RESOLVING ISSUES RELATED TO
COOPERATIVE WATER INFRASTRUCTURE
A CASE STUDY APPROACH

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Resolving Issues Related to Cooperative Water Infrastructure
A Case Study Approach

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PREFACE

The primary aim of this project was to discuss the means by which communities involved in cooperative water or wastewater projects resolve initial conflicts which occur during the negotiation process. Of particular interest are primary negotiations focussing on issues of fear of urban sprawl or the perception of loss. The study was supported by Manitoba Rural Development, whose goal was to identify possible solutions to resolve the similar conflicts in the Province.

The information for the case studies was gathered through structured telephone interviews with Councillors, Public Works Commissioners, Mayors, and Water Services Managers knowledgeable of the process of conflict resolution followed when inter-community water or wastewater agreements were negotiated or extended. The base of information for the case studies was supplemented by relevant publications supplied by the respondents. In addition to the case studies, information about other North American cooperative water and wastewater infrastructure projects was obtained through literature reviews, Internet searches, e-mail requests, and unstructured telephone interviews.

The authors appreciate the assistance of all respondents who provided information through telephone interviews, written correspondence and complementary publications. Financial support was provided by the Government of Manitoba through the Department of Rural Development, the Honourable Len Derkach, Minister. Dick Menon of the Manitoba Water Services Board assisted throughout the project. Special thanks are extended to Joan Rollheiser, Administrative Assistant at RDI for preparing the final document for publication.
EXECUTIVE SUMMARY

This report on inter-jurisdictional water and wastewater infrastructure and service agreements is designed to identify different means of resolving issues associated with inter-municipal negotiations. Resolution of issues related to the fear of urban sprawl and potential loss of control or identity is the main focus.

The project, which uses a case study approach, is of value to policy makers seeking guidelines for negotiating cooperative water and wastewater and other infrastructure agreements. The case studies also serve as examples for the Province in guiding Manitoba's current and future inter-community projects. The case studies selected (Greater Vancouver Water District, Halifax Regional Water Commission, Austin, Texas, and the Region of York's inter-regional agreements) involve recent negotiations of water or wastewater agreements, and have issues similar to those in the Winnipeg Capital Region.

Theoretical information which supplements the case studies was gathered from literature reviews and Internet searches. Recommendations for inter-jurisdiction collaboration include focussing on locally-recognized needs and on the benefits, rather than the losses, of an agreement. Changes in leadership, provision of technical information and the imposition of deadlines also assist in dealing with perceptions of gain and loss that may be encountered in the negotiation process. The literature demonstrates that water and sewage services are interconnected to sprawl, consolidation may be a deterrent to sprawl, and that a central city's refusal to extend water and waste water treatment services may not prevent sprawl. Effective collaboration involves "consistent and equitable mitigation of costs and distribution of benefits among participating communities" (Korschning, 1992:xxi), through a focus on long-range planning and a search for common ground.

Regionalization of service and infrastructure presents a number of advantages including the sharing of capital costs, assurance of minimum service standards, a higher degree of coordination, long-term and short-term operational savings, accountability, and an increased ability to meet drinking water standards. Conversely, the disadvantages of regionalization include less responsive administration of services, potentially higher costs in some components, and the acceptance by smaller communities that the central city is a regional concern.

Policy development as a component of inter-jurisdictional cooperation also may serve as a means of dealing with the fear of urban sprawl. The advantage of implementation of policy to deal with urban sprawl is a clear set of guidelines for the collective attainment of goals. Different models on inter-jurisdiction cooperation include elected regional multipurpose districts, regional multipurpose councils with appointed governing boards, regional special-purpose governments, formalized networks, intermunicipal service agreements, privatization and non-profitization. The model applied to a specific case depends on the unique circumstances and issues that arise.

