

**CITY OF GUELPH
LOCAL GROWTH MANAGEMENT STRATEGY
SEPTEMBER, 2007**



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Appendix A: Detailed Maps

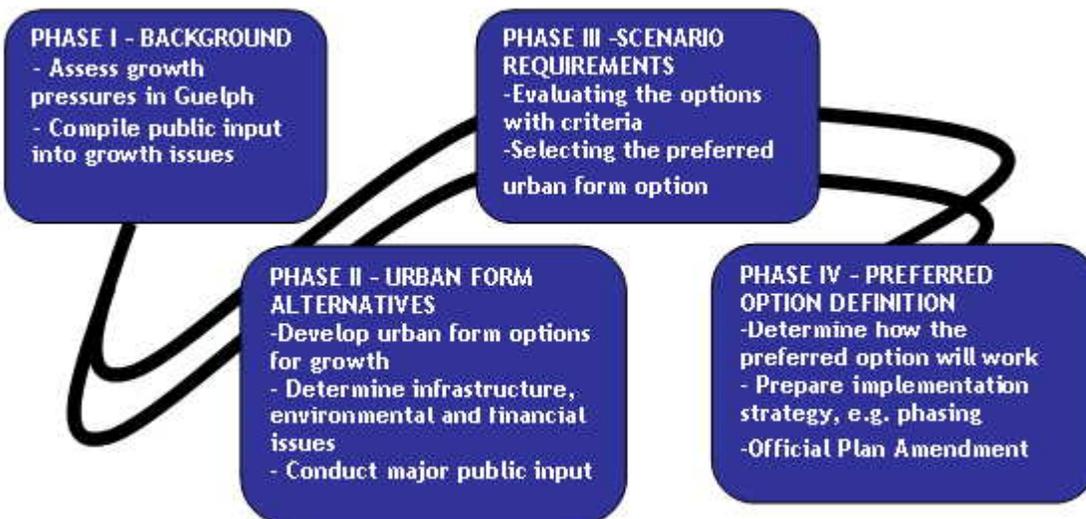
Appendix B: Status and Relationship of Major City Initiatives

1.0 INTRODUCTION

This report provides an update on the Local Growth Management Strategy process. The results of the GuelphQuest public consultation process are described, an evaluation of the parameters of the Provincial Growth Plan as they apply to Guelph is provided, as well as updates on the related infrastructure Master Plans, followed by a discussion of the key issues.

1.1 Study Process and Timing

The Guelph Local Growth Management Strategy is comprised of four phases as shown below:



The study is being undertaken as part of the City's response to the challenges of managing growth. Council has focused on the quality and sustainability of growth in supporting a philosophy that seeks to balance economic, social, cultural and environmental perspectives. Phase 1 of the Local Growth Management Strategy (LGMS) was completed in the fall of 2006. During Phase I, a public survey and stakeholder consultations were the primary consultation initiatives. These initiatives were used to introduce the project to the public and explain the process and preliminary background work. General discussion was held on how and where the City should grow, along with the form that the growth should take. Phase I also involved the development of the first Local Growth Management Strategy update report (the Context Report) and finalization of the overall project consultation and communication strategy.

Phase II is currently underway and addresses urban form alternatives primarily through public consultation which will lead to the creation and evaluation of potential strategies for growth and urban design. Public workshops using software called GuelphQuest were held in March, April and May 2007. The workshops were undertaken to determine public preferences for future densities and urban forms and an open house was held at the end of June to review the results of this process. Phase II will also involve several public workshops in the fall of this year to investigate the potential for residential intensification.

By late fall of this year, key information and public input will be available for selecting a growth alternative. There will be public feedback on this report and an understanding of the realistic potential for intensification based on the fall workshops. Supported by several ongoing technical studies Phase II will conclude in the late fall with the formalization of alternative growth options.

These alternatives will be presented to a public forum in November with a recommended growth management strategy. The preferred growth management strategy will then be presented to Council by the end of the year.

In 2008, the specific implementation aspects of the preferred growth plan will be determined which will include discussion with the Ministry of Public Infrastructure Renewal (MPIR) on the preferred growth option, and an impact assessment of the preferred choice on financial impacts (in consultation with the C. N. Watson study on the costs of growth). All work will be completed by June 2009, as conformity with the provincial Growth Plan must be achieved within three years of the approval of the Growth Plan, which was June 2006.

1.2 Work Completed Since the Context Report

Work completed since the Context Report in September of 2006 includes the GuelphQuest process, ongoing technical work on infrastructure master plans, an analysis of intensification potential, transportation analyses and discussions with Provincial staff regarding ultimate growth levels. These discussions have involved the County as well, but no conclusions have been reached yet as process and options are still being explored. There are also on-going meetings with the Province to establish other elements of Growth Plan conformity, such as definition of lines for the built boundary, the Urban Growth Centre and the refinement of minimum density targets.

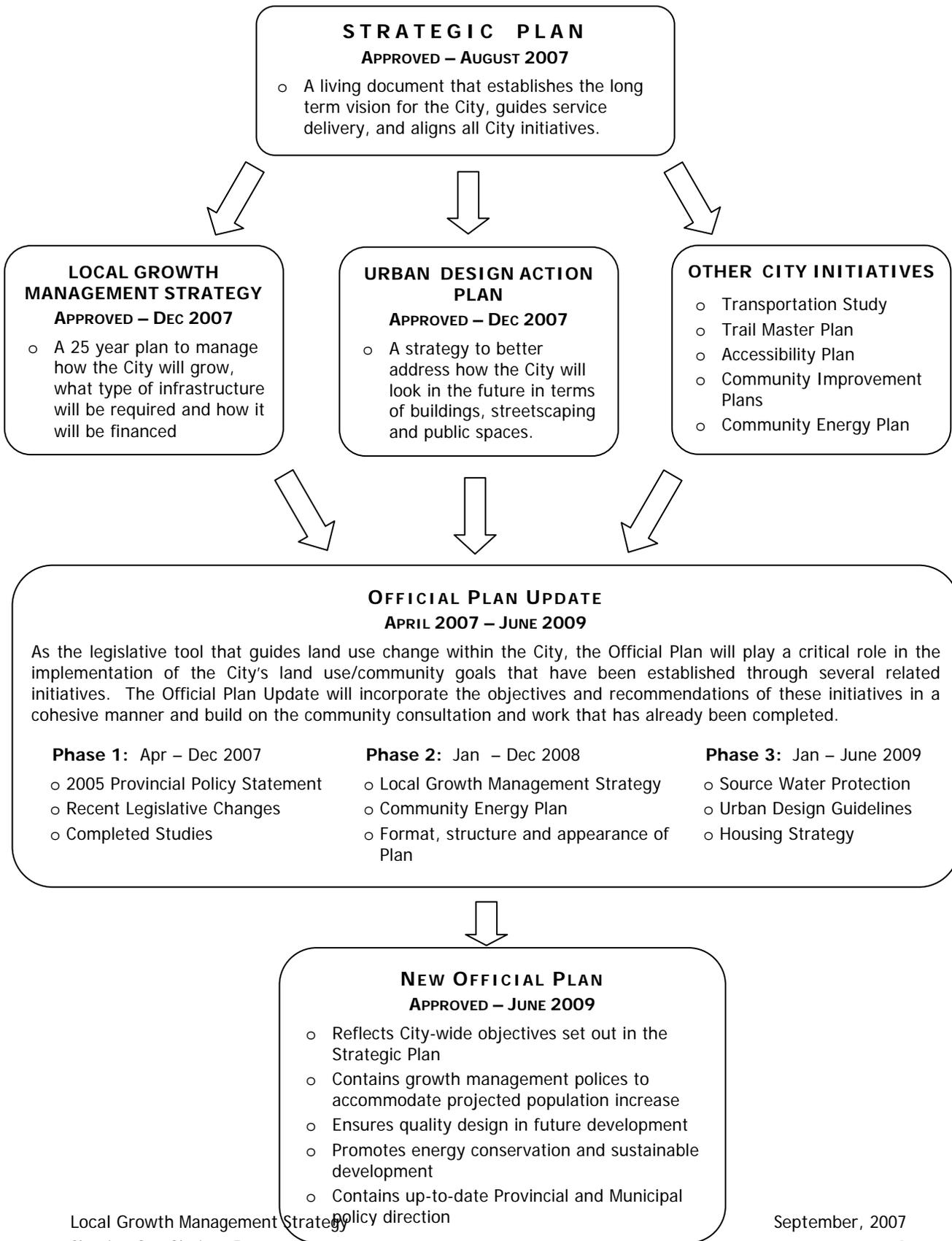
The City has also recently completed its Strategic Plan. Adopted on August 13, 2007 the Plan has a direct relationship with the LGMS process. The Strategic Plan has established a context for the initiatives related to managing growth, specifically the LGMS, an Urban Design Master Plan and the Official Plan Update.

