CAPITAL FINANCING SUSTAINABILITY STRATEGY PART 2 REPORT

Town of Newmarket

UPDATED

HEMSON Consulting Ltd.

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EXECUTIVE SUMMARY

A. STUDY CONTENT

- This report builds on the Part 1 Report that was finalized in February 2013, and was considered by Council during the 2013 supplementary budget deliberations.
- A preliminary draft version of the Part 2 study was presented and discussed at the Committee of the Whole Meeting on November 18, 2013.
- Following Council input, funding strategies and scenarios have be developed in consultation with staff and are to be presented to Council on April 7, 2014.
- A comprehensive review of guiding data, documents, studies and plans has been undertaken.
- Several forecasts of capital expenditures for replacement, enhancement and growth-related infrastructure are included.
- An analysis of funding options to address the identified expenditures is provided.

B. RECOMMENDATIONS: POLICES AND PRACTICES

The following are a set of key policy recommendations, arising from Part 1 and Part 2 study analysis and findings, which build upon existing Town policies and practices. Some of the recommendations can be implemented relatively easily, and in the short-term, while others may be introduced gradually or at a later date.

1. **Establish a Dynamic Asset Inventory** (Chapter III, Part A)

- The Town should move towards a dynamic condition-based asset management system to assist in establishing achievable and efficient future reserve

contribution amounts:

- Create a single centralized asset system
- Extend asset data
- Alternative approaches to estimating remaining asset lives
- Accurate estimates of rehabilitation and replacement costs

2. **Implement an Advanced Asset Management (Software) Solution** (Chapter III, Part A.3)

- The Town should move forward with the Council approved funding of a software-based asset management solution.
- Implementation of a software-based system can provide several noteworthy advantages including:
    - Capital Asset Risk Analysis
    - Co-ordination of Events
    - Building Asset Strategies
    - Ease of Operation

3. **Create Assessment Management Report Cards** (Chapter III, Part B)

- Building upon the Town's current ARF reporting, it is recommended that the Town develop asset management report cards that are updated on an annual basis and provide information on the condition rate of the Town's assets and the status of the reserve fund(s).

- Assessment Management Report Cards provide several benefits including:
    - ties to the earlier recommendation to base future replacement contributions on asset condition;
    - provides a visual representation to Council and the public of what a "poor" or "good" asset looks like;
    - provides a document that will aid Council in making service level decisions; and
    - shows the progress the municipality is making towards its service level targets.

4. Move to a 10-year Capital Budget (Chapter III, Part C)

- It is recommended that the Town integrate a 10-year capital forecast into the budget for Council review, advantages include:
    - Helps Council and the public to see future budget pressures;
    - Allows for better cash flow and reserve projects;
    - Ties into the long-range capital planning model developed as part of this study;
    - Aligns to existing water and sewer rates and financial plans (currently six year); and
    - Matches the minimum mandated 10-year planning period required in the development charges study.

5. Establishing Three Categories of Capital Projects (Chapter III, Part D)

- In order to more efficiently categorize capital projects and allocate funding, it is recommended that the Town establish three general capital funding categories or designations:

  a. Growth-Related

  - Largely, but not fully fundable from development charges

  b. Enhancement

  - Driven by regulatory improvement/changes, desired service level increases (discretionary), and strategic investments
  - Largely funded from property taxes and utility revenues, however some upper level government funding and other contributions may be available

  c. Repair and Replacement

  - Largely funded from property taxes and utility rates, via ARF and other reserve funds, and a key focus of the study

6. Establish a Storm Water Utility Rate (Chapter III, Part H)

- Recommend that the Town implement a Storm Water Utility Rate
- Currently, storm water costs are funded from property taxes
- Many municipalities in Ontario, and across Canada, are exploring and implementing Storm Water Utility Rates

7. Review and Update the Town's Corporate Debt Policy (Chapter III, Part I)

The Town's current debt policy was established and adopted in 2002:

- The use of long-term debt is recognized as an important financial tool in sustainable long-term financial planning;
- The Town is likely going to continue to use debt to finance infrastructure additions and expansions as part of the comprehensive long-term sustainable financial strategy; and
- The existing debt policy is well established and contains many good components but should be reviewed and updated to reflect the current demographic, development, service delivery and infrastructure and fiscal position of the Town.

8. Follow Investment Strategy (Chapter III, Part J)

- Consider investing in projects, on occasion, that can earn a better return on investment or future budget savings. Typically this would be an internal loan or one to an outside party.
- Return incremental investment income to reserve funds under most circumstances:
    - It is recommended that in order to mitigate tax increases, this additional revenue be transferred to the Tax-Supported Operating Fund and be used to alleviate some of the pressure on property tax increases. The maximum amount to be transferred will be determined on an annual basis during the budget process.
    - Additionally, it is suggested that the amount of incremental income allocated to alleviate property tax increases be set at a maximum (e.g. reduction of 0.5% of the increase) and the balance of any additional investment revenues be transferred to property-tax supported asset

replacement funds.

9. Other Key Recommendations

- The following are additional, yet important, minor recommendations. A number of the following items are recommendations to continue with the best practices already employed by the Town:

    - Continue to undertake and enhance department specific asset reviews with a focus on condition rating (Chapter III, Part E);

    - Review carry-forward projects and reassigning funds if projects are no longer required (Chapter III, Part F.1);

    - Merge outdated, small or infrequently used capital reserves with the ARF or other reserves (Chapter III, Part F.2);

    - Establish service level targets to assist with funding decisions (Chapter V, Part A); and

    - Continue to apply ARF funding to departments based on prioritized needs (Chapter III, Part G).

10. Final Recommendation: Implement Annual Tax Rate Increases of 0.85%-1.08%

- It is recommended that the Town consider adopting annual tax rate increases of 0.85% to 1.08% to address the capital requirements of the Town as part of a long-term fiscal sustainability strategy.

- The recommended tax rate increases are based on the analysis in scenarios 3 and 4, contained in Chapter VI of this report.

C. RECOMMENDATIONS: FUNDING OPTIONS AND TARGETS

The following chart provides an overview summary of the recommended funding options and strategies arising from the analysis undertake in the Part 1 and Part 2 Report. The chart is structured by funding source and provides recommendations for each funding source, and in many cases, establishes short-term and long-term targets and objectives. See Appendix A for additional information.

Funding Mechanism	Revenue Source	Key Recommendations	Short-Term Funding Targets	Long-Term Funding Targets
Asset Replacement Fund (ARF)	Tax and rate supported	• Continue practice of annual tax and utility rate funded contributions to ARF • Increase contributions to ARF in-line with funding targets • Consider more defined use of ARF, i.e. use for capital repair and replacements only and replacement shares of growth projects • Policy of using ARF for debenture funded projects is reasonable	Water/Sewer • Follow recommendations in the Water and Wastewater Financial Plan Roads • Current contributions and expenditures are close to sufficient Buildings • Integrate building assessment results to determine funding needs • Move to 70% of ideal contribution Storm • Gradual increase of contribution • Move to ideal contribution Land Improvements • Gradual increase of contribution, however many expenditures can be deferred Vehicles and Equipment • Current contributions are generally sufficient	Water/Sewer • 80% of accumulated amortization (80 year life) is achievable by 2020. Roads • "Ideal" contribution is $500,000 higher if Council chooses high service standard Buildings • Tax room from expiring building debentures should be transferred to ARF • Move to 70% of ideal contribution Storm • "Ideal" contribution is $960,000 or 60% higher than recent expenditures Land Improvements • Gradual increase of contribution to 70% of ideal contribution

Funding Mechanism	Revenue Source	Key Recommendations	Short-Term Funding Targets	Long-Term Funding Targets
Recommending a Strategy (RAS) Surcharge	Recreation user fee	• Surcharge structure is currently a uniform flat rate applied equally to all recreation user fees – it is recommended that the Town re-examine structure of the surcharge to reflect difference in user fees • Consider setting surcharge as a % • Re-evaluate the desired annual funding amount to be raised from RAS Surcharge • Ensure the monies continue to be used for capital purposes: debt repayment, new needs (non-DC recoverable) and replacement	• Consider altering the structure of the charge to improve equitability between programs (set as a % vs. flat rate) • If surcharge remains a flat rate, it should be indexed annually at the rate of change of recreation user fees • Capital surcharge could be extended to other fees	• Monitor the level of the surcharge on a regular basis to determine if there is an opportunity to increase the amount of monies raised
Other User Fees	User fees	• Service pricing policy is a reasonable policy • Periodic reviews of policy are appropriate • Examine opportunities to increase funding through user fees	• Fees should align with Council priorities and be reasonably similar to those in other municipalities • Ensure capital elements are considered when user fee studies are updated	
Pay-as you-go Capital (capital funded out of operating)	Tax and utility rate supported	• Town's practices are reasonable and should continue • Appropriate source when repayment stream is guaranteed (e.g. Honeywell, solar facilities) • Appropriate source for non-DC eligible growth-related costs (e.g. cultural and arts projects, IT related projects, etc) • ARF is better used for life cycle repairs and replacements	• Funding should be linked to Council priorities	

Funding Mechanism	Revenue Source	Key Recommendations	Short-Term Funding Targets	Long-Term Funding Targets
Regional Uploading	Utility rates and tax for roads	• Town should continue to work with Region and area municipalities on potential uploading of water/sewer infrastructure on small scale (e.g. pumping stations) and large scale (entire system) • Any roads that meet the Region's criteria should be considered for uploading	• Dependent on the specific opportunities to upload infrastructure	• Dependent on the specific opportunities to upload infrastructure
Local Improvement Charges	Alternative revenue sources	• Town should consider local improvement charge only if there is a sufficient amount of projects and cost to warrant the administration	• Maximum revenue potential would be in the $50,000-$250,000 range based on use in other municipalities	
Development Charges	Residential and non-residential development	• Town should adopt maximum calculated rates presented in Part 3 to ensure other limited sources are not used for growth-related capital • Town has wisely made efforts to improve quality of inventory (i.e. building valuations) • Review Local Service Definitions and maximize recoveries through subdivision and site plan agreements	• Part 3 DC Study will ensure appropriate recent expenditures and their debenture payments are adequately funded through DCs (Operations Centre, Old Town Hall, Riverwalk Commons) • Review opportunities to replenish tax reserves with DCs in as part of Part 3 Study	• Continue the practice of maximizing recoveries through DCs
Cash-in-Lieu Parkland Parking, Section 37	Residential development	• Implement recent parking and cash-in-lieu studies • Cash-in-lieu of parkland should be focused on parkland acquisition (instead of development where DCs can be used)	• Implementation of new policies should result in higher revenues • The ongoing Provincial review of these fiscal tools may impact future practices and revenues	• Consider possible use of Section 37 during secondary plan review
Storm Water Rate	Utility rate	• Recommend that the Town implement a Storm Water Utility Rate • Currently Storm Water costs are funded from property taxes • Many municipalities are exploring and implementing Storm Water Utility Rates	• Rate based on water consumption or flat rate based surcharge could be implemented relatively quickly	• Consider moving towards a more complex storm water utility rate structure based on property size, land uses, and permeable area

Funding Mechanism	Revenue Source	Key Recommendations	Short-Term Funding Targets	Long-Term Funding Targets
Federal Gas Tax	Grant	• Town currently uses monies to fund road replacements, which is advisable since other growth funds cannot be used	• Town's existing practice should continue	
Other Infrastructure Grants	Grant	• Over last 20 years very limited grants had been available for arts and recreation until the recent stimulus funding • The Town should review any future grant program and apply for suitable funding in the context of the Town's overall long-range plans and objectives • Evaluation of the value of applying for the grant should include a full fiscal impact analysis considering capital and operating impacts	• Town should pursue any infrastructure grant programs that provide monies for projects and needs identified in the Town's long-range capital planning documents	
Debt	Tax, rate and DCs	• Town's practice of using debt for major facilities is reasonable and appropriate • 10% of own source revenue (currently at 6%) policy is reasonable target (allows for growth with assessment growth) • Add policy that debenture period should never exceed useful life	• For equity purposes, debt is best used for projects that provide benefits over a longer period	• Town's current policy and practice provides flexibility for emergencies
PPPs, Private Contributions and Sponsorships	Various	• Town should continue to look for private sector support for key projects • Policy of internally borrowing funds to pay for initial capital investment is reasonable given guaranteed savings	• Town is currently preparing donation policy that will consider public art and land	• Revenue streams can be used for eventual replacement of the assets

Funding Mechanism	Revenue Source	Key Recommendations	Short-Term Funding Targets	Long-Term Funding Targets
Developer funded items	Development	• It is recommended that the Town continue to acquire trails through the planning approval process • As part of DC local service review, other park elements could be considered for direct developer funding Note: Developer funded items could no longer be included in DC inventories • Continue voluntary contributions for trails and public art • Secure land easements	• As part of 2014 DC Study review and ensure that the Town's Local Service Definitions and Policies maximize the recovery of infrastructure costs through development agreements • Explore opportunities to further encourage the development industry to contribute to non-DC fundable projects	
Collaboration with Other Municipalities	Various	• Capital servicing agreements with Aurora (i.e. 2C lands) (and other municipalities) can make sense for both parties • Integrate findings of Central York Fire Service Master plan review		

Sale of property	Market transactions	• Town's current policy to use land sales to pay for new land is reasonable and common
		• Town has ability to buy land from itself using DCs for growth related projects
		  • If the Town acquires land through non-DC sources and the land is now to be used for a DC eligible purpose then the reasonable value/cost of the land can be funded from DCs
			• Not a "stable" revenue source
			• Consider undertaking a municipal purpose lands needs analysis examining anticipated future needs in the context of the Town's current holdings
			  • Study should establish existing holds that will not be required (location/size issues) and future needs
			  • Study should include fiscal analysis of land sale revenues versus future acquisitions
				• Establishing a long-term land acquisition strategy with consideration of potential land sales and acquisition needs

Funding Mechanism	Revenue Source	Key Recommendations	Short-Term Funding Targets	Long-Term Funding Targets
Hydro dividend	Hydro rates	• Not a guaranteed revenue source therefore money is better spent on capital contributions rather than operations • If dividend revenues are identified as an ongoing revenues source then it would be prudent for the Town to undertake sensitivity analysis of the impact of potentially declining dividend revenues	• Town could consider using 50% of hydro dividend for capital in the short-term	• Town could consider using 75% of hydro dividend for capital consistent with existing Town policy

I INTRODUCTION

Hemson Consulting Ltd., in association with Riva Modeling, was retained by the Town of Newmarket in the fall of 2012, to prepare a Capital Financing Strategy/Asset Replacement Fund (ARF) Study. The overall assignment is broadly separated into three parts:

Part 1: Peer review of existing asset replacement fund and policies

Part 2: Preparation of Capital Financing Sustainability Strategy

Part 3: Preparation of Development Charges Background Study and By-law

A. PART 2 REPORT BUILDS UPON PART 1 REPORT

The Part 1 Report focused on the life-cycle based replacement of Town assets and the associated funding required for the Town's Asset Replacement Fund. The report contained a series of technical or data focused recommendations and some initial policy recommendations that will be explored in greater detail in this report.

The Part 1 report was finalized in February 2013, and was considered by Council during the 2013 supplementary budget deliberations. Of particular note, at its May 27th meeting, Council passed a 0.8% tax supported infrastructure levy to help address the infrastructure funding shortfall identified in the Part 1 Report and by internal reviews conducted by Town staff.