Greater Vancouver Water District

The Greater Vancouver Water District (GVWD), originally formed in 1924, consists of 16 member municipalities: Vancouver, Burnaby, North Vancouver District, West Vancouver, North New Westminster, Richmond, Coquitlam, Port Coquitlam, Pitt Meadows, Maple Ridge, Surrey, Delta, Port Moody, City of North Vancouver, Langley Township, and Langley City, and two non-members: Port Roberts, Washington and the University Endowment Lands. The GVWD is a federation with an appointed board. Most recent partners include North Vancouver, Langley Township and Langley City. Present concerns about limits to urban growth, which have been raised by Langley Township and Surrey, have included the GVWD's lack of flexibility to quickly accommodate new growth.
Urban sprawl, a regional concern of the GVRD, has increased the cost of public service and utilities, impacted farmland, increased pollution and increased the length of the workforce's daily commute. The GVWD and the GVRD's main strategies for dealing with urban sprawl include the Livable Region Strategic Plan and the Regional Water Supply Plan. The Livable Region Strategic Plan focus on four strategies for managing growth:

1) protect the green zone,
2) build complete communities,
3) achieve a compact metropolitan region, and
4) increase transportation choice.

The Regional Water Supply Plan provides a strategy for meeting regional water demands until the year 2041.

Key factors that have contributed to the GVWD's success include the implementation of a public education program, the flexibility of the Livable Region Strategic Plan, its corporate structure which reduces fears of potential annexation, the creation of downtown centres to reduce urban sprawl, and the ability of the GVWD to provide water more efficiently than members can provide individually. Difficulties of the GVWD include the municipalities' tendency to look at issues from the local level, the need to upgrade the system's water quality, the geographical extent of the system, and the need to justify the costs (for example, metering) to the region as a whole.

**Region of York**

The Region of York, which lacks direct access to Lake Ontario, has recently renegotiated three inter-regional water and wastewater agreements with Durham, Peel and Toronto. The changes in the agreements reflect York's increased population, the Province of Ontario's transfer of power to the local level, and the region's need for long-term water and wastewater agreements. Issues that re-emerged during the renegotiation process include the threat of industrial competition, the fear of urban sprawl, the fairness of rates, and the need for partner equality. The Region of York's preferred solution for a long-term water supply and wastewater treatment plan was developed following a public participation process, and the selection criteria were based on the Region's Statement of Goals (securing water supplies to continue the region's future growth, rate stability and cost minimization; financing of future infrastructure and protecting the environment). Additional criteria include independence, reliability, source of supply and economic benefits to the region.

Key factors in conflict resolution in York's inter-regional agreements include open communication, full disclosure of supporting documentation, negotiators' previous working relationships, the development of each Region's Official Plan prior to commenced negotiations of the water and wastewater agreements, and the equitable sharing of infrastructure and maintenance costs.

**Halifax Regional Water Commission**

The Halifax Regional Water Commission (H.R.W.C.) was created following a provincially legislated amalgamation to form Halifax Regional Municipality (HRM) on April 1, 1996. The main advantages of the HRM's regional water system include closer monitoring of the system, economies of scale and central management. The disadvantages include increased costs owing to increased levels of service and the tendencies of municipal councillors to continue to think locally.

The Regional Municipality of Halifax is currently developing several strategies for growth management and regional capital cost sharing. Key factors of the Growth Management Strategies include a public education campaign and a definition of growth boundaries. Key factors of the Capital Cost-Sharing Policy include retroactive policies for dealing with Bedford's growth, and a standard policy for developers' attempts
to accommodate new development without burdening the existing customer base.

**Austin, Texas and Surrounding Areas**

Austin, Texas recently has been involved in a number of disputes with its surrounding suburbs and local developers, owing to its unpopular practice of extended City sewer and water infrastructure being conditional upon annexation. These policies have been disputed by the South West suburb of Circle C and by Freeport-McMoRan, a parent company to a real estate and development firm. Other Austin suburbs, such as Williamson County and Travis County, also have initiated "Austin-bashing" legislation to deal with their feelings of loss of control. As a consequence of recent suburban disputes, the City's slower growth, its concerns about urban sprawl, and its potential loss of commercial business, Austin has been focusing on revitalizing its image, and on re-building its central core.

Austin's concerns focus on how special case disputes involving Circle C and Freeport may set a precedent with other suburbs. Austin has suffered a weakening in power as a result of its "bullying" annexation approach. The City is taking a retroactive approach to urban sprawl issues by focusing on improving the annexation process. Austin is emphasizing the process of community participation by implementing a more democratic planning approach.

**Recommendations**

Globalization, provincial downloading, and the increasing demands on local governments for fiscal accountability and frugality, are among the factors that motivate inter-municipal water and wastewater agreements. The case studies demonstrate the importance of clear planning guidelines, the effects of alternative supply on the negotiation process, and the value of trust, openness, and long-range planning.