The Strategic Plan contains six goals and strategic objectives for each goal:

1. An attractive, well-functioning and sustainable city
2. A healthy and safe community where life can be lived to the fullest
3. A diverse and prosperous local economy
4. A vibrant and valued arts, culture and heritage identity
5. A community-focused, responsive and accountable government
6. A leader in conservation and resource protection/enhancement

Of particular relevance to this study is the third strategic objective of the first goal, which states "A Local Growth Management Study that effectively guides where and how future growth will take place." Other strategic objectives are directly relevant to this study, and are quoted in later parts of this report. Exhibit 1 on the next page further outlines the inter-relationship of major City projects. Also a table showing the status and relationship of major city initiatives to the LGMS is found in Appendix B of this report.

Exhibit 1: Relationship between Key Policy Initiatives



2.0 SUMMARY OF GUELPHQUEST

2.1 Introduction

GuelphQuest is a software tool that was developed for the City to use in a facilitated workshop setting to examine future growth options. The software is a customized version of "Metroquest" which is a planning discussion tool that had been developed by Envision Sustainability Tools Inc. and has been used by several municipalities in Canada to evaluate growth management options.

2.2 Workshop Process

Twenty-one GuelphQuest workshops were held in the spring of 2007. There was an effort to include all stakeholders, so a variety of groups were targeted, and attendees included environment groups, developers and real estate agents, social, health and community organizations, business owners, recreation, cultural and heritage groups, neighbourhood groups, high school students as well as open public sessions. Each workshop lasted approximately two and a half hours. Both quantitative and qualitative results from each workshop were gathered. The quantitative results were gathered from a nine question checklist; the questions and a full summary of the results are provided in the GuelphQuest Results Report from June 2007.

Workshops covered nine broad topics, each with a range of individual policy choices. For most questions, there was a clear favourite among the choices. The qualitative commentary was compiled by staff listening to the participants discuss options and trade-offs. This qualitative information was recorded and provided input to the rationale to selections being made, i.e. the values and reasons behind participants' decisions. The "GuelphQuest Workshops Results" report describes the process and gives a summary of the participants' comments; the report is available on the City's website.

2.3 Key Conclusions

The participants' in GuelphQuest clearly endorsed the need for more residential intensification as the preferred option for moving forward. A majority chose the option for more compact growth with residential intensification in nodes, corridors and downtown. There was general consensus among the workshop groups that the City needs to provide a range of employment opportunities for new residents in all areas of the city. For transportation, they strongly favoured encouraging alternatives, particularly a new inter-regional transit service, and they preferred that road improvements only be those that are currently planned. There was very strong support for energy conservation and air quality management, and also strong support for water conservation and solid waste reduction. For water and wastewater, there was support for maximizing technology use, some support for expanding local supply, but little support for obtaining supply from the Great Lakes.

3.0 GROWTH PLAN PARAMETERS

The Places to Grow Act and the implementing Growth Plan for the Greater Golden Horseshoe (GGH) establish three key parameters affecting the City's future. The Growth Plan mandates the following:

1. **How Much Growth** - The amount of population and employment growth to be accommodated by the City by 2011, 2021 and 2031.
2. **Where Growth Will Occur** - The amount of this growth that must occur through intensification, within the existing built-up area. This amount is 40% of all new development occurring after 2015.
3. **At What Density** - The minimum density of population and employment that must occur in the areas of the City that have not yet developed is 50 persons and jobs per hectare. The minimum density of development that must be achieved in Guelph's Urban Growth Centre (downtown area) is 150 persons and jobs per hectare.

The Province is currently working with the City to establish the area considered to be the existing built-up area or the area within the Built Boundary. Work is also proceeding to define the boundary of the Downtown. In the Growth Plan this area is called the Urban Growth Centre.

These Growth Plan requirements obviously have significant implications for the future growth of Guelph, and for the work that planning staff must complete to demonstrate conformity to the Growth Plan.

3.1 How Much Population and Employment Growth

The "Places to Grow: Growth Plan for the Greater Golden Horseshoe" includes the 2031 population and employment targets for Guelph as part of a target together with the County of Wellington; Schedule 3 of the Growth Plan shows the projected population as 321,000 people. Accordingly, Guelph and Wellington are working together with the Province to determine their individual shares of the total growth to 2031. The Places to Grow Act mandates that the City plan for the 2031 population and employment targets that will be established through these discussions.

Discussions have progressed to the point that the 2031 population possibly being considered for the City is in the 175,000 to 195,000 range with employment assumed to be maintained at the current proportionate balance to population (57%). This population range is being used for the purposes of discussion in this report. The discussions are continuing with the Ministry of Public Infrastructure Renewal (MPIR) and the County of Wellington in order to derive appropriate population and employment targets for Guelph and Wellington County.

3.2 Where Growth is to Occur - Intensification or Greenfield

Section 2.2.3 of the Growth Plan contains a general intensification target for residential development which reads as follows:

“By the year 2015, and for each year thereafter, a minimum of 40 per cent of all residential development occurring annually within each upper- and lower-tier municipality will be within the built-up area.”

A key concept in understanding the intent of this policy is the “built boundary” which MPIR has established to define the area of the City within which development will be considered as intensification. MPIR is in the process of finalizing the built boundary of each municipality in the GGH. The Growth Plan mandates that at least 40% of the growth from 2015 to 2031 is to occur within the existing built-up area that is within the Built Boundary. The remainder could occur on Greenfield lands outside the Built Boundary.

Section 2.2.6 of the Growth Plan deals with employment lands and requires that an adequate supply of lands be provided, that economic development is promoted, that major office and institutional development be located in Urban Growth Centres, and that conversion of employment lands to other uses can only occur after a comprehensive review has been undertaken. The Growth Plan also requires that employment lands be designated in the vicinity of major highway interchanges, and that municipalities facilitate the development of transit-supportive employment areas. The City has commissioned an Employment Lands Strategy Study which is reviewing the supply and demand situation with respect to the provision for new employment land opportunities for Guelph.

3.3 Urban Growth Centre (Downtown) Opportunities

Section 2.2.4 of the Growth Plan contains density targets for Urban Growth Centres, and for Downtown Guelph it requires a density of 150 residents and jobs per hectare. Current densities within the area designated by the City’s Official Plan as the Downtown are in the range of 120 persons and jobs per hectare. Meeting the Growth Plan targets will require more housing and employment in the downtown area, a trend that is consistent with the City’s stated policy. Increases in employment would likely occur primarily by way of new ‘major office development’. There are several key sites available including lands owned by the Co-operators (corner of Woolwich and MacDonnell), the City’s Baker Street parking lot area and lands south of the railway tracks, including re-development opportunities in the City’s Fountain Street parking lot area.

For residential intensification, planning staff are examining the opportunities of significantly increasing residential activity in the southern portion of the existing CBD (south of the tracks), and also expanding the downtown boundary to include potential new higher density residential activity in Brownfield locations (industrial blocks) east of the Speed River.

City Council has authorized staff to undertake a Community Improvement Program (CIP) for Downtown Guelph. The CIP program will be getting underway during the fall of 2007, and will be undertaken in conjunction with the LGMS process.

The Downtown CIP is tied to initiating positive change in Downtown Guelph and to attracting more residential development, attracting more businesses, creating a more successful

business environment and having an attractive physical place that not only accommodates anticipated redevelopment but that also respects the heritage context. The completion of the CIP will set the policy framework for future development and redevelopment of Downtown Guelph and confirm the City's strategic priorities, including the use of incentives to attract investment to the core area. In conjunction with this effort, the City has recently hired a Downtown Manager who will champion downtown interests and coordinate all downtown services and functions.