In addition, the Part 2 Report integrates some of the initial inventory and capital program work completed as part of the initial stages of updating the Town's development charges. The Town's development charges by-laws expire August 2014.

The recommendations in this report should be considered by Council during its capital budget deliberations. However, it should be noted that most of the recommendations are long-term in nature and can be implemented over a period of time.

B. PART 2 REPORT PROVIDES A MORE COMPREHENSIVE PICTURE

Notwithstanding the title of this report, capital financing should not be viewed as a study but rather as an ongoing process. In this report, emphasis is placed on the various long-term policy options that Council and Town staff might consider implementing to ensure that capital requirements can be financed in a sustainable manner.

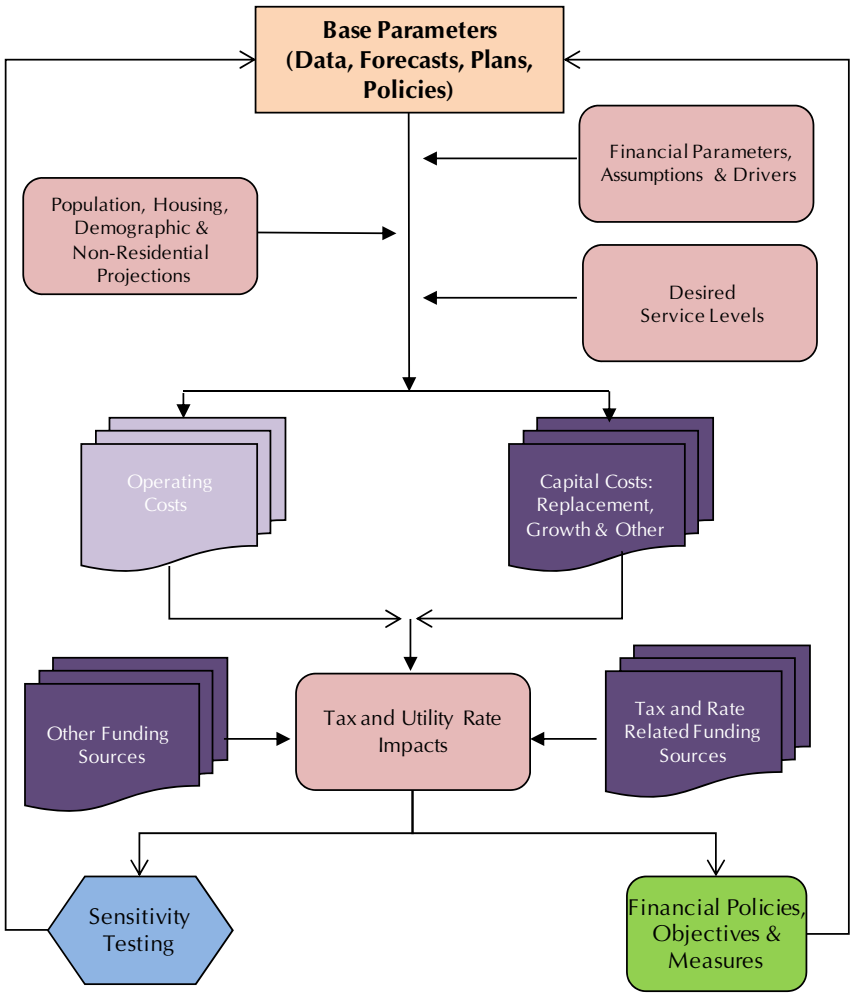
The quantitative elements of this study, while important, represent the situation based on the best data currently available. The Town is proactively working to improve the quality of data and it is anticipated that the findings described in this report will improve as further source studies are completed. One of the key components of the work that has been undertaken is the development of a model that Town staff can use to update the findings as more information becomes available.

It is also important to note that while the Part 1 Report concentrated on the expense side of asset replacement, this report considers more variables, particularly on the funding side. This includes alternative approaches to establishing capital needs, examination of sources of funding, and the related tax and rate impacts.

The overall structure of a long-range capital planning process is shown in Figure 1.

Figure 1

Overview of a Long-Range Financial Plan Model



This report addresses a number of important elements of the long-range planning modelling and policy formulation including:

- The Town's base capital data, forecasts, plans and policies.

- The replacement capital forecast (i.e. ARF) as detailed in the Part 1 Report.
- The projected growth and associated capital requirements.
- Various funding sources and reserves available to the Town.
- Options to ensure capital projects are undertaken and funded in a sustainable manner.

C. ELEMENTS NOT ADDRESSED IN THIS REPORT

There are several elements of long-range capital planning that are not addressed in this report but will be considered by the Town as it continues to improve its long-range financial planning processes:

- This study does not explicitly contemplate future desired capital service levels (e.g. acceptable condition of a building). It will be the responsibility of Council to establish levels of service for the various assets and the capital financing model can be updated as decisions are made.
    - However, this report does provide guidance on the appropriate financial contributions to maintain infrastructure.
    - Additionally, many of the growth-related capital assumptions are based on maintaining 2013 service levels (e.g. value of park facilities per capita).
- Although this analysis focuses on capital decisions, the implementation of a capital financing plan will need to be balanced with pressures on operating costs. The funding plans in this study would have to be adjusted if there was a positive/negative operating cost shock.
- Work on the development charges study component of the capital financing plan is underway and some of the elements are considered in this

report such as historic inventory. However, Part 3 of the financing plan, to be completed by mid 2014, will involve a more detailed 10-year (or longer) capital plan for Council's approval and an estimate of development charges and tax/rate funding required to fund the identified capital works.

D. PART 2 REPORT CONSISTS OF SIX CHAPTERS

Following this chapter, chapter II discusses the study context and explains the importance of capital planning.

Chapter III provides recommendations on the key guiding data, documents, studies and plans that were reviewed during the study.

Chapter IV discusses the demographic shifts anticipated in the Town and how they impact capital planning.

Chapter V reviews the forecast capital expenditures for replacement, enhancement and growth-related infrastructure.

Chapter VI provides funding strategies and scenarios to address the expenditures identified in Chapter V.

II STUDY CONTEXT

In this chapter, the reasons why it is important for the Town to undertake a capital financing strategy at this time are discussed.

A. THE TOWN IS RESPONSIBLE FOR A DIVERSE ARRAY OF CAPITAL ASSETS

The initial emplacement of infrastructure (tangible capital assets), and its maintenance and eventual replacement has always been one of the most important responsibilities of a municipality. The asset pool of local governments is quite different to that of most large businesses. It comprises of a diverse array of asset types, which perform a critical function to thousands of residents and workers. The total value of the assets is immense. The utility sector (gas, electric, phone, etc.) is one of the few industries with infrastructure networks as complex as those found in municipalities. Unsurprisingly, the utility sector is currently facing many of the same challenges as municipalities. Since governments have long held a role of administering assets, the formal concept of *asset management* is not new. However, the linking of asset management to fiscal sustainability principles has become more prevalent in recent years.

The Town of Newmarket is responsible for a diverse array of capital assets. These include:

- **Linear infrastructure** such as roads, bridges, sidewalks, trails, water and wastewater and storm pipes[1];
- **Buildings** including recreation centres, fire halls, library, operations centre and Town hall;

[1] *The Region of York is responsible for large diameter water and wastewater linear infrastructure and plant infrastructure.*

- **Land improvements** such as sports fields, parking lots and storm ponds; and
- **Vehicles and equipment** including fire trucks, ploughs, ice resurfacers and mowers.

Other capital elements such as land and studies, may not require physical replacement but must be considered when municipalities undertake their capital planning.

B. WHAT IS ASSET MANAGEMENT AND FISCAL SUSTAINABILITY?

Numerous definitions exist for both asset management and fiscal sustainability. In the municipal context, the Federation of Canadian Municipalities (FCM) defines asset management as:

"The combination of management, financial, economic, engineering, operational and other practices applied to physical assets with the objective of providing the required level of service in the most cost-effective manner."

The definition of fiscal sustainability used by the Local Government Association of Australia is the simplest and most comprehensive:

"…a government's ability to manage its finances so it can meet its spending commitments, both now and in the future. It ensures future generations of taxpayers do not face an unmanageable bill for government services provided to the current generation."

In recent years, a lot of attention has been given to the infrastructure deficit or funding gap that exists in many municipalities. It is generally the case that few jurisdictions have been budgeting sufficient amounts to pay for the repair and replacement of capital assets. Growing municipalities such as Newmarket are faced with the added challenge of funding the municipal share of assets required by new development as well as service enhancements and the cost of future replacements.

The recent emphasis on long-range asset planning is not to suggest that until now municipalities such as Newmarket have been unaware of the problem. In fact, the

Town of Newmarket has been proactive in addressing the need to have funds available to replace capital assets as they age. The Town has had a dedicated Asset Replacement Fund (ARF) since 1998 and Town staff has regularly reported to Council on the extent of the funding gaps.

C. WHY IS A CAPITAL FINANCING PLAN IMPORTANT NOW?

Although the long-range planning of replacement and growth related capital is not new, several factors that have arisen recently make the need for a capital financing strategy more important.

1. Several Regulatory Changes Have Occurred

Over the last decade, several important regulatory changes in Ontario and abroad have occurred that have increased emphasis on capital planning.

Firstly, starting in 2007, the Public Sector Accounting Board (PSAB 3150) introduced new accounting standards for tangible capital assets owned by governments in Canada. Accrual accounting was required for government services and many capital assets needed to be depreciated for the purposes of financial reporting. Although acquisition and depreciated costs are not ideal for financial planning PSAB 3150 helped municipalities to better understand the magnitude of asset funding gaps.

Secondly, in 2012, the Ontario Ministry of Infrastructure released the *Building Together: Guide for Municipal Asset Management Plan*. Municipalities need to prepare asset management plans (AMPs) as a requirement for certain grant applications. The Ministry has given municipalities discretion in terms of the precise form of asset management plan. However, four key components must be included: an analysis of existing infrastructure, a description of the desired level of service, an asset management strategy and a financing strategy. This report has elements of all four components.

Finally, two new international standards have been proposed to further formalize asset management practices: Publicly Available Specification 55 and International Organization for Standardization 55000. While these standards may not be mandated by the Provincial government they may nevertheless be taken into consideration when insurance and debt rating agencies, among others, assess municipalities.

2. Many Municipalities Have Yet to Replace Assets Following Their Initial Emplacement

The Town of Newmarket, like many other Greater Toronto Area (GTA) municipalities, experienced its largest growth during the 1980s and 1990s. During this period, a large percentage of the capital investment made by GTA municipalities went into development-related assets since the bulk of the existing asset base was relatively new and in good condition and therefore did not need replacing. More recently however, municipalities like Newmarket have started to see the need for more infrastructure replacements for water, sewer and building infrastructure in the older village areas of the communities. Additionally, many of the roads that were emplaced during the peak growth period are now over 30 years old and are getting closer to the end of their calculated useful lives. Older municipalities such as Toronto, Ottawa and Hamilton are further along the asset age curve and are experiencing cases where several important assets need to be replaced concurrently (the Toronto Subway signalization and track bed is an example). This experience in older cities has drawn attention to the situation that will eventually arise in many York, Peel, and Halton Region municipalities unless measures are taken to proactively address the situation. It is for this reason that the Town has begun to address the issue through the establishment of the ARF and other policies.

3. The Public Has High Expectations for Municipal Services

Newmarket, like many municipalities in the GTA, delivers a consistently high level of service to its residents and businesses. These services depend to a large degree on the Town's complex range of assets, which for many years it has managed without

major failures. This success occurred during a period when technology was less advanced and less emphasis was placed on capital replacement funding. The challenge facing municipalities today is to convince tax and rate payers that despite the fact that services are still running well, more funding may be required than in the past. Due to the expectation of high performance levels and the greater awareness of health, safety and environmental issues, the public generally has a low tolerance for service disruptions. This expectation makes proactively addressing capital deficiencies, to avoid major service failures, essential on both technical and political grounds.

III KEY GUIDING DATA, DOCUMENTS, STUDIES AND PLANS WERE REVIEWED

One of the key elements of the Part 1 Report was a review of the Town's existing capital data, documents, studies and plans. For any long-range plan, the accuracy of outputs is a function of the quality of the inputs. The Town has been working hard in many areas to improve the quality of the base data and plans. This work is underway and includes:

- Continuing to undertake, on an annual basis, a comprehensive Roads Needs Study, which assesses all roads over a four year cycle;
- Conducting building assessments and a valuation study (currently underway);
- Implementing a software based asset management system; and
- Hiring a corporate asset management staff member.

This chapter addresses how the input data sources can be enhanced in order to improve the Town's long-term capital planning. It incorporates earlier recommendations that have been enhanced.

A. THE TOWN SHOULD DEVELOP A DYNAMIC ASSET INVENTORY

The Town's ARF inventory provides a starting point to begin assessing future capital requirements and contributions. However, there are many actions the Town can undertake to improve the quality of the data and the corresponding analysis. Building on the Part 1 recommendations, a brief guide to improving the Town's existing asset management system is provided below.

1. Create a Single Centralized Asset System

The Town currently has several asset inventories including those for the ARF,

tangible capital asset (accounting), development charges, GIS and enterprise management. Each of these inventories has a different purpose and rules regarding what can and cannot be included. These individual inventories should be integrated into a single storable database. A sampling of data that could be part of a central inventory is shown in the table below. The tabular inventory should have GIS integration capability and should be able to link to the Town's enterprise system (e.g. JDE or others). The key objective of this change is to move the Town from a series of simple accounting based inventories to a single dynamic inventory that is suited to long-term planning.

Table 1

Sample Centralized Asset Data

• Asset ID	• Department	• Class
• Category	• Description	• Town Owned (Yes/No)
• Location	• Year Emplaced	• Depreciation (Yes/No)
• DC Eligible (Yes/No)	• Rehab Year	• Rehab Nature
• Condition Rating	• Accounting Based Useful Life	• Condition Based Useful Life
• Service Level Priority	• Consequence Of Failure	• Acquisition Cost
• Depreciated Cost	• Replacement Cost	• Subcomponents
• New Capital Additions		

2. Extend Asset Data

In order to improve the quality of the data, several additional pieces of information should be considered in the Town's inventory to make it more accurate. Like many municipalities, the Town is well ahead in this regard for roads and related infrastructure but data for other asset classes should be improved.

a. What does the Town Own and Operate?

It is important that all major Town assets be included in the central inventory. The Part 1 Report identified several areas that were absent such as Park Facilities. These have now been integrated into the analysis.

b. What Is an Asset's Condition?

One of the most important pieces of data regarding an asset is its condition. Wherever possible, an inventory entry should reference the actual condition of the asset since age is not always indicative of this. For example, two assets that had the same "life" when they went into service, may now have dramatically different condition ratings as a result of their use, location, workmanship, rehab work etc.

c. How Much Longer Will the Asset Last?

It is also important to know how long each asset should last. This refers to the initial useful life at the time of emplacement and the amended lives after periodic condition assessments. The overall objective is to move the useful life discussion away from accounting and more into an engineering and actuarial approach.