The following recommendations have been developed from the case studies:

1. Establish an information base that includes details such as population forecasts, past, current and future water and wastewater needs, quality expectations and environmental concerns. Each partner should establish a Statement of Goals and an Official Plan for development. The Official Plan should be approved by the Province of Manitoba.

2. Establish a negotiation process that encourages clear and open communication, the full disclosure of supporting documents, and Municipal acceptance. The negotiation process should involve direction from the Province and a consideration of alternative water and wastewater options.

3. Examine "What-If Scenarios" with consideration of the long-term consequences of the agreement, and the establishment of win-win situations. The criteria for developing options should be based on the proposed partners' Statements of Goals.

4. Select a preferred solution from the "What-If Scenarios". Public participation in selecting a preferred solution will serve to make the agreement responsive to local needs and to establish a solution reflective of the area's concerns. The agreement should be comprehensive enough to include definitions of levels of service, cost-sharing, growth management policies, and a formal arena in which regional issues can be debated.
INTRODUCTION

Purpose of the Study

This document examines how communities have dealt with the challenges of urban sprawl, annexation, and loss of control when considering cooperative water and wastewater infrastructure agreements. Focus is on examining the processes of negotiation, compromise and conflict-resolution used by communities that have pursued inter-jurisdictional water or wastewater agreements. The importance of the research lies in:

- Identifying issues that impact water and wastewater system negotiations in order to assist with the planning process in similar future situations, and
- Describing different agreements and negotiation processes that provide examples of methods of resolving similar inter-municipal issues.

Cooperative infrastructure development is an alternative for municipalities to bring greater efficiencies and cost effectiveness to large capital projects. This report examines cooperative water and sewer projects in four North American jurisdictions in order to provide useful profiles that could benefit municipalities and senior governments considering cooperative projects. This case study approach has been used to assess projects of interest to Manitoba municipalities through their approaches, benefits, lessons to be learned, and conflict resolution techniques. In particular, the eight current Manitoba projects for which this research report may have relevance include:

1. Ninette: The RMs of Strathcona and Riverside are cooperating in development of sewer services for the Village
2. Dauphin: The Town sells water to surrounding RMs under a cooperative agreement
3. Carman: The Town sells water to the RM of Dufferin under a cooperative agreement
4. Neepawa: The Rural Municipality of Langford and the Town of Neepawa are developing sewer and water services under a new multiple-services agreement
5. Altuna-Gretna-RM of Rhineland: The municipalities have a multi-faceted water infrastructure network
6. RM of MacDonald: The municipality is developing a large water treatment plant with the plan to establish a regional water network
7. The Cartier Region: A regional system extending from Portage La Prairie to Winnipeg will supply water and services to portions of the Capital Region, and
8. RM Odahah/Minnedosa: An urban-rural water pipeline is being constructed.

Fear of urban sprawl and a perception of loss of control are the main issues examined in the report's case studies. These are especially important in providing insight into the Cartier Regional Water System, which affects Winnipeg and the surrounding Capital Region (see Appendix C).
Theories On Inter-Municipal Water and Sewage System Cooperation

This section examines how perception of loss, fear of urban sprawl and the threat of competition are barriers to inter-jurisdictional cooperation. Theoretical viewpoints and North American examples are discussed. Perceptions of loss and fear of urban sprawl are not the only issues that can be barriers to cooperation, but they are the focus of this review.

The strategies used by other North American communities supplement information from the case studies reviewed in detail later. Examples in the literature were reviewed in less depth and the information is based primarily on web-site information, news bulletins, technical reports and academic sources. Communities within these North American examples demonstrate a broad range of strategies for dealing with the issues of urban sprawl, annexation and loss of control which may be associated with inter-municipal cooperation for infrastructure and services.

Theoretical information on inter-jurisdiction cooperation, urban sprawl, amalgamation, annexation and multi-community collaboration and regionalization also has been gathered from the literature and Internet sources. The perspectives from other regions may suggest solutions or alternatives for cooperative municipal infrastructure in circumstances where conflicts arise. The literature reviewed is selective rather than extensive.

Perceptions of Loss

The barriers to multi-community collaboration include fear of loss. Specifically, these fears make it difficult for two communities to develop a cooperative agreement if the proposed collaboration is perceived as a potential cause of "loss of control, autonomy, community integrity, personal identity and/or convenience" (Hobbs, 1992: 283-284).