4.0 CAPACITY OF THE CITY TO ACCOMMODATE GROWTH

The capacity of any municipality to accommodate growth is a function of the availability of undeveloped land, the feasibility and economics of redevelopment, and the capacity of the municipal infrastructure (the transportation, water and wastewater systems) to accommodate more growth. In the most general terms the analysis of the potential for growth is divided into two circumstances - Greenfield development, which would occur on lands that have never been developed, and which in the current context consist of all lands outside the Built Boundary; and, Intensification, which is any new development within the Built Boundary.

4.1 Potential Greenfield Capacity

The amount of land in Greenfield locations in Guelph is 2,227 ha. Excluding natural heritage and constraint lands, there remains 1490 ha for development. These lands are currently designated, or would be required for the following purposes:

Residential	510	42%
Employment	672	55%
Mixed Use nodes	<u>44</u>	<u>3%</u>
Developable	1,226 ha	
Open Space and Roads	<u>264 ha</u>	
Total All Greenfield	1,490 ha	

There are 278 ha of lands within the Greenfield area that currently have draft plan approval, and this development will house 12,800 people, meaning a density of about 46 persons per hectare. The current interpretation of the Growth Plan policies provided by PIR requires Greenfield development to achieve 50 persons or employees per hectare taking into consideration existing approvals. This means that any shortfall in density on some lands must be made up on the remaining Greenfield lands. Note that these numbers are based only on residential land in Greenfields and overall combined employment and persons per hectare may be lower when all Greenfield lands in the City are combined.

There is limited Greenfield land for residential development within the City's boundaries. It is anticipated that to achieve 50 residents per ha for new Greenfield lands, future residential development will need to be built more densely, at approximately 55-60 persons per hectare.

4.2 Residential Intensification Capacity

Under the current Official Plan, Guelph was planning to accommodate a population of approximately 155,000 without changing the proportion of intensification or requiring a minimum density in Greenfield areas. This population level is consistent with the current plans for the major elements of infrastructure - water supply, sewage treatment, waste management, energy and transportation. As the City's current population is 118,500, the Official Plan target represents growth of approximately 36,500 persons beyond the 2006 population. If the City were to grow to a 175,000 to 195,000 population, it would need to

accommodate between 56,500 and 76,500 additional persons and confirm the capacity or capability for expanding major infrastructure systems.

Planning staff are currently working on delineating both the Built Boundary and the Urban Growth Centre (UGC) with MPIR. Work in this phase of the LGMS includes determining the amount of intensification that is appropriate, and the workshops being held this fall are to explore the feasibility of and locations for intensification.

Planning staff have identified potential intensification areas as shown on Exhibit 2 on the next page. This analysis is a high-level overview of the potential without specific consideration of the availability of infrastructure such as transportation, wastewater capacity or parks. It has been prepared to facilitate the workshops with the public this fall and should be seen as a preliminary screening of potential sites rather than recommendations or objectives.

The methodology used to determine the potential locations for intensification is summarized as follows:

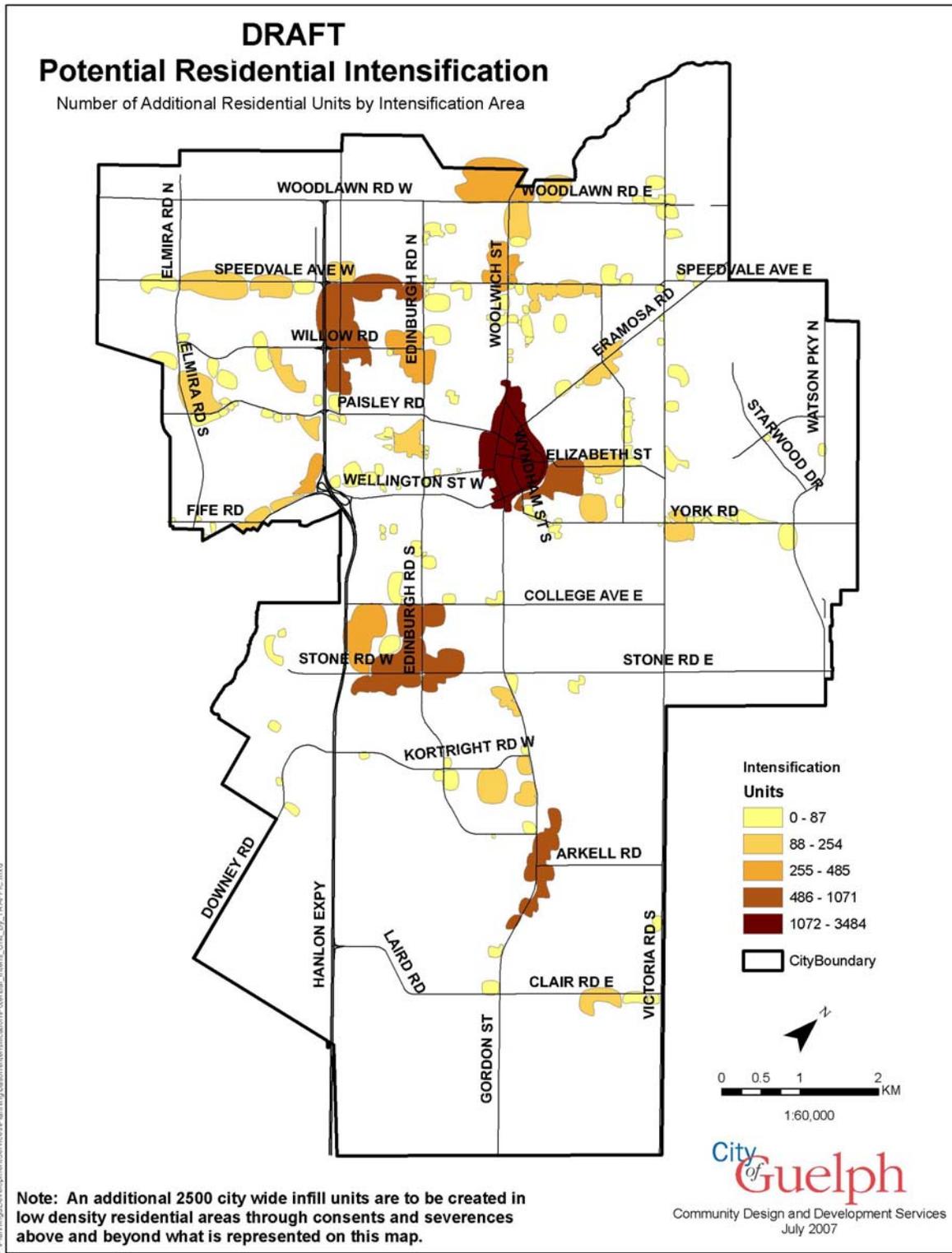
1. Establish the potential Built Boundary and Urban Growth Centre boundaries;
2. Map existing density gradients -- confirm current emerging nodes
3. Map recent severance activity
4. Map 'large lot' patterns -- determine where possible additional capacity exists
5. Map 'Opportunity' areas such as Brownfields, vacant lands, Community Improvement Planning areas, etc.
6. Map 'Constraint' areas such as Grand River Conservation Authority "no development" natural heritage feature areas overlay, "stable" neighbourhoods, age of development (newer properties excluded)
7. Overlay 'Nodes, Corridors and Downtown' urban intensification design principles
8. Staff interviews
9. Parcel identification, density assignment, subtraction of existing units, and factor for other uses within the parcel.

Based on the density assumptions used in the intensification analysis there is a theoretical capacity of 18,500 housing units.

At an average of 2.5 persons per unit this creates an upper limit capacity of 46,250 people within the Built Boundary. To achieve 40% intensification, a population of 22,600 to 30,600 has to be accommodated. One of the choices to be made is whether Guelph will provide more than 40% of its population growth through intensification.

Lower density intensification forms would occur in lower density residential areas of the City; these would consist of granny flats/coach houses, accessory units, and severances of surplus underutilized residential lands. For the intensification analysis this has been assumed to be 100 units per year generated (based on past trends for severance and creation of accessory units activity in the City).