For water and sewer systems, an engineering approach can involve increased CCTV and physical inspections, the use of smart meter data (if/when implemented) and the use of acoustic detection technology. For buildings, occasional physical inspections of facility components are required to assess condition and the expected remaining life. In this regard, the Town has retained consultants to assess the condition of six buildings in recent years. For roads, this involves use of the Roads Needs Study data.

In addition to the engineering based approaches described above, actuarial models can be used to create more predictive pictures of assets and how long they are likely to last. For example, in a traditional asset management approach, a water pipe emplaced in 1960 has a useful life of 60 years, implying a replacement in 2020. An actuarial, or life table, approach would suggest that 60 years is an average useful life. In fact, if a pipe has already reached 50 years of age, it is likely to last longer than the average.

The goal is to create a profile of when assets are likely to fail based on data rather than simply age. Future funding contributions should be tied to these useful lives rather than accounting based initial useful lives.

d. What is the Cost of Replacing an Asset?

The actual cost to replace or rehabilitate an asset is an important component of a dynamic inventory. The Town should update its replacement costs at least every few years with indexing used between updates. Recent tenders from Newmarket or independent assessments from qualified firms can be used as sources. Costs from neighbouring municipalities can also be used.

3. The Town Should Consider a More Advanced Asset Management Solution

It is noted that while the extended asset data described above could be prepared in Microsoft Excel, many municipalities have been adopting software based asset management solutions. Newmarket Council has already approved funding for the adoption of an asset management system. A software system provides numerous advantages over Excel largely because the systems are designed explicitly for asset management purposes. Riva Modeling Solutions specialize in municipal and utility industry software solutions and assisted in the preparation of this section of the report. Other organizations that offer solutions include:

- Public Sector Digest (CityWide Software Solutions) – an Ontario-based firm that specializes in municipal asset management solutions;
- Azteca Systems (Cityworks) – offer an asset management solution with ESRI GIS integration;
- The Ontario Good Roads Association (Municipal DataWorks) – developed a road and environmental services focused application where data is aggregated province-wide; and
- Some larger municipalities such as Edmonton have also created custom risk-based systems.

The complexity and cost of a software based solution will vary depending on the Town's requirements. A software solution can provide several noteworthy advantages, examples of which are provided below:

a. Capital Asset Risk Analysis

Risk, simply put, is the product of the probability of an asset failing and the impact of that failure, less any mitigation strategies that are in place. Assets can fail in different ways, at different stages of their life, and for different reasons. The goal is to predict failures far enough in advance that funding and physical planning can be in place. Software models can be calibrated to help estimate the probability of an asset failing. There are several types of failures including:

- Failure of capacity, when a distribution network cannot cope with demand.
- Failure in the level of service, when an asset fails to deliver the acceptable customer experience.
- Failure due to economic efficiency, when an asset costs more to operate than it does to replace.
- Finally, and most common, physical mortality, when the asset simply ceases to function.

Failure modes can be established for various asset categories (e.g. water pipes, HVAC systems in buildings etc.). There is also the capability to attach individual failure modes to high-risk or high-visibility individual assets. These failure modes help to determine the probability of the asset failing at any given point in its planning cycle.

Once it is determined how an asset can fail, and how likely it is at any given time, the impact of the failure on the Town can be assessed. The impact can be determined using scales that consider: safety, environmental impact, cost, legal compliance, operations, service levels and public complaints. Scales are relative and can be applied across the asset inventory, allowing a comparison of different

asset categories all on the same scale.

Once the probability and consequence of failure are established, a risk priority can be calculated. Each asset can then be ranked, according to the exposure that the Town would experience if the asset failed based on multiple causes of failure. The end result is a risk priority number value for each asset in the inventory. This value can be used to drive inspection frequency, insurance valuations, environmental mitigation strategies, other regulatory activities, and also rank the funding of competing events and activities.

The intent of the risk analysis above is to separate out the most critical assets from the larger list and prioritize them in the capital budget.

b. Co-ordination of Events

A software based solution provides several advantages in terms of event co-ordination and synergy. For example, cost savings can be modelled to account for when roads and underground servicing are forecast for replacement in close proximity to one another.

c. Building Asset Strategies

The layering of detailed asset attributes and risk analysis into traditional asset management inventories can be used to create more accurate capital forecasts and investment requirements. The key output of a software package is a needs list covering a period of 10 years and longer. Besides the important replacement and rehabilitation needs, a software package can dynamically generate reports such as:

- asset base (inventory counts by asset sub-type)
- asset failure modes (failure modes for each asset type within the group)
- asset costs (unit costs for replacement, maintenance and monitoring)

- projected inventory (graphical representation of asset counts for next 10 years layering in growth elements)
- age profile (graphical representation of asset age by year)
- consumption profile (graphical representation of the percentage of asset life consumed)
- health profile (graphical representation of asset base condition)
- maintenance program (graphical representation of asset projections for next 10 years)
- planned replacements (graphical representation of asset replacement events for next 10 years)
- future cash flow (graphical representation of investments for the next 10 years)

d. Ease of Operation

Operationally, software packages can offer some notable advantages. When contemplating the adoption of a software system, the Town should consider multi-user access, audit tracking, back-up, ease-of-use, graphical improvements and scenario testing capabilities. Most asset management solutions offer integration with corporate software such as JDE, Great Plains (Microsoft), SAP and PeopleSoft. The Town should inform potential vendors of their existing JDE system.

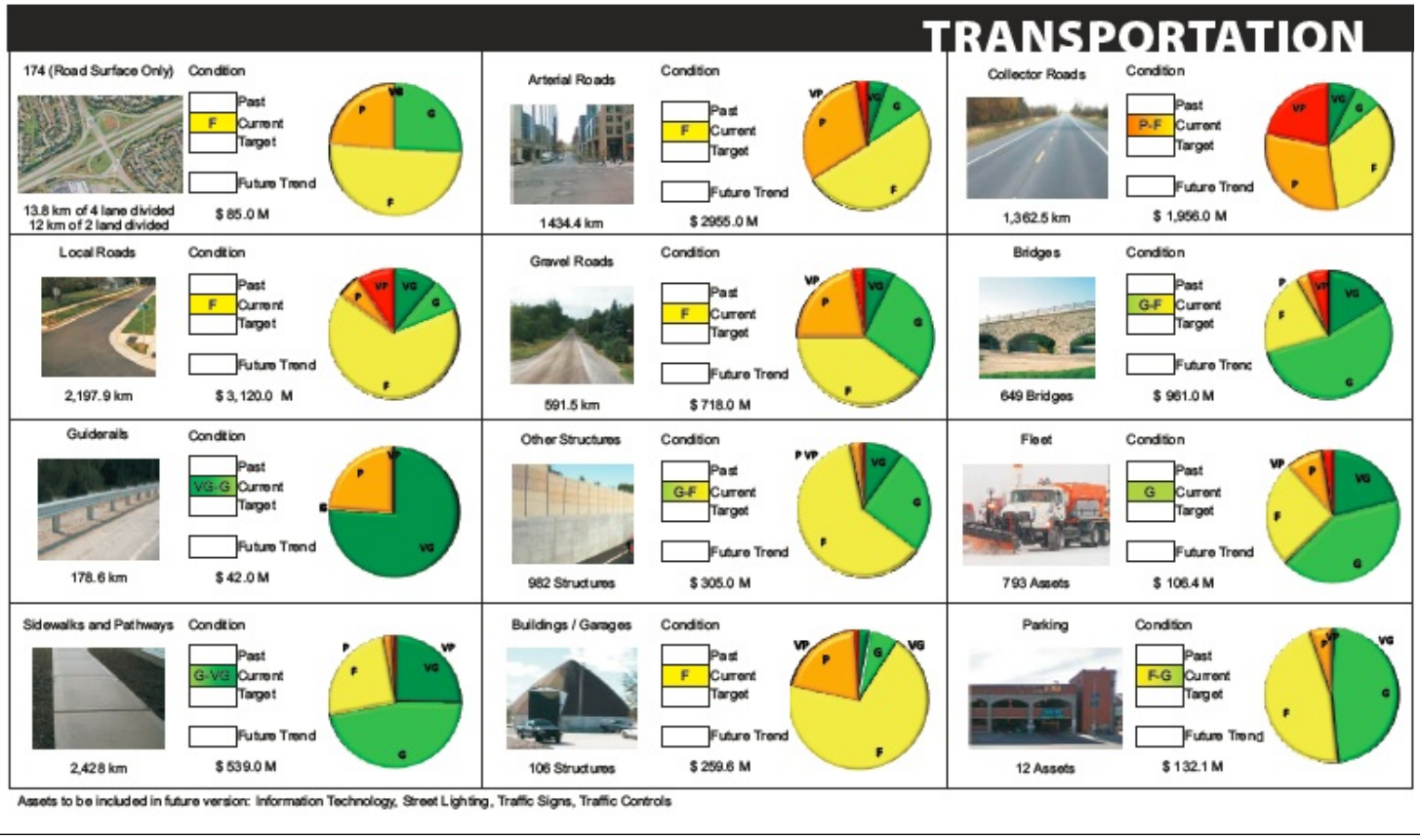
B. CONSIDER THE ESTABLISHMENT OF ASSET MANAGEMENT REPORT CARDS

Town staff has reported on the status of the ARF at regular intervals. It is recommended that the staff build on this and consider the establishment of annual report cards on the condition of Town assets and the reserve funding available to undertake the work.

A sample report card from the City of Ottawa is provided below.

Figure 2

City of Ottawa State of the Asset 2012 – Sample Page



A report card offers several benefits. It:

- ties to the earlier recommendation to base future replacement contributions on asset condition;
- provides a visual representation to Council and the public of what a "poor" or "good" asset looks like;
- provides a document that will aid Council in making service level decisions; and

- shows the progress the municipality is making towards its service level targets.

Besides Ottawa, other municipalities such as Hamilton and Halton have also prepared similar report cards.

C. IT IS RECOMMENDED THAT THE TOWN MOVE TO A 10-YEAR CAPITAL PLAN

As part of its budget approval process, it is recommended that the Town integrate a 10-year capital forecast into the budget for Council review. Many GTA municipalities have moved to 10-year forecasts including York, Vaughan, Aurora, Richmond Hill, Mississauga, Toronto, Oakville and Peel. Advantages of 10-year capital forecasts include:

- Helps Council and the public to see future budget pressures;
- Allows for better cash flow and reserve projections;
- Ties into the long-range capital planning model developed as part of this study;
- Aligns to existing water and sewer rates and financial plans (currently six year); and
- Matches the mandated 10-year planning period required in the development charges study.

It is understood that needs may change over time. Accordingly, the 10-year plan should be reviewed annually since Council does not have to be tied to projects approved in prior budgets.

It is recommended that the 10-year capital plan include an estimate of the potential operating impact of major capital projects (e.g. library), to help Council better understand the overall tax or rate impact of the project.

It is also recommended that the annual tax and rate impacts relating to the eventual replacement of new projects be estimated and identified in the capital forecast.

D. IT IS RECOMMENDED THAT THE TOWN CREATE THREE CATEGORIES OF CAPITAL PROJECTS FOR BUDGETING PURPOSES

In order to more efficiently categorize capital projects and allocate funding, it is recommended that the Town establish general capital funding designations. Although the naming may differ slightly, many municipalities use the three categories of growth, enhancement (including regulatory improvements, service level increases and strategic investments) and repair and replacement. The following chapters use these designations for categorizing the Town's capital projects. Obviously, some projects can fall into two or more of the categories; in these cases the dominant purpose of the project should be considered.

E. CONTINUE TO UNDERTAKE AND ENHANCE DEPARTMENT SPECIFIC ASSET REVIEWS

Irrespective of the form of the Town's future asset plans, the municipality should continue its historic practice of ARF reporting, roads needs studies, building assessments, water and sewer condition assessments and CCTV inspections.

F. RECONCILE RESERVES AND CARRY FORWARD ACCOUNTS

The completion of this report involved a review of many of the Town's reserve funds and accounts. Several suggestions are proposed:

1. Undertake Bi-Annual Review of Carry-Forward Projects and Reassign Funds if Projects Are No Longer Required

It is understood that there are cases where projects have been carried forward for several budgets. In such situations, the Town may be able to free-up funds for use on other capital projects. The 2013 budget included approximately $25.5 million in carry-over funds.

2. Merge Outdated, Small or Infrequently Used Capital Reserves With ARF or Other Reserves

Over time, municipalities tend to add new reserves that were required for a unique purpose or project. It is suggested that the Town review old or infrequently used reserves to see if there is an opportunity to merge or close certain accounts. This review can be undertaken internally and can help prevent stranded account balances.

G. TOWN SHOULD CONTINUE TO APPLY ARF FUNDING TO DEPARTMENTS BASED ON NEED

Some municipalities have fallen into a "silo" approach to asset management, in which each department is dedicating a certain amount of funding not because of need but because a prescribed level of funding has been carried forward from prior years. The Town of Newmarket has largely avoided this trap since ARF funding has been generally separated into four broad categories: CYFS, Library, other tax supported and utility rate supported. It is recommended that the Town maintain these categories and borrow between accounts as required.

H. STORM WATER RATE SHOULD BE CONSIDERED

In the analysis that follows, storm water infrastructure is considered a tax supported service consistent with the Town's current practice. However, many municipalities have been moving storm funding to a rate supported model. Storm water servicing has been subject to increasing environmental considerations mandated by the Province and conservation authorities. Furthermore, Lake Simcoe protection has also become a provincial and municipal priority.

Many municipalities have found it a challenge to reach the required funding levels for storm infrastructure, since it is often competing for funding with recreation facilities, roads and other services that are more visible to the public. Rate based storm funding can offer a more stable and dedicated funding source.

It is noted that the Ministry of Infrastructure, specifically references storm water rates in their *Guide to Municipal Asset Management Plans* and it is possible that financial plan requirements for storm infrastructure will eventually mirror those for water systems in the near term. There are several methods of levying a storm charge – flat rate, permeable area, lot area, lot frontage, building area, and water consumption surcharge are several examples.

The area based approach has become prevalent in many U.S. jurisdictions and is currently being used in Kitchener and London, Ontario. Low density residential charges in these municipalities are in the range of $9.50 to $14.00 per unit per month. The Town of Aurora has a flat storm charge for residential properties at $4.36 per unit per month which includes condominiums. Multi-residential and non-residential uses are charged $61.53 per metre per month.

A water consumption based storm charge has been used in many large cities such as Toronto, Hamilton and Ottawa for many years. In these three cases, the storm rates are combined with sanitary sewer (many older pipes in these municipalities carry both sanitary and storm waste).

In general, surcharge based approaches are easier to implement while the permeable area based charges require a greater degree of study. Area based charges are more equitable, however.

If Town Council was to adopt a stormwater utility rate, approximately $958,000 in calculated annual replacement contributions would move from tax to rate supported services. For comparison, the Town's actual expenditures on storm services has averaged $600,000 over the last three years.

I. REVIEW AND UPDATE THE TOWN'S CORPORATE DEBT POLICY

The Town's current debt policy was established and adopted in 2002.

- The use of long-term debt is recognized as an important financial tool in sustainable long-term financial planning;

- The Town is likely going to continue to use debt to finance infrastructure additions and expansions as part of the comprehensive long-term sustainable financial strategy; and

- The existing debt policy is well established and contains many good components but should be reviewed and updated to reflect the current demographic, development, service delivery and infrastructure and fiscal position of the Town.