The perception that cooperation will result in greater loss than gain is demonstrated through resistance, lack of cooperation and lack of support (Hobbs, 1992: 284). For example, water supply alternatives became necessary for the Township of Ernestown, Ontario because its four existing municipal water supply systems (Odessa, Amherstview, Harewood and Brooklands) experienced difficulties in consistently meeting Ontario's water quality guidelines, and because of development pressures (particularly in West Amherstview). Two options existed for the Township of Ernestown to meet the provincial regulations: 1) construct a new water system or 2) purchase surplus water from the existing conventional plant located in Kingston Township. The construction of their own water system was the Township's preferred solution. Politically, the construction of a local water system would permit the Township to maintain local control over growth issues, service provision, and other community issues associated with local identity. In particular, issues of water quality standards for levels of pathogens and aluminum, the need to purchase land and construct a larger reservoir and booster pumping station, the reliability of a long, single main supply line, the lengthy implementation and construction period, the environmental impact along the main supply route at stream and wetland crossings, the potential loss of planning flexibility, and the anticipated significant increases in operational costs (which include the purchase of water) that would occur as population increased (CH2M Gore and Storrie Limited: August 1997).

The City of Kingston delayed sending up-to-date technical information required for the Township of Ernestown's feasibility study. There also were concerns from the City of Kingston that the Township of Ernestown was not fairly evaluating the option of purchasing wholesale water from the City of Kingston.

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1 The Township of Ernestown is part of new Loyalist Township as of January 1, 1998.
Specifically, the City of Kingston expressed their willingness to "normalize [their] relationship in order to develop and maximize ... local opportunities" that would result from cooperation in areas such as economic development, public transportation and infrastructure planning (The Transition Board for the "New" City of Kingston: July 10, 1997). In this instance, Kingston, by not providing the necessary technical information and then debating the validity of the feasibility study, demonstrated that they fear that by providing the necessary plant information, they would miss an opportunity to wholesale water to the Township and to influence the community in other ways.

Conversely, collaboration may be perceived as a benefit with little local loss if the proposed basis for collaboration serves a locally recognized need (Hobbs, 1992: 284). For instance, in North Dakota, five water systems² have originated through a grass-roots effort because of the shortage of good quality water in the majority of the district. The planning process, rather than focussing on potential loss, concentrated on the following steps required to initiate and complete the projects: defining the area, forming a committee to start the process, defining the need (through a needs assessment and feasibility study), obtaining approval and funding from the state, securing public interest money, and developing a more detailed plan. Historical rivalries between the municipalities of Ogala Sioux and Rosebud were a minor issue which was resolved through agreement that the Sioux band would own and operate the treatment plant and distribute water to Lyman-Jones rural jurisdiction through a contract. Cooperation among these five water systems in North Dakota was facilitated by broad-based participation in each community (the residents rather than politicians were the initiators) in identifying the need for change and evaluating the merits of contributing to the goal of adequate water supply (Cole, February, 1998).

As stated by Hobbs (1992:284), "multi-community collaboration is likely to occur only if each prospective participant community determines that the prospective gains from collaborations will outweigh the perceived losses". The Regional District of Waterloo³, for instance, continues to operate a two-tier water and wastewater distribution system⁴ even though two studies (the Sweeney Review and the Working Group on Local Government Reform review) concluded that a single-tier system would allow for more cost-effective maintenance and expansion (the Sweeney Review estimates the cost savings to be $400,000 annually), facilitate the supply of consistent water quality and quantity, improve coordination of activities and decisions, reduce duplication of maintenance staff, and provide a more equitable rate structure (Leis, 1997; Kitchener, 1996; Sweeney, 1995). The Region of Waterloo Council Members, however, have yet to reach a consensus required to approve the implementation of a one-tier sewer and water system. Some Council members have expressed the views that the recommendations would 1) detract from the ability of local municipalities to control development (that is, the control of pipes controls growth and development), 2) the cost savings detailed in the reports were not substantiated, 3) the recommendation of rate standardization would result in the urban municipalities subsidizing the rural communities, 4) the reports' comments regarding cross boundary servicing problems were not clearly demonstrated, and 5) a single tier system would result in less responsive customer service (Regional Municipality of Waterloo Steering Committee, 1997).