Exhibit 2 - Potential Residential Intensification



Three broad categories of intensification opportunities have been identified:

- Existing Vacant Land -- there are many sites within the 'Built Boundary' that have not yet been built. Typically these are the higher-density apartment blocks within older registered plans. As Places to Grow moves forward, it is anticipated that these sites will be some of the first intensification areas to be developed and contribute to the intensification goals.
- Intensification Sites -- these are sites that are already built but that are typically under-utilized. The sites may or may not require land assembly or re-zoning to higher density. Depending on the age, adjacency and location of a site, these projects can range in complexity from small severance and accessory unit development to major projects. Examples would be:
 - Severing or redeveloping existing large residential lots;
 - Adding capacity to existing apartment/townhouse blocks which have additional land; and,
 - Adding residential capacity to low-rise commercial areas.
- Redevelopment Sites -- these are sites that require rezoning and/or re-designation to create additional housing opportunities within the 'Built Boundary' and are typically the most challenging. It is anticipated that stimulating development on these types of projects will require direct action by the City rather than awaiting applications. Examples would be:
 - Under-used Service Commercial sites;
 - Brownfields (typically a former employment use); and,
 - Adaptive re-use

4.3 Employment Capacity

Guelph currently has 64,500 jobs. To retain the existing population to employment ratio of 57%, employment levels of 100,000 to 110,000 are needed for the potential 175,000 to 195,000 population projections in 2031. This is an increase of 35,000 to 45,000 jobs. Within that range, approximately one-third of the employment base is considered to be "population-serving" employment, such as commercial, retail and service jobs, and institutional uses such as schools and hospitals. These types of employment would be found both in residential and built areas of the City.

Improving the employment ratio is important to Guelph; the Strategic Plan in objective 3.3 has a goal of obtaining "The highest ratio of any southern Ontario city of people who live and work in the same community". The Strategic Plan also encourages local employment in objective 3.1 by striving for "Thriving and sustainable local employment opportunities". Providing a range of employment opportunities is essential to the achievement of this objective and to the maintenance of a balanced tax assessment ratio.

Available employment land for office employment and general industrial users was estimated as approximately 672 ha in Greenfield employment areas. Further clarification of this amount

will occur when the Employment Lands Strategy is finalized. Employment densities in Guelph have typically been at the 30 jobs per ha density; considerably lower than the Growth Plan required density of 50 jobs per ha. About 20,000 jobs can be provided on the 672 ha at 30 jobs per ha. It would be extremely difficult for the densities of industrial users to be increased to reach the Growth Plan requirements. To achieve higher densities, more high density employment sites would need to be encouraged, as well as further increasing residential densities in Greenfield areas or increasing both residential and employment density in mixed use nodes that are within Greenfield areas to achieve the overall population and employment minimum density.

Overall it is calculated that there is just enough Greenfield employment land to provide jobs to meet the lower end of the range (22,275) but not enough land to provide for 29,250 office and industrial jobs. Even at the lower end this poses the risk that the municipality could have no vacant employment land, and in the later years of the forecast period, there would be virtually no vacant employment sites for potential new businesses to consider. As choice of sites is an important consideration for business, there will be a need for additional employment lands before the year 2031. The types of choices that should be available include highway access, rail access, downtown locations and office park locations. Consequently there is a need to find more employment land before 2031.

5.0 MASTER PLANNING UPDATE

The ability of the City to support growth, both through intensification and new Greenfield development will be dependent on the capacity of its urban support systems. These systems include the transportation network, water and wastewater infrastructure, energy and waste management. Several of these systems are currently undergoing Master Plan updates. The following discussion updates progress on the various Plans:

5.1 Transportation

The Transportation Master Plan was approved in 2005 and covers the period from 2001 to 2021. The Transportation Master Plan will be updated periodically based on projections of future growth and new transportation survey data such as the Transportation Tomorrow Survey.

The Master Plan identifies all road and transit infrastructure requirements in Guelph and surrounding Wellington County areas. The Plan is based on a balance between transportation supply management approaches and demand management initiatives to encourage transportation by modes other than single-occupant vehicles, including public transit. It details planned municipal transportation infrastructure improvements to 2021 and identifies desirable provincial infrastructure improvements.

Further analysis is currently being undertaken to understand the potential impacts of intensification on the existing road network. The Transportation Master Plan noted the land-use/transportation connection and it is understood that adding new development within in nodes and corridors, while enhancing the opportunity for transit use, will also increase traffic. Preliminary study suggests that municipal improvements recommended in the Transportation Master Plan would address most needs to 2031. Provincial and County infrastructure in the Guelph area would also require some improvement to maintain satisfactory levels of service.

The public transit system would have to increase in size to accommodate increased ridership. Maintaining the current system-wide peak hour "mode share" of about 5% would require a fleet expansion of about 50% under the current route system. Achieving the Official Plan target of 10% mode share would more than triple the 2001 ridership and would require a fleet expansion of about 200% under the current route system.

A more detailed review of transportation implications, including potential impacts and the need for improvements, can be accomplished once final population and employment distributions are known and after newer trip generation rates become available.

5.2 Water Supply Master Plan

The City of Guelph Water Supply Master Plan was completed in September 2006. The purpose of the Master Plan was to review potential water supply options and to develop a plan to meet Guelph's water supply needs to the next 50 years. The plan includes developing an aquifer storage recovery system, which entails taking water at various times of the year (high spring flows) and storing it underground in the deep bedrock aquifer. The

alternative of using Great Lakes water was investigated, but is not being recommended. The draft Master Plan contains recommendations for the short term, 2006 to 2010, mid-term 2010 to 2025 and the long term 2025 to 2054.

Water conservation is an integral part of the Master Plan. The objective is to reach a 10% average day reduction by 2010, a 15% reduction by 2017 and a 20% reduction by 2025. The Master Plan details the projects needed to increase the water supply to meet the forecast population needs.

The water supply master plan indicates that the local surface water potential maximizes out (with present research) around a population of approximately 195,000. This population includes allowance for employment activity as well as population growth.

5.3 Wastewater Treatment Master Plan

The existing City of Guelph Wastewater Treatment Strategy was developed in 1998, and the City is currently developing a new Wastewater Treatment Master Plan to provide direction for wastewater infrastructure planning, investment and implementation to the year 2054. The Wastewater Treatment Master Plan forms an integral part of the City's Growth Management Strategy. The Master Plan study will include a review of the City's current wastewater treatment infrastructure and an analysis of alternative treatment options to accommodate current and future wastewater treatment needs. Notice of commencement of the study was issued on May 18, 2007, and the study process includes a number of opportunities for public input, including a Public Advisory Committee.

The existing wastewater treatment facility will have enough capacity to provide service for a population of 137,000 people. This is based on a plant expansion that is scheduled to be completed by 2011/12 to increase the current capacity from 64 MLD (million litres per day) to 73.3 MLD. The City has also undertaken a Biosolids Management Master Plan to provide direction for biosolids management activities to the year 2025. The Master Plan study included a review of the City's current biosolids management program and an analysis of alternative managements (processing, utilization and disposal) options. The study was completed in October 2006 by CH2MHILL.

The preliminary research from the wastewater treatment study indicates that there is capacity in the system to go from the present 64 million cu m/day of wastewater treatment to 73.3 million cu m/day. This currently is the stated assimilative capacity of the Speed River, the receiving body for the treated effluent. The plant is a 'state of the art' treatment facility; there is very little capability to have significant improvements in effluent treatment coming out of the plant unless the next level of treatment is reached.

There are various means available to extend supply facilities to the City. These techniques utilize state of the art technologies and maximize 'minimization of effluent flows' into the plant. In addition, maximization of technology can occur by encouraging on-site major industry pre-treatment and recycling of effluent technologies. This reduces, on a permanent basis, the amount of effluent going to the plant. Various approaches to providing long term waste water supplies are to be examined in the Master Plan. Currently the Assimilative

Capacity, with the technology as used today, takes the City's growth (under current growth conditions) to 2024.

5.4 Water and Wastewater Conveyance Master Plan

A Water Distribution/Storage & Wastewater Conveyance Study was commenced by Earth Tech Canada in April 2006 and will be completed in December 2007. The study will examine:

- System optimization of the water distribution and storage system
- System optimization of the wastewater conveyance system
- Master servicing of the water distribution and storage system
- Master servicing of the wastewater conveyance system
- Asset management of the systems

The results of this study will provide the background on opportunities/constraints of the sanitary sewer and watermain networks and provide tools to review potential levels of intensification for residential and employment uses to various areas of the City.