J. THE TOWN SHOULD FOLLOW ITS RECENT INVESTMENT STRATEGY

The Town has recently completed an investment strategy update. In this regard the Town should:

- Aim for a benchmark return of prime less 1.75% for bank balances.

- Consider investing in projects, on occasion, that can earn a better return on investment or future budget savings. Typically, this would be an internal loan or one to an outside party.

- Return incremental investment income to reserve funds under most circumstances.

    - It is recommended that in order to mitigate tax increases, this additional revenue should be transferred to the Tax-Supported Operating Fund and be used to alleviate some of the pressure on property tax increases. The maximum amount to be transferred will be determined on an annual basis during the budget process.

    - Additionally, it is suggested that the amount of incremental income allocated to alleviate property tax increases be set at a maximum (e.g. reduction of 0.5% of the increase) and the balance of any additional investment revenues be transferred to property-tax supported asset replacement funds.

IV DEMOGRAPHICS ARE A KEY DRIVER TO CAPITAL PLANNING

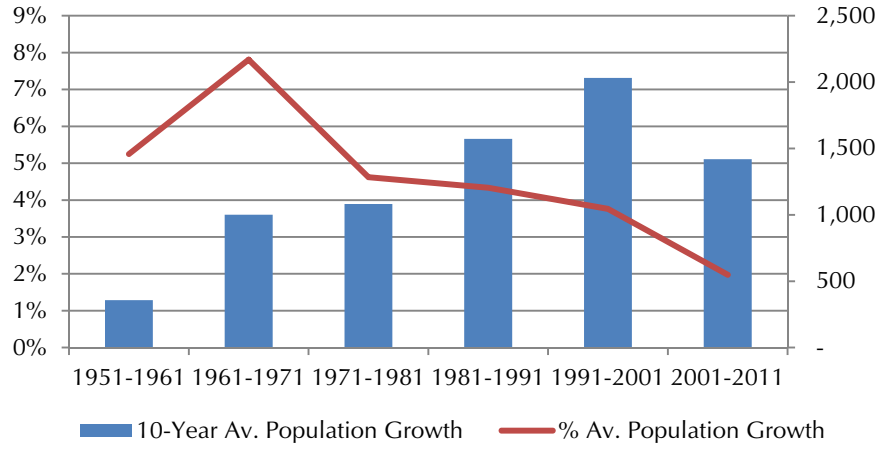
The Town of Newmarket is starting its detailed long-term capital planning from a relatively advantageous position. The Town is a desirable community in which to reside or locate a business and growth has been strong for many years. The Town is anticipated to experience positive, although slowing, growth well into the future.

A. NEWMARKET'S POPULATION GROWTH WILL SLOW

The Town of Newmarket has a blend of historic housing units and recently built subdivisions. A large percentage of the Town's growth occurred over the last 30 years. As shown in Figure 3, in terms of the number of peopled added each year, the Town grew most rapidly in the period between 1991-2001 (over 2,000 additional people per year) but in terms of relative growth rates, the 1961-1971 period had the highest (8% year over year growth) level of growth since the Town's base population was much smaller.

Figure 3

Town of Newmarket
Average Annual Population Growth

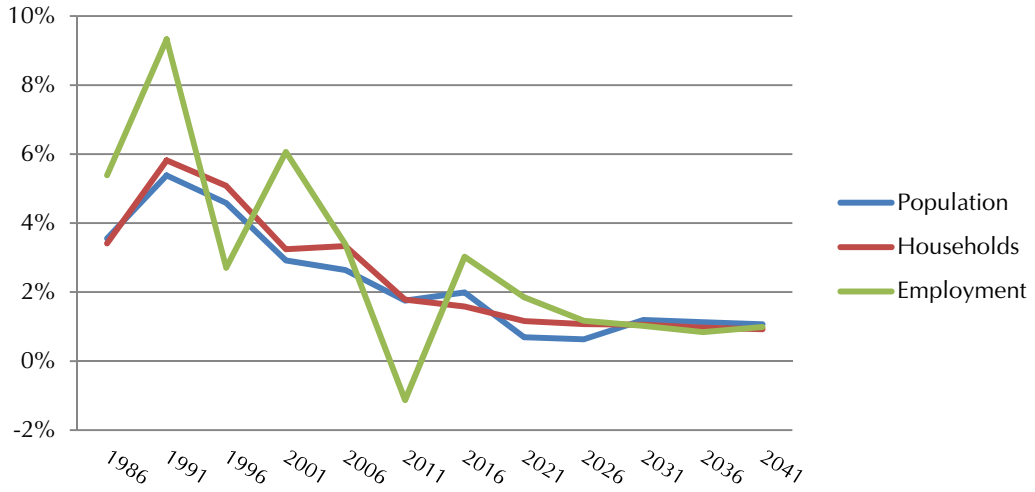


Source: Statistics Canada Census of Canada

The initial emplacement of capital infrastructure follows a similar timeline. Figure 4 provides a more comprehensive picture of historic demographic growth in relation to forecast amounts.

Figure 4

Town of Newmarket Historic and Forecast
Population, Household and Employment Average Annual Growth



Source: Hemson based on Town Planning Data (September 2013) & Statistics Canada Census

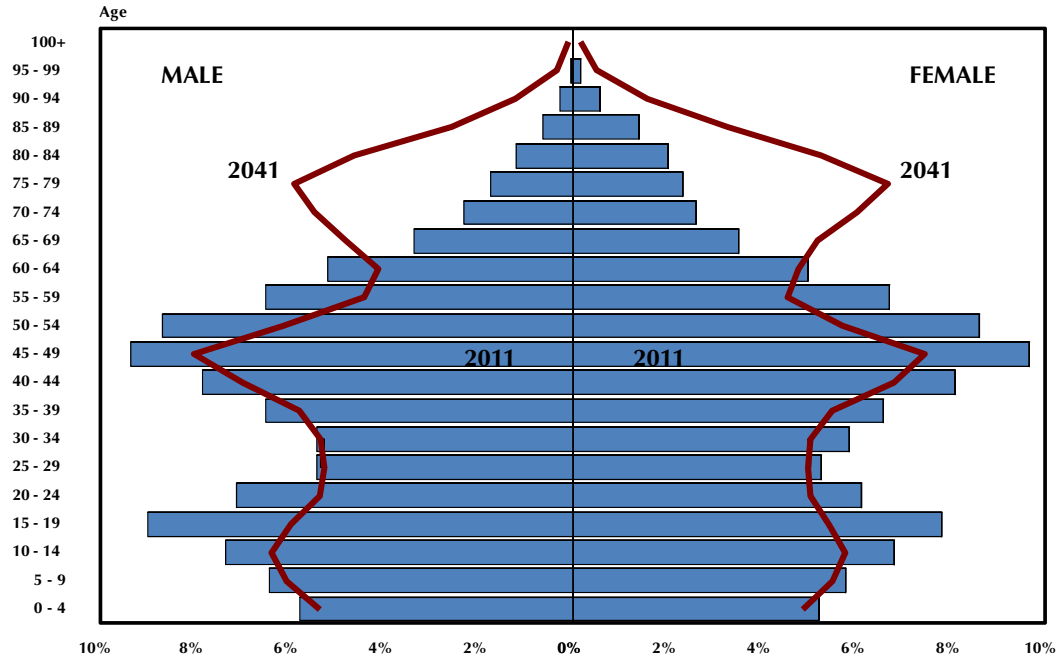
Because the Town has limited amount of undeveloped land remaining, growth rates over the next 40 years are expected to slow. Furthermore, a much larger share of the Town's residential growth will consist of intensification units.

Like many communities, the demographic profile of the Town will become older over time (see Figure 5). However, the Town has considerable time to adjust its capital planning to aging population (e.g. could develop a therapeutic pool instead of an Olympic pool).

The global economic downturn and challenges in the local manufacturing sector resulted in a decline in employment in 2011. This drop was prevalent in many Ontario municipalities.

Figure 5

Town of Newmarket Population Profile



Source: Hemson Consulting Ltd. based on Statistics Canada Census of Canada Data

B. GROWTH COULD POSITIVELY IMPACT CAPITAL FINANCING PLAN

Growth has several important implications for the financing of existing capital from both a cost and revenue perspective.

1. Potential Cost Benefits of Growth

As noted below, a greater percentage of the Town's housing growth is expected to be intensification units in the future (see Table 2).

Table 2

Forecast Housing Unit Shares

Year	Total Households	Share of Total		
		Single/Semi	Row	Apartment (rental & condo)
2006	25,100	66%	12%	22%
2011	27,400	67%	12%	20%
2016	29,600	67%	13%	22%
2021	31,400	67%	13%	24%
2026	33,100	66%	13%	25%
2031	34,900	65%	12%	27%
2036	36,600	64%	12%	29%
2041	38,400	62%	12%	32%

Source: Hemson based on Town Planning Data (September 2013)

Approximately 20% of the current housing units in the Town are apartments (includes condominium and rental ownership) and this is forecast to increase to 32% in 2041.

It is anticipated that that the amount of linear infrastructure, assumed by the Town in each year, will fall as low density areas become built-out and intensification units become more prevalent. Although the initial round of local water and sewer mains and internal roads is financed by developers, if less assets per unit are added, the Town benefits through lower long-term repair and replacement costs. The quality of the new infrastructure (e.g. PVC pipe) may also allow it to last longer than some of the older infrastructure in the community. Since apartment growth is expected at the latter half of the 30 year forecast period, any cost savings resulting from intensification is not likely to be noticeable for many years.

For population based services, long-term infrastructure repair and replacement costs related to intensification units are not expected to be less than the Town's existing average.

2. Potential Revenue Benefits of Growth

Infrastructure funding gaps are often less visible in growing GTA municipalities than in other municipalities with static or negative population and employment growth.

This is largely because new development tends to contribute infrastructure that does not have to be replaced in the short-term, however the new development contributes to the tax base immediately. New development's immediate contribution to the repair and replacement of existing assets can be beneficial, but for this to be the case, the tax rate applied to the new (and existing) units must adequately consider the long-term repair and replacement of assets. If tax rates are inadequate, new development can exasperate the infrastructure deficit by adding new assets without the associated long-term replacement funding provisions.

It should also be noted that newly built units tend to have slightly higher assessments than the existing base. In this regard, a review of residential units constructed over the last five years indicates that new units have approximately 5% higher current value assessments based on January 2012 destination values.

Attracting a higher percentage of non-residential growth – which have higher tax rates than the residential sector – can help municipalities address funding issues. However, for financial planning purposes one should not assume an abnormal influx of manufacturing plants, for example. In Newmarket, like most York Region municipalities, the non-residential sector is expected to grow at a similar rate to the residential sector.

Table 3 provides a summary of some of the demographic issues that could be considered in the context of capital planning.

Table 3

Newmarket Demographics SWOT Analysis

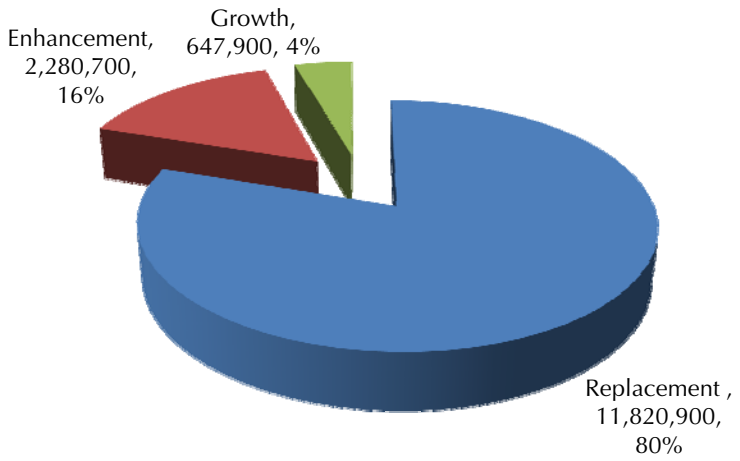
Strengths	**Weaknesses**
• Town's location with regional investments in higher order transit and highway access will remain desirable • Median Household Income 33% higher than provincial median; will be easier to absorb future tax/rates increases than others • Continued strong GTA population growth • Diverse housing stock	• Employment growth has recently softened across the GTA including Newmarket, which will affect non-residential assessment
Opportunities	**Threats**
• Intensification could result in future local service infrastructure costs being less than current average • Growth of Region could lead to greater institutional investments in the Town	• As with other GTA municipalities, traffic at peak times and physical limitations to the ability to expand roads is an issue • Aging population may require different capital infrastructure • Competition from other jurisdictions for employment land uses

V CAPITAL EXPENDITURES

This chapter describes the expenditure side of the capital financing plan while the ensuing chapter describes the funding of the expenditures. The discussion of capital expenditures is generally split into three categories: replacement, enhancement and growth. As shown in Figure 6, the replacement projects comprise the majority of the 2014 expenditures.

Figure 6

Town of Newmarket
2012-2014 Average Capital Expenditure Breakdown ($)



Source: Hemson based on Town's 2012, 2013 and 2014 Capital Budgets

General definitions of the capital expenditure categories are provided in Chapter III.

A. IT IS RECOMMENDED THAT TOWN COUNCIL ESTABLISH SERVICE LEVEL TARGETS

Capital decisions must be made with reference to the level of service planned for by the Town. In Newmarket, the level of infrastructure investment made by the Town in a year is largely driven by funding availability. For example, roads expenditures tend to increase in a linear manner. Current service levels have been developed based on a combination of internal asset management practices, community expectations, statutory requirements and industry operation and safety standards. That said, the Town has been responsive to infrastructure repair needs to address immediate safety and environmental risks and to infrastructure needs for new development.

In our experience, the community expects that services be delivered in a cost effective and efficient way. Generally, community expectations revolve around the Town's ability to provide core services such as: the delivery of potable drinking water; well maintained roadways; and the proximity and accessibility of "soft" services (e.g. recreation facilities; libraries; fire stations) within neighbourhoods.

There are numerous ways of measuring capital service levels at both department specific and municipal wide levels. For existing infrastructure, the condition of assets can be measured by indices or by simple qualitative measures such as good, bad, fair etc. For new infrastructure, desired service levels can be measured in terms of building area, materials per capita, forecast response times or similar measures that are often found in master plans and servicing documents.

Some of the current traditional service level metrics are provided in Table 4. For asset management purposes, the road example of "percentage of paved lane kilometres where condition is rated as good to very good" is a good indicator to use to establish replacement targets. Natural water/sewer main breaks are also commonly reasonable indicator for underground infrastructure. As the Town's asset planning becomes more advanced, it is suggested that Council establish similar condition-based measures for other categories. Additional examples include: percentage of Town buildings (and/or building components) in good to very good condition; trail

limestone or asphalt condition; and average annual repairs per vehicle.

