funding associated with the approved roads program as these requirements are established and the funding policy approved.

Option 1 - Fund now through tax increases based on life cycle forecasts

This option calculates the infrastructure funding requirements going forward based on life cycle costing and identifies adequate funds to be set aside each year for infrastructure replacement. This is achieved through an initial significant tax rate increase followed by the required annual tax rate increases as per the life cycles of assets. The first year tax rate impact of this option is a 13.7% increase with a cumulative 10 year tax rate increase impact of 18.6%. This option meets the spending requirements within 2 years and thereafter begins full reserve contributions, but does not consider any existing reserve adequacy shortfall which would require further financing.

Option 2 – Fund over time through fixed annual increases

This option meets the spending requirements within 5-6 years and thereafter begins to address and eventually eliminates reserve adequacy issues through reserve contributions. This is achieved through a continuous fixed 3% annual tax increase, beginning in 2007. However, infrastructure contributions would not be linked to life cycle costing requirements and the appropriate tax rate increase would require frequent review to ensure consistency with infrastructure needs.

Option 3 – Fund all incremental infrastructure spending requirements through LTD

This option addresses incremental funding for infrastructure spending requirements for overdue and future items as their life cycles expire through funding all requirements with the issuance of long-term debt. This option addresses infrastructure spending requirements immediately. The first year tax rate impact of this option is a 3.8% increase with a cumulative 10 year tax rate increase impact of 11.7%, however the cost of debt increases significantly as the amount of debt issued increased annually. This excludes roads related debenture requirements.

Option 4 – Hybrid– fixed tax increases, LTD, and reduced infrastructure spending requirements

This option is very similar to option 2, but blends in long-term debt and infrastructure spending restrictions in order to meet the infrastructure requirements at an accelerated pace. This is achieved through a hybrid combination of a fixed 3% annual tax increase, a one-time \$10 million debenture, and a 5% reduction in infrastructure spending requirements. The above combination results in an immediate reduction of the past lifecycle backlog and meets infrastructure spending

requirements a year earlier than option 2 at the expense of a slightly higher initial tax increase and overall higher costs.

Evaluation of Infrastructure Funding Options

Municipalities are faced with considerable funding restraints and constant budgetary pressures, which make selecting the best infrastructure funding option a difficult endeavor requiring the careful balancing of tax rate increases and meeting infrastructure requirements.

The first option, Option 1- Fund now through tax increases based on life cycle costing, warranted significant consideration, largely because it meets the funding requirement in a relatively short timeframe and ties the funding requirement directly to asset utilization. However, the downfall of this option is the initial infrastructure investment, equivalent to an initial tax rate increase in excess of 13%, making this option financially impractical. It also doesn't provide time for more assistance from other levels of government.

Option 2 funds infrastructure requirements over time through fixed annual increases. As illustrated earlier this is achieved through a fixed 3% annual tax increase, beginning in 2007. This option offers the lowest initial tax rate increase, meets infrastructure spending requirements within 5-6 years, and eventually resumes infrastructure reserve contributions, which will ultimately eliminate the reserve adequacy shortfall. The option is financially flexible and exercises prudence and conservatism through gradual incremental funding. It provides an opportunity to leverage government assistance and rethinking infrastructure opportunities in effort to reduce or accelerate achieving the infrastructure spending requirement.

On the other side of the Continuum, Option 3 – Fund all incremental infrastructure spending requirements through LTD appears very attractive as requirements are met immediately and with initial tax increases that are relatively comparable to options 2 & 3. Although, these are very favourable results this option has 3 significant drawbacks. Firstly, the additional interest costs associated with funding infrastructure spending requirements through long-term debt is significant. For example, the cost of borrowing funds over 10 years at a 5% interest rate is equivalent to 30% of the borrowed value over the loan term. In addition, should interest rates climb the cost of borrowing will rise proportionately. Provided incremental infrastructure requirements will likely exceed \$100m over the next 10 years, it would be financially prudent to redirect funds assigned to pay interest to infrastructure requirements. Secondly, locking into long-term financing arrangements to fund ongoing incremental infrastructure requirements reduces the City's future financial flexibility. This may have an impact during times where additional funding is required or cash flow is a concern and the ability to access funds are committed to loan payments and restricted by financial covenants. On a final note, the option breaches the current approved debt policy limit of 10% of own source revenues, but remains within Municipal Act requirements. In addition, infrastructure reserve contributions will cease, likely impacting the discretionary reserve ratio.

Option 4 – Hybrid, incorporating debt, fixed annual increases, incorporating a reduction in infrastructure spending and includes the added cost as a result of issuing debt.

Relationship to Vaughan Vision 2007

This study addresses two main goals identified in the Vaughan Vision under manage our Resources:

1. Ensure Short-Term and Long Term Financial Stability
2. Revitalization of infrastructure

Conclusion

Over the last decade Vaughan has experienced tremendous growth, and as a result of that growth significant investments in infrastructure occurred funded primarily by development charges. As Vaughan's infrastructure ages, continued investment is required to ensure the City's assets are maintained in a state of good repair. Recently a Long-Range Financial Planning study was conducted and it concluded that significant additional investment is required to maintain the infrastructure network.

Aware of the situation illustrated above, Finance, in consultation with the City Manager and the Senior Management Team developed options and strategies to overcome the infrastructure funding challenge Vaughan currently faces. Cognizant of the potential tax rate implications, staff developed and evaluated potential options.

Unless additional stable long-term funding is secured and/or appropriate financial tools created, the funding gap will continue to grow, infrastructure will deteriorate and inevitably compromise overall community quality of life, economic health, and safety. Incorporating a strategy into the 2007 budget process would be a prudent step towards preserving the overall quality of life in Vaughan by protecting, revitalizing and sustaining Vaughan's existing and future infrastructure.

Report prepared by:

Clayton Harris, CA, ext. 8475
Commissioner of Finance & Corporate Services

John Henry, CMA, ext. 8348
Acting Director of Budgeting & Financial Planning

Respectfully submitted,

Clayton D. Harris, CA
Commissioner of Finance & Corporate Services

John Henry, CMA
Acting Director of Budgeting & Financial Planning

Ferrucio Castellarin, CGA
Director of Reserves & Investments