Preliminary results for wastewater conveyance shows that based on the proposed intensification, capacity upgrades are required for trunk sanitary sewers in the south, central and east sections of the City. Some of the trunk sanitary sewers that require upgrades, such as the Speed River Relief and York Road Trunk Sanitary Sewer, are currently in the City's capital budget. Local sanitary sewers that form part of the wastewater collection system require capacity upgrades in various sections of the City.

Preliminary results for water distribution shows that based on the proposed intensification, capacity upgrades are required for watermains throughout the city to varying degrees. In the south end of the City, watermain upgrades appear to be minor. The central area of the City requires major upgrades to the water distribution system. The north end of the City requires a mix of major and minor upgrades to the water distribution network. In addition, in order to support the proposed intensification, additional water storage will be required. In support of this new storage, some transmission watermains may have to be enlarged, or new transmission watermains installed, to efficiently move water to storage areas. Further work is on-going to calculate these needs.

These results are preliminary, and once final residential unit counts to 2031 can be provided, a full detailed review including all modelling parameters can be undertaken. In addition to the capacity upgrades, a review of the age, material, condition and criticality of the infrastructure should also be undertaken in order to provide detailed results for this intensification review.

5.5 Energy

The Community Energy Plan was completed for the City by Garforth International in partnership with local organizations. The Plan was received by Council on April 23, 2007 and they endorsed the vision, goals and directions. Rising energy costs, growing challenges in meeting demand, and the depletion of fossil fuels and their impact on climate change are driving the need to plan how energy is generated, used and managed differently. Guelph is

one of only a handful of Canadian communities that has committed to sustainable energy management at such a high level. Support for the initiative and participation on the part of so many sectors of the community shows that residents, businesses, institutions, community groups and school boards in Guelph support strategic planning and responsible management of energy resources.

Following formal acceptance of the Community Energy Plan by the partners and City Council, Guelph will commit to a multi-decade implementation of an energy and water strategy that will drive the entire city towards the vision and goals of the Plan. This will be a broad based commitment of all major constituents within the City. Progress will be reported periodically on a systematic basis, and corrective actions will be taken if there is insufficient progress to the goals.

The Community Energy Plan is based on reducing the greenhouse gas for Guelph from about 16 tonnes per capita to about the current level of Sweden of 7 tonnes. This is a very aggressive goal and the greenhouse gas goals will not be achieved by efficiency alone. There are significant upcoming opportunities for the integration of land use and energy planning in the City. Intensification and energy projects are mutually supportive of one another and together will facilitate opportunities for aggressive cogeneration, district energy and other renewable strategies to occur.

5.6 Waste Management

The Solid Waste Resources Strategic Plan was commenced in 2006 and will be completed in 2008. The core principles of the study are that there will be a regional context (i.e. include neighbouring areas), that it will consider proven diversion/disposal technologies, that it will consider the social, environmental and economic impacts when considering options, and that the plan must be sustainable for the City. The Solid Waste Resource Strategic Plan will be integrated with the Growth Management Strategy to ensure consistency in the determination of future needs.

6.0 SHAPING OUR CHOICES

6.1 Introduction and General Concepts

In a planning exercise, options or alternatives are formulated to help understand the implications and consequences of choices. This understanding can be the result of a technical exercise, for example, a transportation analysis of a land use option will provide information on the necessary improvements to the road and transit system and associated costs. When compared with different land use schemes the implications and feasibility of an alternative become clearer.

Strategic choices are posed in this report so that the public process can be meaningful and fully explore the range of choices. Without a structured analysis of a full range of options the planning process may be flawed. At the same time commitments have been made and requirements established that narrow the range of choice.

The LGMS process has learned much from the GuelphQuest exercise. A successful degree of participation showed a surprising amount of agreement on key principles that will inform the technical alternatives. The task is to frame technical alternatives that meet Growth Plan parameters and achieve the principles expressed by the public.

These principles are:

- more compact growth with residential intensification in nodes, corridors and downtown;
- transportation alternatives, particularly a new inter-regional transit service, and they preferred that road improvements only be those that are currently planned;
- very strong support for energy conservation and air quality management;
- location of employment areas near residential areas;
- maintaining the current balance of employment and population;
- strong support for water conservation and solid waste reduction; and
- For water and wastewater, there was support for maximizing technology use, some support for expanding local supply, but little support for obtaining supply from the Great Lakes.

These principles are almost entirely consistent with the Provincial Growth Plan parameters. The following discussion outlines the formalization of technical alternatives to be carried forward for staff review and public discussion in the fall of 2007.

6.2 Urban Form Alternatives and Strategic Choices

The process of shaping Guelph's future must be based on a good understanding of the alternative futures that are feasible, and the costs and implications of the choices. Because city-building is such a complex process it is important to understand the strategic choices to be made, and their direct implications. In the LGMS context these strategic choices relate to the level of growth, the amount and location of employment centres, and the impact of growth on the character of the community. While many other factors and variables will be relevant, these three issues pose the main choices in shaping the City's future.

Perhaps the most important of these is the **growth level** for both population and employment that is to be targeted for 2031. The Growth Plan mandates planning to that year but does not specify the amount of growth that each of Wellington County and the City of Guelph is to accommodate. Rather, a combined population of 321,000 for the City and the County has been stipulated in Schedule 3 of the Provincial Growth Plan. Discussions on how to apportion the population are currently occurring with the City, the County and the Province. In the Guelph context, without a final decision on the 2031 population and employment targets, alternative growth levels remain as choices, at least until the Province of Ontario, the City and the County agree, or alternatively if the Province decides on the targets unilaterally.

Given the current boundary of the City, with a limited amount of vacant land available for growth, and the expressed wish through GuelphQuest for compact growth it is likely that the most significant element of the Growth Plan policies will be the target for intensification, which falls directly from the unresolved population target.

The preferred GuelphQuest scenario did not exclude growth outside the current City boundary. It showed some growth in both the employment and residential areas occurring beyond the current borders. The most compact scenario stopped all growth at the border, but the majority of the GuelphQuest workshop participants did not select this option, with general agreement that it could mean too much change to the existing parts of the City.

To meet the goals expressed in GuelphQuest, the 2031 population targets will occur primarily through intensification. Put another way, the capacity of the City's land base is known, at about 155,000 persons (at currently planned levels of intensification), so the alternatives reflecting different 2031 populations are really alternatives reflecting different levels and amounts of intensification. This significantly simplifies the analyses as it allows the analyses to focus on this element alone.

The **impacts on community character** will come primarily from the nature and location of development. This will be determined by the minimum density achieved in Greenfield areas, which could affect the amount and form of intensification required in existing neighbourhoods.

The third critical element to the discussion of alternatives is the need to at least **maintain the current balance of jobs to population** in the City of Guelph. When compared with other cities in Ontario of a similar size Guelph has a high ratio of jobs to population - 57% or 57 jobs for every 100 residents. The City's prosperity is dependent to a significant degree on maintaining an appropriate balance - in Growth Plan terms, continuing as a 'Complete Community'. Approximately one-third of employment growth is related to population growth will occur in residential and already built areas. The other two-thirds of employment growth is anticipated to occur in Greenfield areas and a boundary expansion is likely needed to provide sufficient employment land. Whatever population target is settled upon, and whatever location and form development takes, the City has established as a goal through the Strategic Plan process, to improve the current jobs to population balance.

6.3 Employment Lands Identification Should Take First Priority

Employment lands are those that are intended for use by industry and offices. As each has specific locational and operational requirements the City has traditionally set aside lands for these uses. The Growth Plan also requires that sufficient lands be made available to ensure continued economic prosperity and establishes employment levels that the City is expected to plan for to the year 2031. As noted earlier, this means accommodating between 35,000 and 45,000 new jobs, although some of the jobs will be located in residential areas - the population-related employment.

Due to the importance of employment lands to the economic health of the City there is a strong argument to treat the location and amount of employment land in a manner that recognizes this priority. This employment balance was also recognized as an important principle through the GuelphQuest process. Therefore, lands for employment uses should be established as the first priority in the development of alternatives. This will ensure that locational needs of employers are met, a balanced community results and that the long term prosperity and financial health of the City is maintained.

The first priority in shaping the alternatives for the future is to provide sufficient employment lands to meet the employment levels targeted by the Growth Plan to 2031. While it is recognized that much of the growth in employment will occur in the form of commercial, retail and service uses that do not require large blocks of land adjacent to major highways, there will be a need to identify the 'traditional' form of employment lands for industrial uses.