Table 4

Town of Newmarket
2011 Municipal Performance Measurement Program Service Levels

Service	Description	2012	2011	Change
Roads	Percentage of paved lane kilometres where condition is rated as good to very good	82.1%	76.1%	7.9%
Wastewater	Number of wastewater main backups	2	2	0
	Number of wastewater main backups per 100 kilometres of wastewater main in a year	0.709	0.714	-0.7%
Water	Weighted number of days when a boil water advisory issued by the Medical Officer of Health, applicable to a municipal water supply, was in effect	0	0	n/a
	Number of water main breaks	28	11	154.5%
	Number of water main breaks per 100 kilometres of water distribution pipe in a year.	9.091	3.595	152.9%
Fire	Number of residential fire related civilian injuries averaged over 5 years per 1,000 persons.	0.035	0.035	0.0%
Parks and Recreation	Total kilometres of trails per 1,000 persons	0.614	0.612	0.3%
	Hectares of open space per 1,000 persons	4.229	4.294	-1.5%
	Square metres of indoor recreation facilities per 1,000 persons	503.73	511.41	-1.5%
	Square metres of outdoor facility space per 1,000 persons	73.74	74.90	-1.6%

The establishment of service level targets will help Town Council balance expenditure requirements between the department and asset categories.

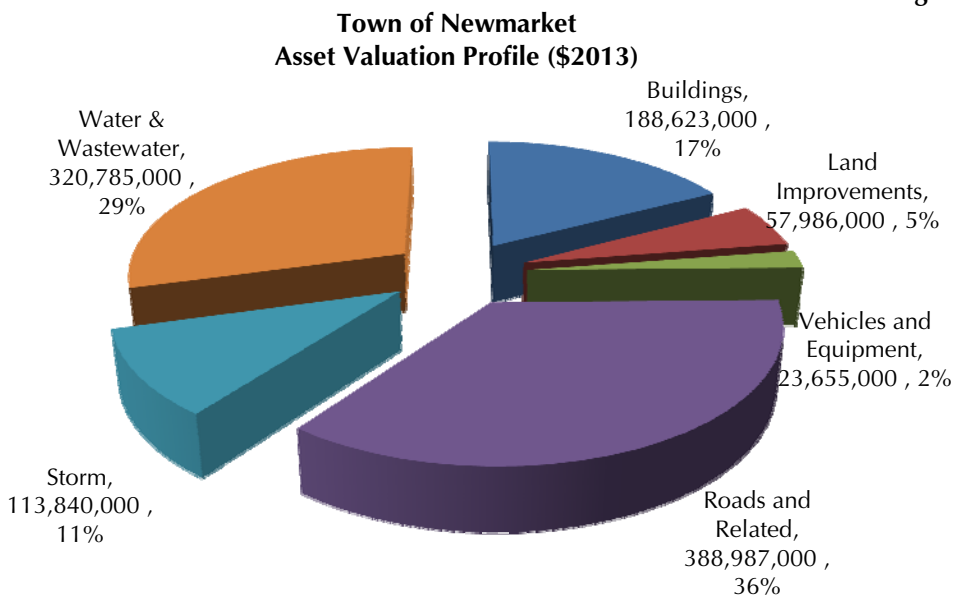
B. REPLACEMENT CAPITAL

Repair and replacement capital, also known as state-of-good-repair, is the largest and most important component of the Town's capital expenditures. Replacement capital was the focus of the Part 1 Report and the updated analysis is presented below.

1. Current Asset Profile

The replacement cost of all assets in the Town is approximately $1.1 billion, excluding land and minor equipment below asset management thresholds. This overall value translates to approximately $13,400 per capita or $39,600 per household.

Figure 7



Source: Hemson based on Town ARF data

As shown in Figure 7, roads and related infrastructure comprise the largest share of the Town's infrastructure at 36%. This is followed by water and sewer infrastructure at 29% and buildings at 17%.

Table 5 compares the Town's asset value per capita and (per capita+employment) to other municipalities. The net book values from 2012 financial statements are used since the metric is provided in a similar format in each municipality.

Table 5

Asset Net Book Value By Municipality
(December 31, 2012)

Municipality	Net Book Value (Excluding Land)	Net Book Value Per Capita	Net Book Value Per Capita+Employment
Newmarket	341,216,000	4,173	2,764
Aurora	275,500,000	4,997	3,461
East Gwillimbury	107,716,000	4,211	3,343
Georgina	306,683,000	6,799	5,696
King	125,746,000	5,981	4,299
Markham	1,789,346,000	5,695	3,909
Richmond Hill	601,551,000	3,121	2,297
Vaughan	2,119,889,000	7,009	4,491
Whitchurch-Stouffville	208,892,000	5,076	3,866
York Region	5,032,606,000	4,663	3,218

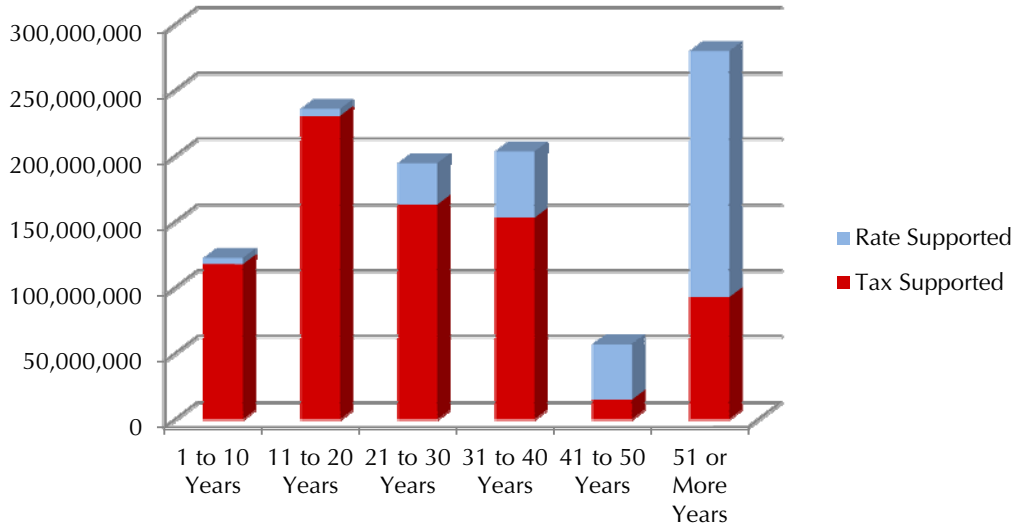
Source: 2012 Financial Statements, 2011 for East Gwillimbury and King

Newmarket's asset profile is generally similar to most other York Region municipalities (see Table 5). Net book value measures the value of assets after depreciation, so a municipality such as Vaughan, that has experienced rapid growth recently, is expected to have a higher per capita asset book value valuation than municipalities that grew more rapidly in the 1980s and 1990s.

Figure 8 categorizes the assets by the remaining useful life. In general, the tax supported assets (roads in particular) will need to be replaced much earlier in the 50 year period than water and sewer infrastructure. The Town's underground infrastructure is likely to last well into the mid century.

Figure 8

Town of Newmarket
Asset Remaining Useful Life Profile

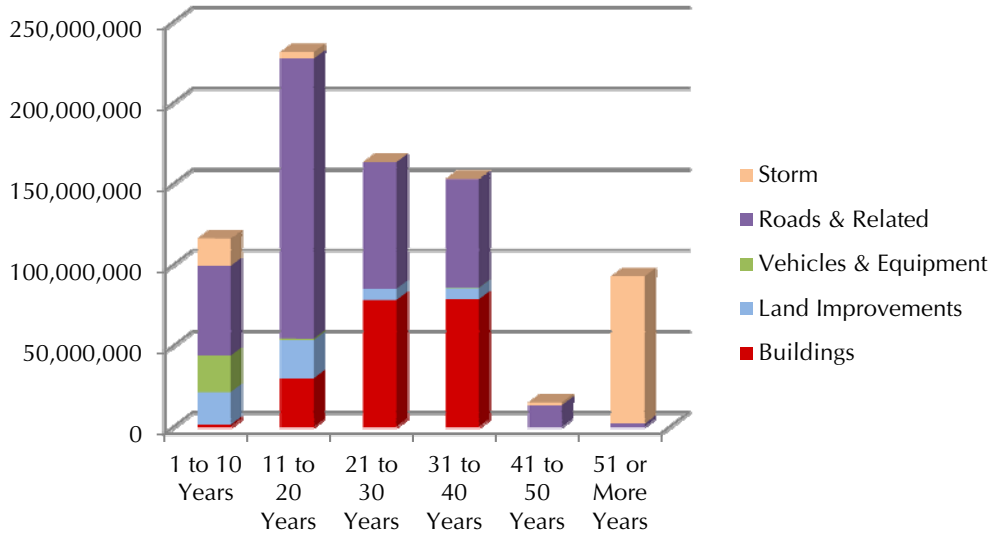


Source: Hemson based on Town ARF data

Figure 9 further breaks down useful life remaining by tax supported asset class.

Figure 9

Town of Newmarket
Tax Supported Asset Remaining Useful Life Profile



Source: Hemson based on Town ARF data

It is clear that roads have justifiably been the focus of the Town's infrastructure replacement program in the short-term. Buildings will also be an important issue in the 20-40 year period. Storm assets have long useful lives and are dominant in the 51 year+ time period. Vehicles and equipment have long been subject to asset management replacement schedules and will be replaced in a more linear manner over time.

2. Current Expenditure Levels on Replacement Capital

The three year average capital budgeted expenditures for repair and replacement (2012-2014) are shown in Table 6. The values represent newly identified capital expenditures and exclude carry-overs and debentures. The average annual expenditure on replacement capital is $11.8 million. Road expenditures represent the largest share of the capital expenditures at 51% or $6.1 million. Vehicles and equipment are the second largest component at $2.1 million followed by buildings at $1.1 million and water and wastewater at $829,000.

Table 6
2012-2014 Capital Budget
Average Annual Expenditures on Replacement Capital

Category	Replacement Capital ($)	Percentage of Total
Buildings	1,079,400	9%
Land Improvements	230,100	2%
Vehicles & Equipment	2,139,900	18%
Roads and Related	6,069,700	51%
Storm	601,700	5%
Other	871,500	7%
Subtotal Tax	10,992,300	93%
Water & Wastewater	828,700	7%
Total	11,821,000	100%

A key component of the Part 1 Report was an analysis of the ARF-based expenditure requirements. A revised expenditure forecast is provided in Table 7, which is based on several improvements discussed in the earlier report. Updates to the ARF analysis include:

- Adjustment to 2013 dollars
- Added pumping stations to inventory
- Adjusted building inventory replacement costs to bring them in-line with development charges replacement costs
- Added additional park facilities to inventory
- Adjusted early years of parking inventory
- Adjust fire vehicles and machinery and equipment (M&E) to 60% Newmarket share
- Annuity calculations are based on 2% annual inflation and a 3.5% return on investment

The centre column in Table 7 shows the annual capital contributions required to

fully fund the capital replacement schedule. The right column considers the timing of the replacement schedule and shows the average expenditures required over the first 10-year period. Table 7 is based on more conservative interest and earning rate assumptions than those used than in the Draft version of the Part 2 Report, which explains the higher normalized contributions for roads and water and sewer.

Table 7
ARF-Based Required Capital Expenditures on Replacement Capital

Category	Annuity Based Normalized Annual Expenditure ($)	First 10-Year Average Annual Expenditure ($)
Buildings	4,676,000	142,200
Land Improvements	2,873,000	2,159,800
Vehicles and Equipment	2,782,000	2,249,300
Roads and Related	10,276,000	5,539,200
Storm	1,440,000	1,701,700
Subtotal Tax	22,047,000	11,792,200
Water & Wastewater	4,347,000	479,200
Total	26,394,000	12,271,400

It is important to note, the calculated ARF inventory expenditures are based on a theoretical useful life based asset management analysis. As noted earlier in this report, this approach while appropriate for determining order of magnitude, is inferior to other "engineering" sources such as roads needs studies, pipe inspections and building assessments. That being said, several important points can be drawn from Table 6 and Table 7.

a. Roads and Related

The Town's current expenditures on roads and related replacements are $6.1 million. The $2.3 million Viva Next project in 2014 along Davis Drive was considered an enhancement (non-replacement), which brings the total

expenditures on roads in the 2014 budget closer to $8 million.

Table 8
ARF- Based Estimated Roads and Related Expenditures

Projected Replacement	Replacement Value	Percentage
1-10 Years	55,392,100	14%
11-20 Years	172,754,900	44%
21-30 Years	78,144,800	20%
31-40 Years	67,110,600	17%
41-50 Years	13,527,300	3%
51+ Years	2,057,900	1%
Total	388,987,600	100%
ARF First 10-Year Annual Average	5,539,200	
Annuity Based Normalized Annual Expenditure	10,276,000	
Annual Amortization (2012)	4,772,800	
2012-2014 Average Budget Expenditures	6,069,700	

The Town's current expenditures are less than the notionally calculated annuity based expenditure of $10.2 million. The analysis above does not consider an actual service target (appropriate condition) and many roads may last longer than their calculated useful lives.

It should be noted, the three year average expenditure on replacement capital is $1.3 million higher than the annual amortization. This indicates the Town is addressing its road replacements in a reasonable manner and is surpassing its accounting-based minimum replacement requirements.

The Roads Needs Study (2012) contains an assessment of the Town's road network. The report notes that "the current road network has an average structural adequacy rating of 16.4 out of 20, which is considered reasonable and reflective of a road network in acceptable condition". The study also contains a

forecast of capital expenditures that can be referenced for capital planning purposes.

Table 9

2012 Roads Needs Study
Required Capital Expenditures

Improvement Type	Current "Now" Needs	Total 10-Year Needs	10-Year Average Need	Total Replacement Value	Normalized Annuity Based Contribution
Surface	0	11,012,400	1,101,200	N/A	N/A
Reconstruction	16,498,400	16,950,900	1,695,100	437,036,200	$9,874,500
Guide rails	78,100	78,100	7,800	431,200	$9,700
Culverts	105,200	1,831,100	183,100	2,746,600	$62,100
Bridge	289,000	1,289,500	129,000	2,659,600	$60,100
Total	16,970,700	31,162,000	3,116,200	442,873,600	$10,006,000

As indicated in Table 9, there are significant current reconstruction projects required throughout the Town. However, the projected average annual expenditures for the 10-year period are manageable ($3.2 million). As noted in the Roads Needs Study, only 4% of the Town's roads measured by kilometres are likely to need reconstruction in the 10-year period. Accordingly, the Town should work towards the annual contribution target to ensure it has adequate reserves on hand to address the increased road expenditures anticipated beyond 2022.

b. Buildings

The Town recently retained Suncorp Valuations Ltd. to estimate the replacement costs of Town-owned buildings and their respective components. Accordingly, the estimates in Table 10 have been updated to reflect the latest replacement cost valuations. The updated total value of buildings is very similar to the estimate in the Draft Part 2 Report from November 2014.

Table 10
ARF-Based Estimated Major Building Expenditures

Projected Replacement	Replacement Value	Percentage
1-10 Years	6,211,000	1%
11-20 Years	15,145,000	16%
21-30 Years	79,681,000	42%
31-40 Years	87,017,000	42%
41-50 Years	0	0%
51+ Years	0	0%
Total	188,054,000	100%
First 10-Year Annual Average	621,100	
Annuity Based Normalized Annual Expenditure	4,676,000	
Annual Amortization (2012)	2,834,500	
2012-2014 Average Budget Expenditures	1,079,400	

The Town has recently built or renovated several buildings including the Magna Centre, the Operations Centre and the Old Town Hall (renovations underway). Additionally, the Town has budgeted funds to renovate its two fire stations. Given the recent improvements, the largest expenditures on replacements are anticipated in the 20-40 year period. The Ray Twinney Complex and the Library are the two key buildings that will be at the end of their calculated useful lives at this time.

The Town's current expenditures on buildings are adequate in the first 10-year period, however, it will likely have to increase expenditures on building replacements to an amount in excess of $3 million. The financing section of this report (Chapter VI) discusses the several funding options available to address the gap (e.g. expiring debentures).

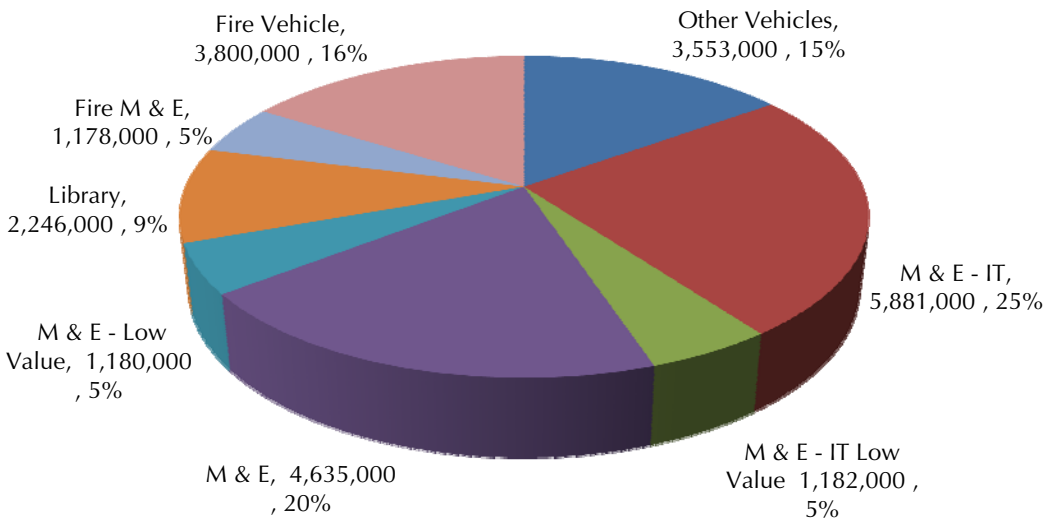
c. Vehicles and Equipment

For many years, the Town and other municipalities have budgeted for the replacement of vehicles and equipment. The useful lives for these assets are generally less than most other assets, which is the key reason why the assets

have historically been budgeted on an annuity approach using reserve funds. The breakdown of the Town's vehicles and equipment assets are provided in Figure 10. Vehicle and equipment assets are generally split between several areas.

Figure 10

Town of Newmarket
Breakdown of Vehicles and Equipment Inventory



Source: Hemson based on Town ARF data
Note: "M&E" = Machinery & Equipment; "IT" = Information Technology

Table 11
ARF-Based Vehicles and Equipment Expenditures

Projected Replacement	Replacement Value	Percentage
1-10 Years	22,493,300	95%
11-20 Years	955,800	4%
21-30 Years	51,000	0%
31-40 Years	155,200	1%
41-50 Years	0	0%
51+ Years	0	0%
Total	23,655,000	100%
First 10-Year Annual Average	2,249,300	
Annuity Based Normalized Annual Expenditure	2,782,000	
Annual Amortization (2012)	1,861,600	
2012-2014 Average Budget Expenditures	2,139,900	
Adjusted for CYFS	2,400,000	

The 2014 budget does not contain a major fire vehicle expenditure, which is the main reason the budget expenditures are lower than the annuity based normalized annual expenditure identified in Table 11. Other than 2014 capital expenditures of $174,000, the nine-year average of the department's capital forecast is $800,000. After this adjustment is made, the Town's budget closely aligns to the ARF forecast.

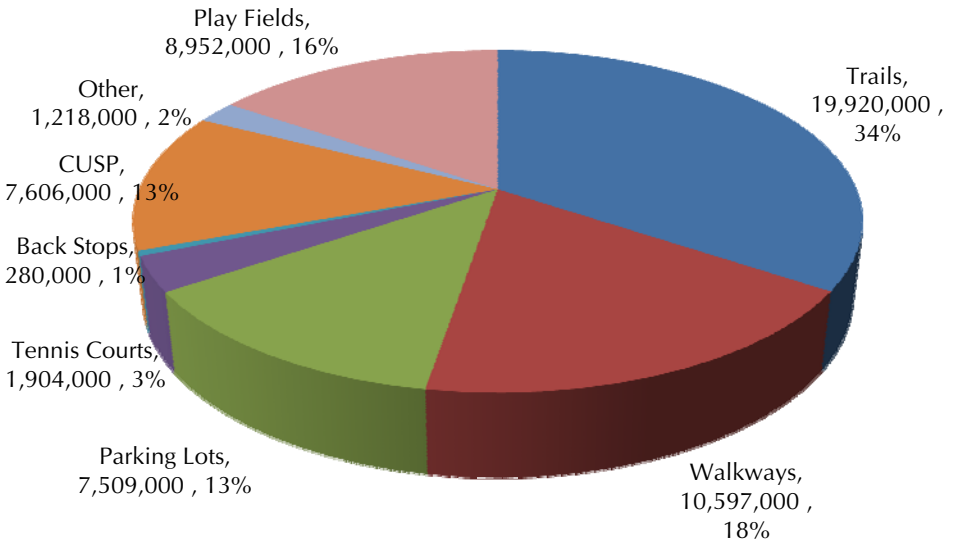
The results show the Town is currently expending a reasonable amount on capital replacements for vehicles and equipment.

d. Land Improvements

As shown in Figure 11, land improvements comprise of several elements; many of which are related to the park development.

Figure 11

Town of Newmarket
Breakdown of Land Improvement Inventory



Land improvements are one area where the Town will likely have to expend more funds in the future. As shown in Table 12, the Town's 2012-2014 average budget expenditure on land improvements was $230,000. However, the calculated ARF expenditures and the calculated annual amortization values are significantly higher. There are several reasons for this discrepancy. First, the ARF analysis in the Part 1 Report has been amended to include sports fields and playground equipment, which added approximately $8 million in total asset value to the ARF calculations. Secondly, many useful life based forecast expenditures can be deferred. Stated differently, the consequence of failure for play fields and trails is not as pronounced as those for drinking water and bridges, for example.

Table 12
ARF-Based Land Improvements Expenditures

Projected Replacement	Replacement Value	Percentage
1-10 Years	25,329,900	37%
11-20 Years	25,390,100	39%
21-30 Years	8,240,600	11%
31-40 Years	6,960,100	12%
41-50 Years	0	0%
51+ Years	0	0%
Total	65,921,000	100%
First 10-Year Annual Average	2,159,800	
Annuity Based Normalized Annual Expenditure	2,873,000	
Annual Amortization (2012)	967,500	
2012-2014 Average Budget Expenditures	230,100	

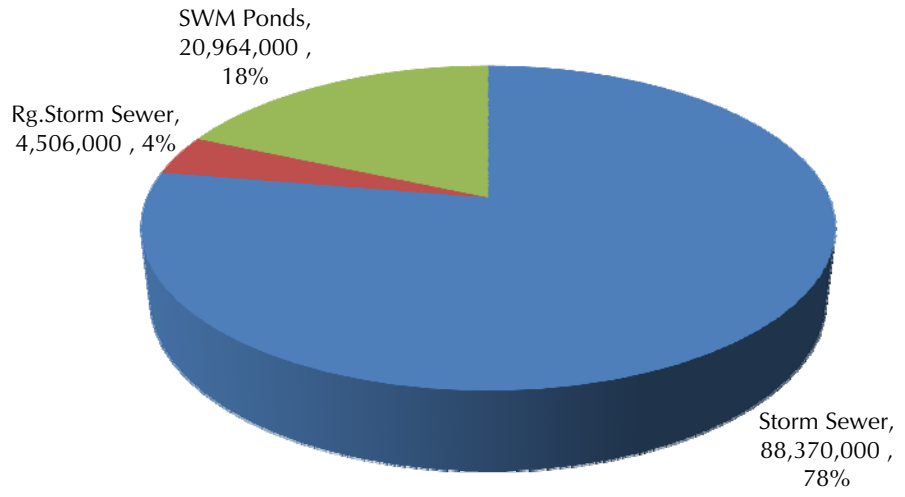
Over time, the Town should work towards ensuring sufficient funds are available to at least meet the annual amortization amount of $968,000. Additional funding for land improvements is largely a service level decision in addition to a safety decision.

e. Storm

For the purposes of this analysis, storm infrastructure consists of stormwater management ponds, storm sewers within Regional right-of-ways and local storm sewers (shown in Figure 12).

Figure 12

Town of Newmarket
Breakdown of Storm Inventory



Source: Hemson based on Town ARF data
Note: "Rg." = Regional; "SWM" Storm Water Management

It is important to note that the Roads Needs Study also considered local storm sewers. Therefore, if the Town follows the Roads Needs Study recommendations, additional storm sewer contributions should not be immediately required. Stormwater management ponds and Regional road storm infrastructure are not considered in the Roads Needs Study.

Comparing the 2012-2014 budget expenditure to the ARF based calculations show the Town's average expenditure is less than half the ideal ARF-based annual contribution amount. Given that most capital replacements are far along the asset management curve, the Town has time to plan for additional funds to be set aside for the replacement of these assets.

Table 13
ARF-Based Storm Expenditures

Projected Replacement	Replacement Value	Percentage
1-10 Years	17,017,100	15%
11-20 Years	3,992,900	4%
21-30 Years	0	0%
31-40 Years	219,300	0%
41-50 Years	1,670,400	1%
51+ Years	90,939,100	80%
Total	113,839,000	100%
First 10-Year Annual Average	1,701,700	
Annuity Based Normalized Annual Expenditure	1,440,000	
Annual Amortization (2012)	Incl. in land improvements	
2012-2014 Average Budget Expenditures	601,700	

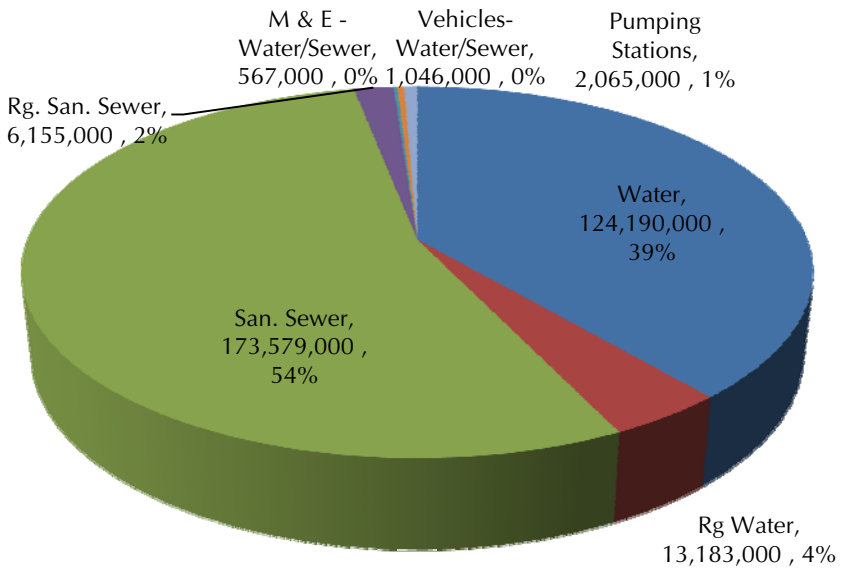
Inspections of storm sewers and storm water management facilities should be used to determine the actual expenditure requirements.

f. Water and Sewer

Water and sewer infrastructure is primarily comprised of the linear local-sized mains but also includes Town-owned pumping stations and vehicles and equipment (see Figure 13)

Figure 13

Town of Newmarket
Breakdown of Water and Sewer Inventory



Source: Hemson based on Town ARF data
Note: "M&E" = Machinery & Equipment; "Rg." = Regional

Looking at average budget expenditures on water and sewer infrastructure is not particularly relevant because so much of the linear infrastructure is relatively young given the 60-80 year useful lives of the linear assets (see Table 14). As was presented in the Water and Wastewater Financial Plan, the Town should continue to ensure annual contributions for future replacements exceed annual amortization.

Table 14
ARF-Based Water and Sewer Expenditures

Projected Replacement	Replacement Value	Percentage
1-10 Years	4,792,000	1%
11-20 Years	5,255,000	2%
21-30 Years	31,532,000	10%
31-40 Years	50,454,000	16%
41-50 Years	42,010,000	13%
51+ Years	186,744,000	58%
Total	320,787,000	100%
First 10-Year Annual Average	479,200	
Annuity Based Normalized Annual Expenditure	4,347,000	
Annual Amortization (2012)	4,638,500	
2012-2014 Average Budget Expenditures	828,700	

As shown in the above table, the Town's current contributions to the ARF for water and wastewater infrastructure currently exceed annual amortization. This indicates the Town is making positive headway in alleviating existing infrastructure gaps for these services. Given the largest expenditures are projected to occur beyond the 1-10 and 11-20 year periods, the Town should be in a good position to fund these assets without any large spikes to utility rates. It should be noted that annuity and cash flow calculations for water and wastewater assets can be quite sensitive to interest and earning assumptions in light of the very long useful lives of the infrastructure.

Similar to storm services, inspections and software modelling of water and wastewater linear facilities should be used to determine the actual expenditures in the short-term.

g. Other Replacement Capital

The $871,500 in other expenses referenced in Table 6 include capital labour cost allocations and studies.

3. Replacement Capital Expenditure Comparison

Overall, the Town is in a relatively advantageous position, however, there are several areas where there could be funding challenges.

It is always difficult comparing budgets and financial statements between municipalities. Many jurisdictions have different service delivery models. For example, in York Region, the provision of water and sewer services is a split responsibility between the Region and its lower-tier municipalities. Conversely, Peel Region is solely responsible for delivering these services.

Additionally, many municipalities structure their budgets differently. For example, storm services can be a rate or tax supported service. The following table has been included to show Newmarket in the context of other York Region jurisdictions.

Table 15
Comparative Capital Financing Position

2012	Annual Amortization (Financial Statements)	Cont. To Capital Replacement Reserves (Budget)	% of Amortization
York	$152,100,000	$150,500,000	99%
Aurora	$10,100,000	$6,000,000	59%
Vaughan	$65,500,000	$32,100,000	49%
Markham	$59,100,000	$24,500,000	41%
Richmond Hill	$30,800,000	$11,900,000	39%
Georgina	$10,200,000	$3,700,000	36%
Newmarket	$15,100,000	$13,300,000	88%

Notwithstanding the limitations of the data, Table 15 does indicate the Town's current replacement funding levels are close to annual amortization. A percentage of amortization value of 100% generally indicates that the funding gap is not getting worse, which is not to suggest an existing deficiency is being addressed.

The preceding analysis focused on the replacement of existing capital, however, the Town must also consider that new assets will be added to the Town's inventory. These assets are discussed in the next two sections.

C. ENHANCEMENT CAPITAL

Enhancement capital is a broad definition intended to capture regulatory improvements, service level increases and strategic investments. Enhancement investments should link to local, regional or provincial priorities that are outlined in strategic planning documents. Enhancement capital may also involve investments in technology that can improve productivity and/or reduce costs.