This is one of the major issues to be discussed. As reviewed in section 4.2 of this report, there may be just enough land to maintain the current balance of jobs to population balance at the 175,000 population level but not beyond. One clear assumption is that there will be no conversion of current employment land to residential. For the higher population level, it may be appropriate to investigate the feasibility of providing employment lands beyond the current City boundaries.

6.4 What growth target should be assumed?

While the parameters of the future are to a significant degree prescribed by Provincial legislation, the horizon year is 25 years or a generation away. The City of Guelph should take a consistent and long term view of this process and ensure that the consequences of alternative shares of the Growth Plan targets for the County/City through intensification are clearly understood.

A target population in the alternatives should cover the current range of possibilities from 175,000 through to 195,000 as a 2031 population. This represents growth from the 2006 level of 118,500 of 56,500 to 76,500 persons.

6.5 Range of choice for community character and intensification concerns

The location of intensification and the minimum densities in Greenfield areas are likely to prove the most challenging in terms of impacts on the community. The categorization of the nature of intensification sites will lay the basis for the review of alternatives of differing amounts, types and locations of intensification. This review will be a public exercise undertaken in the fall through the use of highly interactive workshops, with the goal of determining how much intensification to accommodate and the forms of housing appropriate to achieve the intensification targets.

The overall density targets for designated Greenfield areas of 50 residents and jobs per ha will be difficult to meet in Guelph. Provincial staff have advised that policy 2.2.7 of the Growth Plan is to be interpreted to mean that the residential and employment Greenfield areas are to be combined to calculate the density figure. The business park areas in Guelph are currently developed at densities in the 30 to 35 employees per gross hectare range which is well below the Growth Plan required/target density.

To meet the Growth Plan required densities, either the business park areas will have to be developed denser, for example, by containing more office development, or the residential Greenfield areas will have to have a higher density than 50 to offset the lower density of the employment areas. To date, the type of development planned for the new residential Greenfields had not contemplated a higher density than 50. In fact, the Greenfield development has to be denser than recent Greenfield developments to meet the target density of 50. The Greenfield areas that are presently under development were planned for and approved prior to the approval of the Growth Plan. Two solutions to increase density could be considered:

- Plan business park areas that are denser, for example, by containing more office development, such as targeting major office development to particular locations of the City; and/or,
- Develop nodes in the Greenfield areas that will contain offices and higher density residential development.

The second solution has the added advantage that it will act as a catalyst for transit systems, as a node will provide a concentrated ridership for a transit system. Such a solution, to some extent, builds on the existing urban structure as designated in the Official Plan of nodes at major intersections on the periphery of the city. This means that future development at a higher density will contribute to an overall density of 50 residents and jobs per ha being met in Greenfield areas.

6.6 Specific Challenges for Consideration

The process of developing and reviewing alternatives will be primarily a public exercise supplemented by technical information, rather than a technical exercise supplemented by public input. As such the alternatives should focus on the real and practical choices to be made rather than posing full-blown 2031 development scenarios. These longer-term scenarios will be reviewed by staff and subjected to more detailed technical work, such as an analysis of the financial impacts, later in the fall.

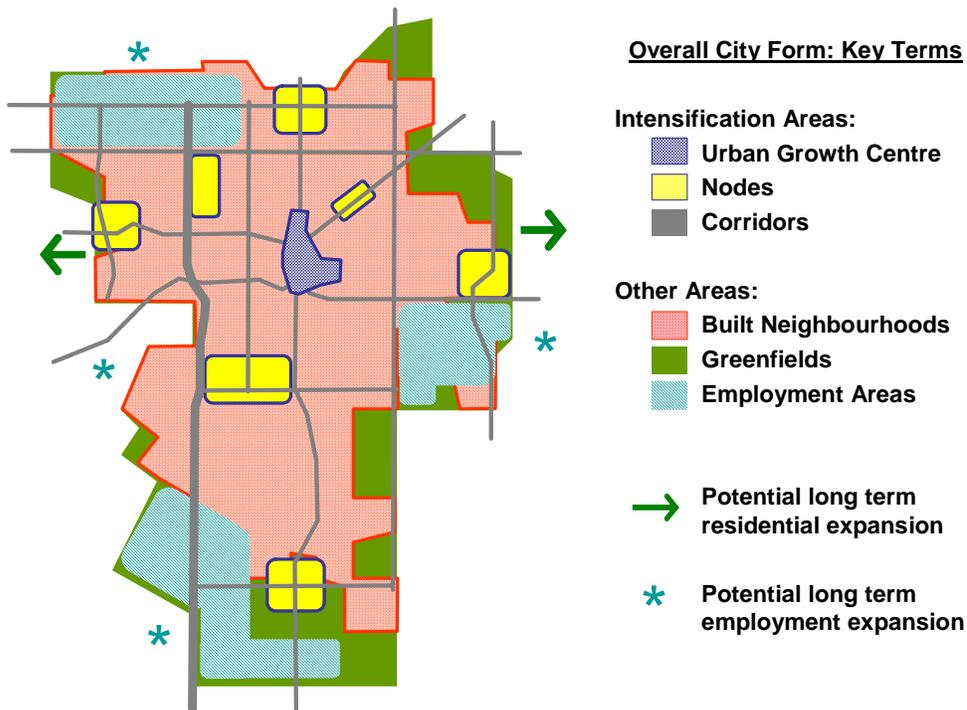
Choice #1 - How do we promote a Balanced Community

The initial technical analyses suggest that, subject to a public and staff review of the feasibility of intensification on a neighbourhood basis that it may be possible to accommodate the amounts of intensification required by the Growth Plan, at least in theory. However, it would appear that given the nature of employment in Guelph and the existing land base it would not be possible to maintain the balance of population and employment within the current City boundaries. The first choice to be explored then is: what is the best means of maintaining the population/employment balance.

The ratio of jobs to population is to be maintained at 57%, and the feasibility of providing sufficient land for employment uses must be determined. This relates to the level of growth that is chosen, the 175,000 or 195,000 population levels, and then choosing to provide the amount of employment land to balance the population level.

Given the risks in not achieving a population/employment balance, the potential for additional employment lands should be assessed. If higher population and employment levels are targeted then choices about new locations for employment lands will be required and may involve lands outside the current City boundaries. The analysis has shown that there is not sufficient land for employment, particularly for the higher population level. Achieving a high ratio of jobs is one of the most important goals for Guelph, so it will likely be necessary to look for additional employment land. Exhibit 3 illustrates some choices for new locations for employment areas outside the current City boundaries. No annexation or boundary adjustment is assumed; only recognition of the need is intended.

Exhibit 3 - City Structure and Potential Employment Land Locations



Choice #2 - Maintaining Community Character through Intensification

The level of intensification that maintains the City's character and that can be supported by the citizens will be determined through the public process in the fall that is described later in this report. The resulting conclusions on intensification will also determine the appropriate 2031 population and employment levels for the City. If it is concluded that intensification can accommodate 46,000 additional people then it is likely that the 195,000 population level can be reached.

The Growth Plan requires that 40% of growth be accommodated by intensification. If every intensification option is built, then it is likely that a larger portion of the required growth could be met by intensification. This would be above and beyond the Growth Plan targets, and one of the main goals of the fall workshops is to ask citizens what is an appropriate and acceptable level of intensification. This level will be determined by considering the character of Guelph, and by considering the economic forces and preferences of the marketplace.

The Official Plan designates nodes for higher density development in all four sides of the City, as shown in Exhibit 3 on the previous page. Another choice, or option, is to designate one or several of the nodes for higher density development, and possibly as a transit centre too. Such a designation would provide a focus for higher density development in a location outside of the downtown core, but in a location that could be supported by public transit.

The four nodes on the edges of the City, as shown in Exhibit 3, are all designated in the Official Plan for higher density mixed use development; so both population and employment increases can occur in the nodes. There is a concern that initial development will be at low densities, and may include large format commercial development that is likely to redevelop in the future to higher densities. It would be preferable that the nodes develop with medium to high density mixed use development in the initial stage of development. One choice would be to require that the nodes develop as higher density mixed use nodes today.

The feasibility of being able to accommodate the proposed intensification with the current and proposed infrastructure is another step needed in the analysis. Section 5 reviewed the current Master Plans for infrastructure, but all decisions are predicated on the needed infrastructure being available. Phase III of the LGMS will determine the infrastructure feasibility.