Table 16

2012-2014 Capital Budget
Average Annual Expenditures on Enhancement Capital

Category	Excluding Solar and Honeywell		Including Solar and Honeywell	
	Enhancement Capital ($)	Percentage of Total	Enhancement Capital ($)	Percentage of Total
Buildings	196,800	9%	3,211,700	61%
Land Improvements	383,100	17%	383,100	7%
Vehicles & Equipment	308,300	14%	308,300	6%
Roads and Related	1,214,300	53%	1,214,300	23%
Storm	0	0%	0	0%
Other	178,100	8%	178,100	3%
Subtotal Tax	2,280,600	100%	5,295,500	100%
Water & Wastewater	0	0%	0	0%
Total	2,280,600	100%	5,295,500	100%

The Town's historic expenditures detailed in Table 16 are appropriately linked to municipal and provincial objectives. Some examples of this are provided below:

- Higher order transit is a stated priority of all levels of government and the Town has budgeted $2.3 million in 2014 for Davis Drive VIVA-related improvements.

- In terms of green energy, the Town has budgeted $900,000 in 2014 for solar panel installation and retrofits. The cost of the projects, funded through internal loans, will be recouped through savings.

- To reduce operating costs and lower its carbon footprint, the Town has partnered with Honeywell to convert streetlights to LED bulbs and to improve heating, ventilation and air conditioning and lighting in Town-owned buildings. The $8.6 million cost of the project, funded through internal loans, is guaranteed to be recovered through operating cost savings.

- The Town has undertaken important studies including this capital financing review and a community improvement plan for urban centers and brownfield developments.

When considering whether to undertake an enhancement project, Town Council should consider the following criteria:

- Is it a local priority identified in a strategic plan, master plan or similar document?
- Has the project been identified as Regional or Provincial priority?
- Will it improve productivity or capacity?
- Will it reduce operating costs or produce operating revenue?
- Is it provincially mandated?
- Will it advance objectives related to environmental or fiscal sustainability?
- Will it improve the quality of life of residents or businesses (e.g. arts, culture, streetscaping)?
- Will it improve safety (e.g. signalization, fire rescue equipment)?

Non-growth and non-replacement projects that do not meet any of the enhancement criteria above should be closely studied and evaluated based on need, benefit and fiscal impact.

D. GROWTH-RELATED CAPITAL

Growth-related capital expenditures will be explored in greater detail in the Part 3 Development Charges review. The Council approved DC capital programs can then be integrated into the capital planning model. For this Part 2 Report, an initial development-related capital program was prepared that includes development charges and non-development charges eligible capital items.

In most capital asset plans, emphasis is justifiably placed on the existing infrastructure funding gap. However, as a municipality grows, additional assets will be acquired through the assumption of developer built capital and the expansion of Town constructed services (e.g. new recreation space). The initial emplacement of growth-related capital typically has a minor tax rate impact. However, once an asset is assumed, the Town's tax base typically becomes responsible for its eventual replacement.

1. Recent Growth-Related Expenditures

The Town's three year average expenditures on growth-related capital is $648,000 (see Table 17). The nature of many growth-related projects does not allow incremental, or marginal, expansion. Instead, the service expansions often require larger periodic expenditures that can address existing needs and pre-emplace capacity for future needs. This can be seen in Table 17 where some categories have no expenditures while others have large values.

Table 17
2012-2014 Capital Budget
Average Annual Expenditures on Growth Capital

Category	Growth Capital ($)	Percentage of Total
Buildings	0	0%
Land Improvements	446,700	69%
Vehicles & Equipment	28,200	4%
Roads and Related	0	0%
Storm	0	0%
Other	35,400	5%
Subtotal Tax	510,300	79%
Water & Wastewater	137,700	21%
Total	648,000	100%

Projects identified over the last three years include parkland improvements, trails and a pumping station. Due to the small sample size, the values above are not particularly indicative of municipal expenditures going forward.

2. Long-Term Growth-Related Expenditure Forecast

A long-range capital forecast for growth-related expenditures was prepared using several different data sources that are outlined below. The forecast is split into three categories: contributed capital, development charges funded capital and non-development charges funded capital. The tax impacts in the following section are based on a 20-year forecast period (2014-2033), however, a longer time horizon has been built into the model. The Town's growth-related capital forecast is expected to become more refined as the Urban Centres Secondary Plan work progresses.

a. Contributed Capital

Contributed capital is typically built by developers, to standards determined by the Town, as a condition of planning approval. This capital consists of local roads, streetlights, sidewalks, small diameter sewer and water mains, storm

ponds, as well as some park elements. Over a long-term planning horizon, it is difficult to forecast contributed capital amounts since subdivision and/or site plans are not yet available for much of the anticipated future growth. As most contributed capital is linear in nature, lot frontages were used to estimate future requirements. Table 18 displays the lot frontage assumptions. It is anticipated that new residential units, on average, will have less lot frontage than the Town's existing residential units. This reflects market trends and Town and Regional policies promoting intensification in residential areas.

Table 18
Lot Frontages Used To Estimate Contributed Capital

Residential Unit	Existing Base (feet)	Future Growth (feet)
Single Detached	55	40
Semi Detached	35	30
Rows	25	25
Apartments	5	5
Total Existing Frontage	1,092,700	

The Town's existing inventory of contributed capital was divided by the total lot frontage value of 1,092,700 to derive a cost per foot that could be applied to each new unit over the forecast period. The cost per frontage foot for each asset type is provided in Table 19 below.

Table 19
Lot Frontages Used To Estimate Contributed Capital

Asset Category	2012 ARF Value	2012 Cost per Frontage Foot
Local Road Base	$170,270,000	$156
Local Road Surface	$18,680,000	$17
Collector Road Base	$78,550,000	$72
Collector Road Surface	$8,550,000	$8
Streetlights	$31,740,000	$29
Sidewalks	$29,270,000	$27
Culverts	$5,100,000	$5
Total Road Related	$342,160,000	$313
Storm Sewers	$88,370,000	$81
SWM ponds	$20,960,000	$19
Total Storm	$109,330,000	$100
Water	$124,190,000	$114
Regional Water	$13,180,000	$12
Sewer	$173,580,000	$159
Regional Sewer	$6,160,000	$6
Total Water & Sewer	$317,100,000	$290
Trails	$19,900,000	$233 (per capita)

In addition to the infrastructure noted above, one new pumping station (2016) is included in contributed capital forecast. Additionally, an allowance for contributed trails at a rate of $233 per capita has been included, which is equal to the Town's current service level. The initial emplacement of trails could also be funded through the voluntary trail levy in situations where developer contributions are not feasible.

b. Development Charges Capital

A 20-year estimate of development charges capital is shown in Table 20.

Table 20
Estimated Development Charges Capital

Asset Type	20-Year Costs ($2013)	Basis of Cost E
Industrial Roads Base	$1,457,000	# Empl. land employees
Industrial Roads Surface	$159,000	# Empl. land employees
Other Roads, Signals & TDM	$7,669,000	Population+Employment
Fleet and Equipment	$505,000	Frontage Foot
Satellite Works Depot	$2,421,000	Lump sum
Additional UGC Roads Base	$12,687,000	8.5 km new roads
Additional UGC Roads Surface	$1,388,000	8.5 km new roads
Additional UGC Grade Separations Base	$1,291,000	3 bridges
Additional UGC Grade Separations Surface	$1,293,000	3 bridges
Water M&E and Vehicles	$176,000	Frontage Foot
New Library	$13,500,000	$30M total (45% new)
Library Materials	$5,780,000	$289,000 new per year
New Library Land	$1,000,000	Lump Sum
New Fire Station incl. Training	$3,600,000	Newmarket share (60%)
New Fire Land	$600,000	Newmarket share (60%)
New Pumper/Rescue Vehicle	$435,000	Newmarket share (60%)
New Small Vehicle	$27,000	Newmarket share (60%)
New Bunker Gear	$30,000	Newmarket share (60%)
Park Facilities TCA portion	$7,020,000	Population
Park Facilities Non-TCA Portion	$2,080,000	Population
Parking	$1,890,000	Population
New Recreation Space (e.g. Youth Centre)	$3,600,000	Lump sum
New Recreation Space (e.g. Seniors Centre)	$3,463,000	Lump sum

Note: Costs based on existing Town assets

It should be noted, the *Development Charges Act* limits the recovery of parks, recreation, parking, general fleet and library infrastructure to 90% of calculated costs. The statutory 10% discount has to be funded through non development charges sources. The 10% statutory discount calculated over the 20-year period totals $3,833,000.

c. Non-Development Charges Capital Costs

There may be other capital expenditures that are in whole, or in part, growth-related but due to legislative restrictions cannot be funded through development charges. Possible examples include Information Technology equipment, additional building space for staff and the undergrounding of hydro-electric facilities in the Town's intensification area. These projects may not currently have any formal approval but have been considered in the long-range planning model.

Table 21
Non-Development Charges Capital Costs

Asset Type	20-Year Costs ($2013)	Basis of Cost
IT Equipment	$2,874,000	70% of population+empl.
Additional Space for Staff	$6,823,000	Population+employment
UGC Hydro Undergrounding	$16,000,000	50% of $32M lump sum estimate

Note: Costs based on existing Town assets

VI CAPITAL FUNDING SCENARIOS

The background information in the previous sections allows for the preparation of funding plans for Council's consideration. A large number of funding options were reviewed (see Appendix A), and the major options have been considered below.

A. KEY ASSUMPTIONS

In developing the funding scenarios, several key assumptions were made that apply to all options:

1. Growth

The Town's growth forecast from September 2013, was used in the analysis. Assessment values for new units were based on a large sampling of recently constructed units from 2009-2012. The assessment growth forecast values below are based on 2013 MPAC data (full phase-in of 2012 assessment) and are lower than the 2014 budget assessments. To ensure consistency, growth rates were calculated based of the Town's December 31, 2012 assessment base:

- Singles: $459,900
- Semis: $317,600
- Rows: $313,700
- Apartments (condo): $251,900

New non-residential growth was projected to have the following assessments:

- Population Related: $192/sq. ft.
- Office: $142/sq. ft.
- Employment Land: $63/sq. ft.

Existing non-residential assessment is forecasted to depreciate at 0.4% per year due to standard aging. Depreciation does not apply to the residential sector.

2. Interest and Inflation

A 2% long-term inflation rate and a 3.5% long-term earning rate were used throughout the analysis.

3. Debt

The Town has existing tax supported (non-DC supported) principal and interest payments of $2.12 million. One outstanding rate supported (non-DC) debenture for water/sewer exists at $132,300; it expires in 2014. It was assumed that when existing debentures expire, the Town will use the tax and rate room for funding capital projects.

Magna Centre naming revenue ($500,000) was removed after 2017.

Debt was assumed for potential intensification improvements (e.g. hydro undergrounding). An interest rate of 4% was assumed for the project. The assumed $16,000,000 tax supported cost was split into two debenture issuances (2017 and 2024) with 20-year terms.

4. Interfund Borrowing and Transfers

The Town appropriately uses interfund borrowing to address short-term variations between individual reserves and reserve funds. For example, water and sewer reserves have larger balances in the short-term whereas tax supported balances are smaller or negative. A 2% interest rate has been applied to forecasted negative reserve balances in the tax supported ARF reserves.

It was assumed that 56% of the replacement provision for the recently built Operations Centre would come from utility rates, consistent with the existing debenture funding ratio.

5. Gas Tax and Other Grants

Federal Gas Tax funding was allocated to tax supported capital replacements. 2014 funding of $2.2 million was inflated at 2% per year based on the Federal Government's sustainable funding commitment. No other grants were assumed in the analysis.

6. Capital Funded through Operations

A continuation of $515,000 in annual capital spending through operations was assumed.

7. ARF Contributions

Under the scenarios below, the future ARF contributions were assumed to change with overall taxation revenue (general inflation). The tax/utility rate was then adjusted to increase the contributions to balance the cash flow. Base 2014 tax supported ARF contributions equal $8.3 million while rate supported contributions are approximately $5 million.

8. Development Charges

It was assumed Town Council would implement maximum permissible development charges. The statutory 10% discount is funded through taxation and is included in the analysis.

B. SCENARIO 1 – STATUS QUO

1. Key Assumptions

- ARF contribution increase at inflation only (2%)
- RAS surcharge held static
- Capital funded through operations held static

- 100% contribution levels for all services

2. Key Results

- $500,000,000 tax supported funding shortfall at 2033
- Tax supported ARF contribution are continued at close to $8.3 million annually

C. SCENARIO 2 – FULL FUNDING

1. Key Assumptions

- RAS surcharge increase with inflation
- Capital funded through operations increase with inflation
- 100% contribution levels for all services
- Add taxation surcharge

2. Key Results

- Annual tax surcharge of 1.8% per year to 2033 to balance cash flow at 2033
- Tax supported ARF contribution is increased by $882,000

D. SCENARIO 3 – ADJUSTED FUNDING TARGETS

1. Key Assumptions

- Adjusted funding targets shown in Table 22

Table 22

Scenario 3 – Funding Levels for Replacement Capital

Category	Annuity Based Full Annual Contribution ($)	20-Year Contribution Level (%)	20-Year Contribution Level ($))
Buildings	4,676,000	70%	3,273,200
Land Improvements	2,873,000	70%	2,011,100
Vehicles and Equipment	2,782,000	100%	2,782,000
Roads and Related	10,276,000	90%	9,248,400
Storm	1,440,000	100%	1,440,000
Subtotal Tax	22,047,000		18,754,700
Water & Wastewater	4,347,000	100%	4,347,000
Total	26,394,000		23,101,700

- RAS surcharge increase with inflation
- Capital funded through operations increase with inflation
- Add taxation surcharge

2. Key Findings

- Annual tax increase of 1.08% to 2033 to balance cash flow at 2033
- Tax supported ARF contribution is increased by $520,000 per year

E. SCENARIO 4 – ADJUSTED FUNDING TARGET WITH STORM RATE

1. Key Assumptions

- Same as Scenario 3 with Storm removed from taxation

2. Key Findings

- Annual tax increase of 0.85% per year to 2033 to balance cash flow at 2033
- Tax supported ARF contribution is increased by $410,000 per year

F. WATER AND WASTEWATER SERVICES

- An analysis of water and wastewater capital requirements was undertaken and the forecasted capital contributions are projected to be adequate over the 20-year forecast period. This assumes the implementation of the Water and Wastewater Financial Plan recommendations:
    - This includes a $100 average annual increase to water bills to 2017.
    - Current annual ARF contributions for water and wastewater services are approximately $5.0 million.
    - Unlike tax supported services, the water and wastewater ARF reserves are forecast to have sufficient positive balances, which reduce the need for additional contribution increases beyond those already approved.
- The Town should continue to review and update its financial plan at regular intervals.

APPENDIX A - FUNDING OPTIONS

Funding Mechanism	**Revenue Source**	**Legislative Restrictions; Current use in Newmarket (Replacement/Growth/ Enhancement)**	**Annual Funding Amounts**	**Reserve Balance (Forecast December 31, 2013)**	**Use in Other Municipalities**	**Administrative Options**	**Short-Term Funding Targets**	**Long-Term Funding Targets**	**Notes**
Asset Replacement Fund (ARF)	Tax and Rate supported	• Discretionary reserve • Generally used for replacement infrastructure but also used for enhancement projects and for replacement portions of growth projects	2012-2014 Average Expenditure: Fire 1,286,100 Library 97,400 IT 525,800 Roads 4,428,300 PW Ops 325,400 Facilities 569,900 Parks 557,200 Trails 0 Storm 427,200 W&WW 828,700 **Total 9,890,900** 2013 Contribution: W&WW4,991,000 Tax 8,312,000 **Total 13,303,000** Total = $107per capita+empl Tax Only = $67 per capita+empl Rate Only = $40 per capita+empl	Dec 31, 2013 Estimate: Tax (28,285,000) Rate 29,335,987 **Total 1,051,000** Total = $9 per capita+empl	Aurora • Contribution: 6,000,000 ($75 per capita+empl) • Balance: 4,850,000 ($61 per capita+empl) Markham (tax only) • Contribution: 24,000,000 ($52 per capita+empl) • Balance: 80,000,000 ($175 per capita+empl) Richmond Hill • Contribution: 11,900,000 ($45 per capita+empl) • Balance: 132,000,000 ($504 per capita+empl) Georgina • Contribution: 3,700,000 ($69 per capita+empl) Vaughan • Contribution: 32,100,000 ($68 per capita+empl) York Region • Contribution: 150,500,000 ($96 per capita+empl)	• Inter account borrowing should be continued • Could consider more defined use of ARF i.e. use for capital repair and replacements only and replacement shares of growth projects • Policy of using ARF for debenture funded projects is reasonable • ARF Capital Labour Cost Allocation ($1M in 2014) is reasonable and can be expanded to growth (DC) projects	Water/Sewer • Follow recommendations in the Water and Wastewater Financial Plan Roads • Current contributions and expenditures are close to sufficient Buildings • Integrate building assessment results to determine funding needs • Move to 70% of ideal contribution Storm • Gradual increase of contribution • Move to ideal contribution Land Improvements • Gradual increase of contribution, however many expenditures can be deferred Vehicles and Equipment • Current contributions and expenditures are generally sufficient	Water/Sewer • 80% of accumulated amortization (80 year life) is achievable by 2020. Roads • “Ideal” contribution is $500,000 higher if Council chooses high service standard Buildings • Tax room from expiring building debentures should be transferred to ARF • Move to 70% of ideal contribution Storm • “Ideal” contribution is $960,000 or 60% higher than recent expenditures Land Improvements • Gradual increase of contribution to 70% of ideal contribution	• In terms of implementation, many municipalities have dedicated “infrastructure levies” to increase reserve contribution amounts (similar to those adopted by Newmarket Council) including York, Peel, Mississauga and Brampton. • Dedicated levies for replacement of assets can illustrate to the public that tax increase is not for administrative or corporate purposes.

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Recommending a Strategy (RAS) Surcharge	Recreation user fee	• Started in 2005 as a "dedicated surcharge be placed in a capital reserve account for the sole purpose of assisting and providing recreation capital facilities."	• $375,000 annual revenue • Currently used for Magna Centre debenture payments • Flat rate amount is not indexed	• $6,000	• Many municipalities have capital embedded in their user fees, however, amounts recovered are low since fees are typically not close to full cost recovery • Peterborough has surcharge for Evinrude Centre debenture ($5 per hour) and $1 per ticket charge on Memorial Centre • Burlington has a 5% surcharge for all rentals at Haber Recreation Centre • Port hope is considering 5% surcharge to raise $40,000 • Vaughan is currently considering a surcharge for replacement capital • Barrie is considering surcharge for track and artificial field replacements	• Surcharge structure is more transparent than embedded capital component and allows funds to be dedicated to a specific use • Most user fees are not at full cost recovery therefore share of capital to be recovered from user fees is largely a policy decision of council	• Consider altering the structure of the charge to improve equitability between programs (set as a % vs. flat rate) • If surcharge remains a flat rate, it should be indexed annually at the rate of change of recreation user fees • Capital surcharge could be extended to other fees	• Monitor the level of the surcharge on a regular basis to determine if there is an opportunity to increase the amount of monies raised	
Other User Fees	User fees	• Service pricing policy from 2006 outlines policy approach to user fees • Largely used for operations but also capital component (more noticeable in full cost recovery fees like planning fees)		• Planning: $170,000 • Building: $1,830,000	• Service pricing policy is more transparent than most other user fee policies in other municipalities	• Service pricing policy is a reasonable policy approach that can continue to be followed • Periodic reviews of policy is appropriate	• Fees should align with Council priorities and be reasonably similar to those in other municipalities • Ensure capital elements are considered when user fee studies are updated.		

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Pay-as you-go Capital (capital funded out of operating)	Tax and utility rate supported	• Discretionary • Used for service enhancement projects and non-DC eligible services (IT, legislative services) • 10% DC statutory deduction for recreation and library can be funded through this source	• Represents $520,000 in capital budget over past three years		• Used to replace debt in more mature communities e.g. London, Kitchener • Like Newmarket, many municipalities use pay-as-you go for service enhancement projects and non-DC eligible services	• Town's practices are reasonable and should continue • Becomes a more prudent funding source if interest rates rise and debt issuance becomes more expensive • Can be more risky than dedicating contributions to reserve funds • Appropriate source when repayment stream is guaranteed (e.g. Honeywell, solar facilities) • ARF is better used for life-cycle repairs and replacements • Should be used for cultural and arts projects (non-DC eligible)	• Funding should be linked to Council priorities		
Regional Uploading	Utility rates and tax for roads	• Town has recently uploaded some pumping stations • Region has studied water and wastewater service delivery and possible single tier structure	• Uploading pumping station saves approximately $8,000 in annual replacement contributions		• Other York municipalities have had roads uploaded recently (e.g. Vaughan has requested King-Vaughan and Kirby Road be assumed)	• Town should continue to work with Region and area municipalities on potential uploading of water/sewer infrastructure on small scale (e.g. pumping stations) and large scale (entire system) • Any roads that meet the Region's criteria should be considered for uploading	• Dependent on the specific opportunities to upload infrastructure	• Dependent on the specific opportunities to upload infrastructure	
City of Toronto Act Charges • Vehicle registration • Land transfer tax • Cigarette and alcohol taxes • Entertainment tax • Road pricing	Alternative revenue sources	• Presently only available to the City of Toronto • Toronto has used land transfer tax as significant revenue source • Vehicle registration fee was repealed in 2011			Toronto • Land transfer tax of approximately 1.5% raised $345 million in 2012 ($82 per capita+empl) • Vehicle registration fee of $60/vehicle raised $64 million in 2010 ($15 per capita+empl) Other Municipalities • Currently not permitted • Municipal organizations have discussed issue with province; Mississauga has been one of the most vocal municipalities requesting this change	• Should the *Municipal Act* be amended, Council may wish to consider these taxes • Experience in other jurisdictions has indicated it is best to earmark funds to a specific purpose to improve public acceptance (e.g. vehicle registration fee revenue should be used for roads)			

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Local Improvement Charges	Alternative Revenue Sources	• Town has one small charge • Statute generally limits use to engineered services – roads, water and sewer and related infrastructure • May be defeated if over 50% of impacted property owners or by assessed value are in opposition	• Received under $1,000		Richmond Hill • Typically used for road urbanization • $338,000 in annual funding • Typically about 10% to 12% of the reconstruction costs, which is about $150/ln m of frontage. Vaughan • Receive $283,500 annually for water, sewer and sidewalk improvements Markham • Dove Lane Sewer $2,185/unit • Markham Beautification Project 3,060/unit • Buttonville Sewer $6,179/unit Burlington • Receive approximately $80,000 annually • Storm Sewers; $98/ln m; 80% recovery • Road Drainage; $49/ln m; 40% recovery • Curb & Gutters; $38/ln m; 80% recovery • Sidewalks (one side); $34.00/ln m; 70% recovery London • Receive $440,000 annually	• Town should consider local improvement charge only if there is a sufficient amount of projects to warrant the administration • Generally a minor source of revenue	• Maximum revenue potential would be in the $50,000-$250,000 range based on use in other municipalities		

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Development Charges	Residential and non-residential development	• Can be used for growth related infrastructure only • Town has charges for all eligible Town services • Act has strict limitations on calculation of DCs	Current Charge – Single/Semi: General Govt. $333 Library $1,285 Fire $423 Recreation $5,832 Parks $5,106 Yards & Fleet $456 Parking $373 Engineering $1,166 Total $14,974	General Govt. $342,000 Library $1,442,000 Fire $143,000 Recreation $5,147,000 Parks $4,900,000 Yards & Fleet $270,000 Parking $513,000 Engineering $3,747,000 Total $17,362,000	Single/Semi: Georgina $6,735-$7,892 East Gwillimbury $11,583 Stouffville $12,282 Aurora $15,701 King $17,189 -$17,802 Vaughan $14,916 -$19,787 Rich. Hill $13,040 -$19,337 Markham $22,550-$110,350	• Town should adopt maximum calculated rates presented in Part 3 to ensure other limited sources are not used for growth-related capital • Town has wisely made efforts to improve quality of inventory (i.e. building valuations)	• Part 3 DC Study will ensure appropriate recent expenditures and their debenture payments are adequately funded through DCs (Operations Centre, Old Town Hall, Riverwalk Commons) • Review opportunities to replenish tax reserves with DCs in as part of Part 3 Study	Continue the practice of maximizing recoveries through DCs	Province is currently undertaking a review of the *Development Charge Act*
Cash-in-Lieu Parkland Parking, Section 37	Residential development	• Can be used for growth related infrastructure only		Parking $200,000 Parkland $473,000	• Many municipalities have updated their parkland contribution methodology. However, the current Provincial review could lead to changes	• Implement recent parking and cash-in-lieu studies • Cash-in-lieu of parkland should be focused on parkland acquisition (instead of development where DCs can be used)	• Implementation of new policies should result in higher revenues • The ongoing review of these fiscal tools may impact future practices and revenues	• Consider possible use of Section 37 during secondary plan review	• Province is currently reviewing Planning Act provisions • Town is currently updating the cash-in-lieu of parking policy
Stormwater Rate	Utility rate	• Replacement and Enhancement Storm sewer is currently funded through tax sources • Storm Sewer User Rates Working Group has been established			Based on water consumption • Toronto • Hamilton • Ottawa Flat Rate • Aurora ($4.36 per unit/month) Based on property type and size of impervious area, to account for the varying degrees of water runoff • Kitchener ($9.73/per unit/month average) • London ($13.11/unit/month) • Stratford, Cambridge and Mississauga (considering) Many U.S. municipalities have been applying area based charges	• Kitchener's rate is viewed by many as innovative and applicable to other municipalities • If storm contributions for ARF were moved from tax supported to special storm rate, ponds would be less likely to be competing for funding with buildings and more "visible" items.	• Rate based on water consumption or flat rate based surcharge could be implemented relatively quickly	• Consider moving towards a more complex storm water utility rate structure based on property size, land uses, and permeable area	

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Federal Gas Tax	Grant	• Federal Gas tax restrictions have been loosened from "sustainable infrastructure" • Now a stable commitment with inflationary adjustment • Cannot build up reserve (spend within three years)	$2,300,000	$150,000	• Generally liberal interpretation of sustainable infrastructure • Most municipalities use on roads (especially those not responsible for water/sewer and transit)	• Town currently uses on road replacements, which is advisable since other growth funds cannot be used	• Town's existing practice should continue		
Other Infrastructure Grants	Grant	• Further stimulus funding is not expected as economy improves • Town used stimulus funds on Old Town Hall and Riverwalk commons • Some Provincial Municipal Infrastructure Strategy funding could be available			• Various uses depending on individual needs	• Over last 20 years very limited grants had been available for arts and recreation until the stimulus • Grants for the replacement/enhancement of recreation items was welcome, however, future grants may focus more on hard infrastructure such as bridges, transit and plants	• Town should pursue any infrastructure grant programs that provide monies for projects and needs identified in the Town's long-range capital planning documents		
Debt	Tax, rate and DCs	• Growth, Replacement and Enhancement • Many debenture funded projects have ARF and DC components	$5,600,000 total		• Vaughan limit 10% of own source (at 2.8%) • Brampton limit 12.5% of own source (at 1%) • Aurora at 3.2% of own source • Guelph limit 50% of operating contribution	• 10% of own source revenue (at 6%) policy is reasonable target (allows for growth with assessment growth) • Town's practice of using debt for major facilities is reasonable • Add policy that debenture period should never exceed useful life	• For equity purposes, debt is best used for projects that provide benefits over a longer period	• Town's current policy and practice provides flexibility for emergencies	
PPPs, Private Contributions and Sponsorships	Various	• Growth and Enhancement • Town secured support for Magna Centre and Old Town Hall • Also Honeywell and solar agreements • Soccer club	Project specific		• Support is easier for recreation facilities Mastercard (Toronto) Hershey (Mississauga) and Poweraid (Brampton) • Many municipalities also have solar agreements • Formal PPPs more common for provincial and regional infrastructure (e.g. Transit)	• Town should continue to look for private sector support for key projects • Policy of internally borrowing funds to pay for initial capital investment is reasonable given guaranteed savings	• Town is currently preparing donation policy that will consider public art and land	• Revenue streams can be used for eventual replacement of the assets	

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Developer funded items	Development	• Town receives contributions for trails and public art	Trails - $600,000	Trails - $ 326,000 Art - $145,000	• Milton, Whitchurch-Stouffville, East Gwillimbury and Halton Region request funds for DC ineligible items; there is potential for legal challenges for these types of charges. Furthermore the ongoing Provincial review may provide direction	• It is recommended that the Town continue to acquire trails through the planning approval process • As part of DC local service review, other park elements could be considered for direct developer funding Note: Developer funded items could no longer be included in DC inventories • Continue voluntary contributions for trails and public art • Secure land easements	• As part of 2014 DC Study review and ensure that the Town's Local Service Definitions and Policies maximize the recovery of infrastructure costs through development agreements • Explore opportunities to further encourage the development industry to contribute to non-DC fundable projects		Province is currently reviewing these contributions
Collaboration with Other Municipalities	Various	• Review underway for funding of capital for Central York Fire Service • Also, agreements for boundary roads with King				• Capital servicing agreements with Aurora (i.e. 2C lands) and other municipalities can make sense for both parties • Integrate findings of Central York Fire Service Master plan review			

Sale of property	Market transactions	• Town policy is to use land sales to pay for new land		$184,000	• Land sales often used to fund purchase of other land
					• Markham uses land sales for replacement infrastructure
						• Town policy to use land sales to pay for new land is reasonable and common
						• If Town acquired land through non-DC sources and the land is now used for a DC eligible purpose then the reasonable value/cost of the land can be funded through DCs
							• Not a "stable" revenue source
							• Consider undertaking a municipal purpose lands needs analysis examining anticipated future needs in the context of the Town's current holdings
							  • Study should establish existing holds that will not be required (location/size issues) and future needs
							  • Study should include fiscal analysis of land sale revenues versus future acquisitions
								• Establishing a long-term land acquisition strategy with consideration of potential land sales and acquisition needs	

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Hydro dividend	Hydro rates	• Flexible on how municipality can use dividends	$1,500,000	$261,000	• Markham, Ottawa, Kitchener and Guelph use dividends for replacement capital	• Not a guaranteed revenue source therefore money is better spent on capital contributions rather than operations	• Town could consider using 50% of hydro dividend for capital in the short-term	• Town could consider using 75% of hydro dividend for capital consistent with existing Town policy	