Choice #3 -Intensification or Additional Greenfield Lands for Homes

If the decision is made that only 40% of the required population increase will be accommodated through intensification, then there may be a need for a boundary adjustment to accommodate all the required population increase. A possible alternative would be to increase the proposed density of new Greenfield subdivisions to over 50 persons per hectare to accommodate all of the required population increase.

7.0 THE PROCESS FROM HERE

The next steps of the study contain technical and public processes leading to the completion of the study.

7.1 Fall Planning Exercise

The purpose of the fall 2007 public consultation process is for citizens and stakeholders to participate in determining the most appropriate sites and scale for residential intensification. The consultation will be undertaken through interactive workshops involving maps of potential sites for intensification that staff have identified, and by using building blocks to represent additional development. The participants will work in small groups with a facilitator, and each group will make choices about intensification of a specific area as well as throughout the City by placing blocks on the map. The participants' discussions about their decisions will be recorded and the results will be reported back once all workshops are complete.

7.2 Intensification Maps

The maps that are to be used in the workshops have been prepared by planning staff and they demarcate the downtown, nodes and intensification corridors. The downtown area as shown is a preliminary demarcation of the Urban Growth Centre, which has not yet been finalized with MPIR.

Mixed-use nodes are designated in the Official Plan in the North, East, South and West of the City. Part of each node will most likely be within the built boundary of the City, while the undeveloped portions will be factored into Greenfield component of future development considerations. Higher density development in the Greenfield portion of nodes will assist in achieving the 50 residents and jobs per hectare target for Greenfield development.

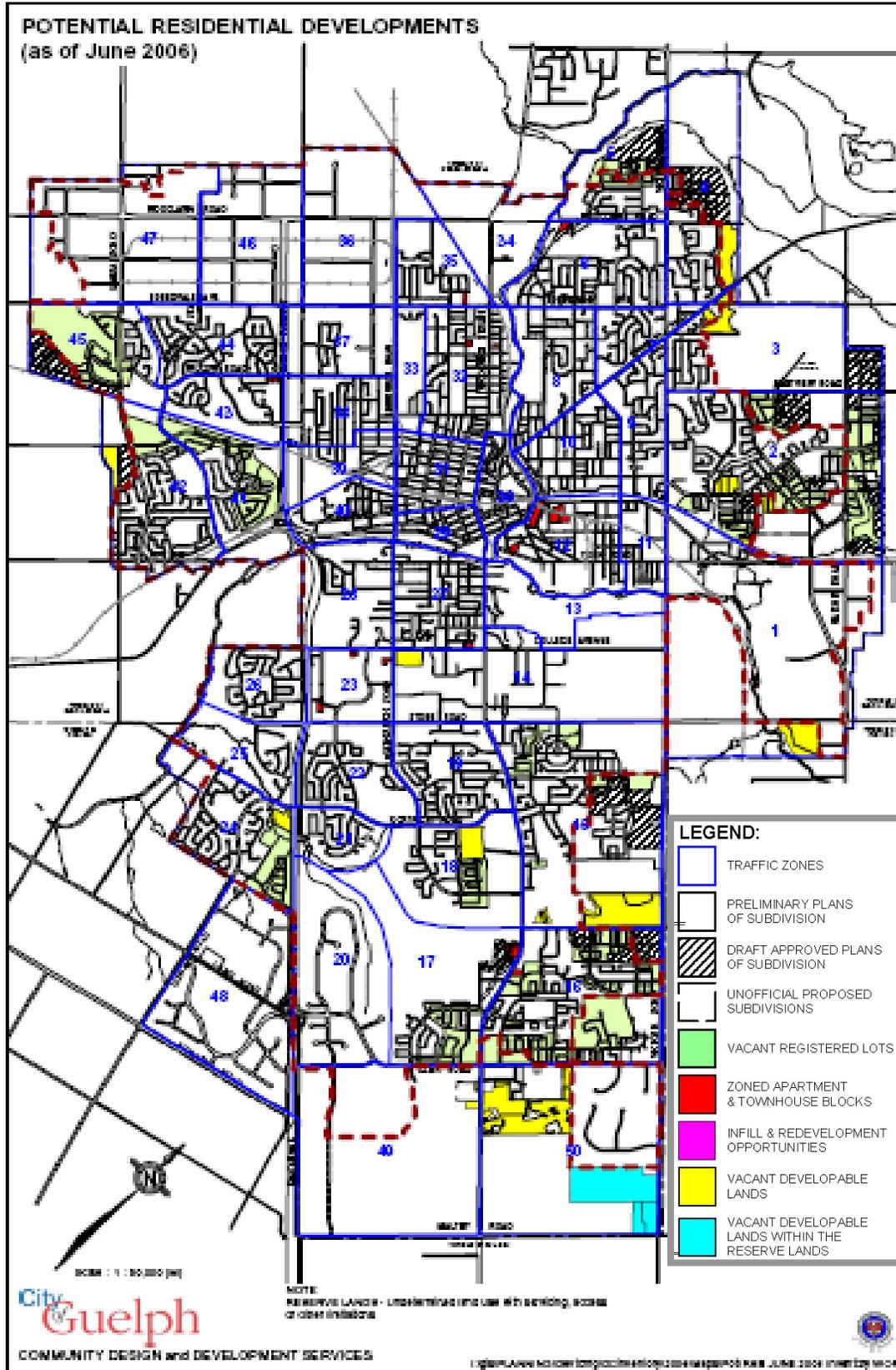
Planning staff considered intensification corridors along all major arterial roads. Some arterial roads do not have much additional capacity due to the lotting arrangements on them, for example Victoria Road. Arterial roads that were considered more suitable for intensification were Gordon Street, Silvercreek Parkway, Speedvale Ave, Eramosa Road and Elizabeth Street.

7.3 Development of Options

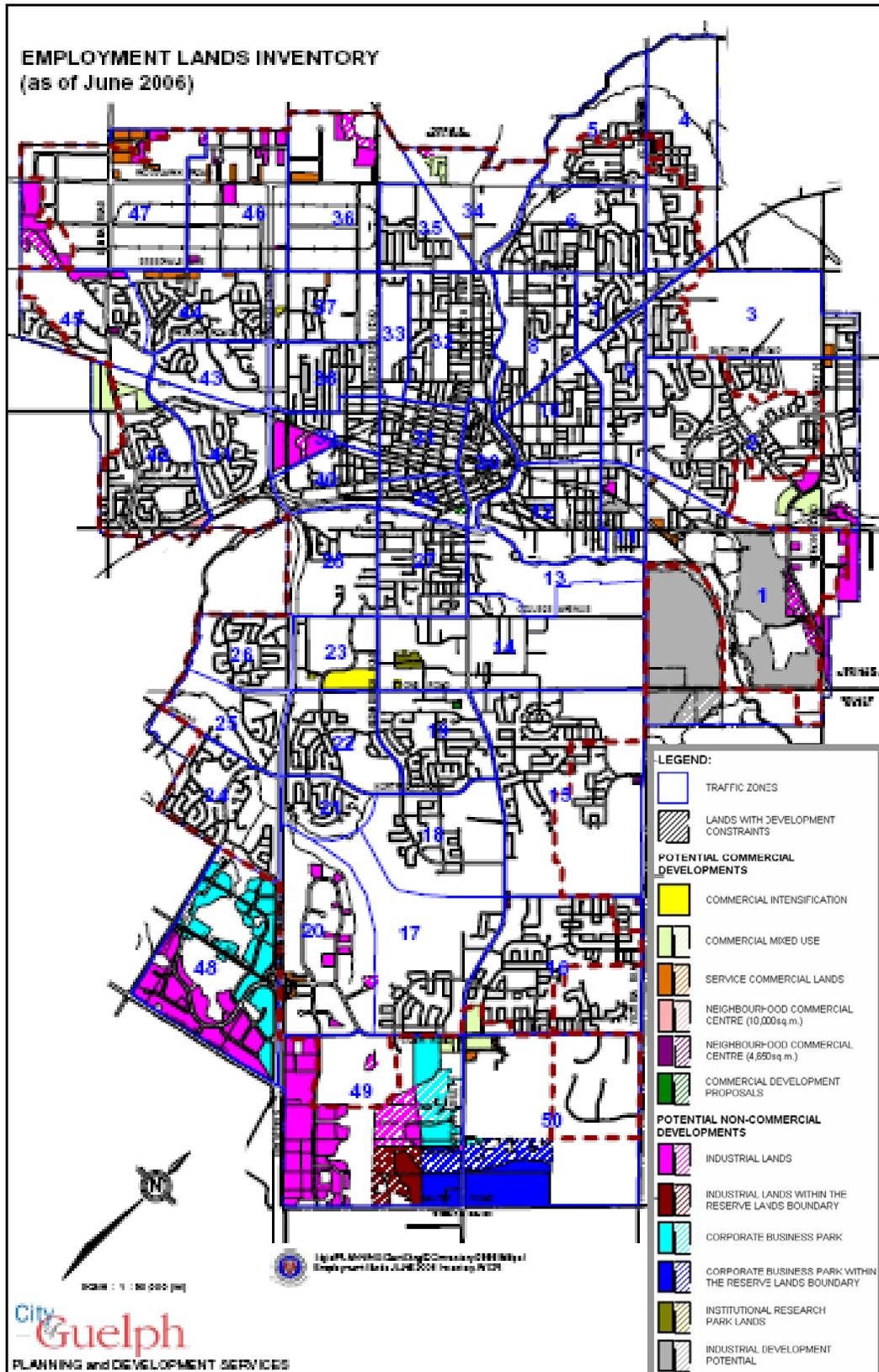
This phase of the Guelph Local Growth Management Strategy will provide a variety of choices that are to be evaluated and lead to a preferred option. The choices can be summarized as:

- Determine the appropriate population growth to 2031.
- Choose a level of intensification for built areas - 40% or higher.
- Increase Greenfield density for homes or find more residential land.
- Find more employment land.
- Consider increasing residential density requirements in the mixed use nodes.

Potential Residential Development



Employment Lands Inventory



Status and Relationship of Major City Initiatives
September 2007

Category	Initiative	Relevance	Status / Timing	Lead Service Area
Strategic Initiatives: Provide an overall framework to align City initiatives and services, to inform decisions and to manage growth to achieve community building objectives.	Strategic Plan	<p>Provides a unifying big picture overview of the key themes / directions of the City.</p> <p>Other strategic and operational plans will align with it. The Plan will help to inform decision-making and resource allocation.</p>	Approved City Council, August 2007	CAO's Office
	Community Improvement Plan for Downtown	<p>Provides the framework for the management of long term growth and rejuvenation for the downtown in keeping with the Places to Grow legislation, i.e. an Urban Growth Centre.</p> <p>The CIP will address both urban form as well as mechanisms and incentives to promote continued economic prosperity and rejuvenation in the downtown area.</p>	Plan being initiated Fall 2007	Community Design and Development Services (Economic Development)
	Urban Design Action Plan	<p>A Plan that will be used to address how the City will look in the future.</p> <p>The Plan will be completed in phases, with the first phase examining options and opportunities for new urban space in our Places to Grow 'Urban Growth Centre' - the downtown area.</p> <p>The subsequent phases will be used to define quality 'place making' for all areas of the City, in conjunction with the 'preferred growth option' from the LGMS.</p>	Plan being initiated Fall 2007	Community Design and Development Services (Policy Planning & Urban Design)
	Community Energy Plan	<p>Provides a vision, series of principles and ideas to minimize the need for additional energy sources for the City.</p> <p>The CEP will inform the LGMS</p>	<p>Vision, goals and directions adopted as the basis of energy planning - April 2007</p> <p>Implementation</p>	Environmental Services

Appendix C

Category	Initiative	Relevance	Status / Timing	Lead Service Area
		particularly as it relates to energy efficient urban form and standards.	through 'scale projects' 2007/8	
	Employment Lands Strategy	Identifies the long term need for employment land by type, location as well as a strategy in terms of the phasing of land and the City's role in the employment land development process. The Strategy will serve as a comprehensive employment analysis as defined by the Provincial Policy Statement, and the Places to Grow legislation, i.e. land supply and demand for 'traditional' employment lands.	Phase 1 - Need and Demand Analysis - 2007 Phase 2 - Strategy - 2008	Community Design and Development Services (Economic Development)
	York District 'Special Study Area' Plan	A major land area in the City (+400 ha) that has important future land use opportunities for Guelph (adjacent to York-Watson Business Park). The land is 'strategic' in nature as there are significant land holdings (both vacant and occupied) in this area, i.e. encompasses former Ontario Correctional Centre lands, existing employment activities, Turf Grass facility and the City's Waste Resources Innovation Centre.	Multi-stage phase process underway. Phase 1 - Background & Phase 2 -Land Use Concepts completed. Phase 3 - Fall 2007 with preferred land use and servicing study. Provincial government a major land-owner in the area.	Community Design and Development Services (Policy Planning and Urban Design)
Infrastructure Master Plans: Provide the long term structure for adding new growth related infrastructure or for replacing current infrastructure and these are required for subsequent approval processes, i.e. EAs.	Water Supply Master Plan Ground water Protection	Identifies potential means and high level structure to augment current water supplies to address growth pressures. To respond to requirements of Provincial Source Water Protection Legislation.	Water Supply Master Plan approved in September 2006.	Environmental Services
	Wastewater Treatment Master Plan	Identifies potential means and high level structure to augment current wastewater treatment capacity to address growth pressures.	Plan initiated in Fall 2007 Impact assessment of preferred growth plan to be completed for long term infrastructure	Environmental Services

Appendix C

Category	Initiative	Relevance	Status / Timing	Lead Service Area
	Solid Waste Management Strategic Plan	Identifies a long term waste management system, technologies and phasing to maximize waste diversion. Also includes a Biosolids Waste Management Plan	needs. Underway Impact assessment of preferred growth plan to be completed for long term infrastructure needs.	Environmental Services
	Master Servicing & System Optimization Studies	This work will provide detailed water/wastewater distribution and conveyance system improvements necessary to support long term growth and intensification. It will be used to identify prioritized rehabilitation / replacement work. It will inform the LGMS particularly as it relates to infrastructure capacity to support long term growth and intensification .	Phase I (System Optimization), Phase II (Master Servicing) and Phase III (Asset Management of Wastewater Conveyance and Water Distribution Systems) - complete by end 2007 Impact assessment of preferred growth plan to be completed based on acquired modeling software for long term infrastructure needs.	Community Design and Development Services (Engineering)
	Transportation Master Plan	The Plan identifies all road and transit infrastructure requirements in Guelph and surrounding Wellington County areas. The Plan is based on a balance between transportation supply management approaches and demand management initiatives to encourage more non-automobile transportation including public transit. It details planned municipal transportation infrastructure improvements to 2021 and identifies desirable Provincial infrastructure improvements.	Transportation Master Plan approved in 2005 and covers the period from 2001 to 2021. Impact assessment of preferred growth plan to be completed based on acquired modeling software for long term infrastructure needs. Future updates will be undertaken based on future growth projections	Community Design and Development Services (Engineering)

Appendix C

Category	Initiative	Relevance	Status / Timing	Lead Service Area
			and updated information from 2006 Census and Transportation Tomorrow Survey (TTS) data.	
Financial Strategy Provides the mechanism to understand the cumulative fiscal implications of growth and associated infrastructure and allows for long term financial planning.	Long Term Fiscal Impact Study / Model	This will allow an assessment of the implications of growth and infrastructure renewal programs on the capital and operating requirements of the City. It will allow for a long term financial strategy to be put in place to respond to future economic pressures and to develop policies related to a sustainable economic pace of growth.	Phase 1 - High level overview of growth costing implications - Fall 2007 Phase 2 - Detailed fiscal impact of preferred growth option for the City	Finance
Implementation Measures Provides the vehicle to implement the strategic and master plan objectives	Policies	<ul style="list-style-type: none"> • Official Plan • Downtown Community Improvement Plan • Tax Policy 		
	Regulations	<ul style="list-style-type: none"> • By-laws • Operating procedures 		
	Departmental Business Plans			
	Fiscal tools	<ul style="list-style-type: none"> • Development Charge policy • Incentives • Spending Priorities 		
	Environmental Assessments	<ul style="list-style-type: none"> • Transportation, Infrastructure, Waste Resources 		