The costs and benefits of multi-community collaboration described in the research of Shaffer and Tweenen are summarized in the following table (Shaffer and Tweenen, as quoted in Korsching, 1992: xx):

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² The systems are the Wab Rural Water System, the Mid Dakota Project, the Lyman-Jones/Rosebud Project and the Mni Wiconi Project which serve populations of 33,000, 27,000, 17,000, 50,000 respectively. The Lewis & Clark Rural Water System is proposed subject to State approval.
³ The Region of Waterloo consists of Cambridge, Kitchener, Waterloo, North Dumfries, Wellesley, Wilmot, and Woolwich (Ontario).
⁴ The region is responsible for treatment/supply, major water trunks, major pumping stations, conservation programs, long range planning and commercial systems. The area municipalities are responsible for major sewer trunks, local distribution stations, customer relations and billing. The Ontario Clean Water Agency (OCWA) (formerly the Ministry of the Environment and Energy) operates the plants through a contract arrangement.
<table>
<thead>
<tr>
<th>Costs</th>
<th>Benefts</th>
</tr>
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<tbody>
<tr>
<td>Loss of local identity and control</td>
<td>Synergism</td>
</tr>
<tr>
<td>High opportunity costs</td>
<td>Economies of scale</td>
</tr>
<tr>
<td>Lack of vision, goals and focus</td>
<td>New ideas and expertise</td>
</tr>
<tr>
<td>Maintenance of collaborative efforts</td>
<td>Political empowerment and influence</td>
</tr>
<tr>
<td></td>
<td>Adaptability to emerging conditions and crises (reduced risk)</td>
</tr>
</tbody>
</table>

DeBoer (1992:163) also notes that although "loss of control" is one of the primary factors working against multi-community cooperation, feelings of loss of control can be partially overcome if the communities are similar, compatible or "like-minded". For instance, the residents of Stonebridge, Tennessee, recently held a referendum on whether they would prefer to be annexed eventually by Memphis or annexed immediately by Lakeland. The residents voted 99 percent in favour of being annexed by Lakeland because Lakeland does not have a property tax and continues to receive county services (which would result in moderate changes in their service delivery and charges). Communities annexed by Memphis, on the other hand, have experienced massive tax increases followed by a decline in services (Lawrence, 1998).

Disagreements about gains and losses also can contribute to the involvement of new participants or can recruit new leadership critical to a new direction required for multi-community solutions. As Hobbs states:

Multi-community collaboration implies the creation of new action communities; networks of people organized to accomplish certain purposes on behalf of a community that have not existed before...a sense of purpose and participation that leads to identification of problems and organized activity to resolve those problems (Hobbs, 1992: 286).

In Southern Florida, for example, historical lack of intergovernmental cooperation has led to a critical water shortage, and fragmented water distribution and management (approximately 200 different plans have been implemented throughout the area to address storage, treatment, distribution, conservation and water usage). Southern Florida’s regional solution has involved the coordination of three local organizations (the Everglades Charter, the Everglades Partnership and the Governor's Commission for a Sustainable South Florida) in order to yield strong multi-community collaboration. In particular, their team approach emphasizing facilitating a regional focus, systematic management and a sustainable future for South Florida’s resources. The broad-based advisory board, which consists of citizens, water district staff, business leaders and local government officials, facilitates coordination, builds consensus, and provides a forum for conflict resolution (Governor's Commission for a Sustainable South Florida, 1995).

Similarly, the Greater Triangle Region in North Carolina is using a systematic process which involves a network of citizens, business leaders and local politicians who have been organized to identify different choices for resolving the region’s problems. The Greater Triangle Region Council's Choices Project identifies different scenarios which the counties of Chatham, Durham, Franklin, Johnston, Lee, Orange and Wake could pursue for the management of future development and growth. Participants from university departments, institutes and research centers, civic groups, service providers, government agencies, and private enterprises have come together to pool their technical, financial, legal, and design expertise, as well as interest in regional development issues, economic development, historic and cultural areas, parks, housing and environmental quality. The region anticipates tremendous growth (500,000 more people in the next 25 years) and has outlined development choices including major corridors, major centers or a combination of centers and corridors.

Although the group has no real power, the project participants will be creating a series of guiding principles for planning development, the region's development choices, definitions of different patterns of development, and an assessment of the economic and environmental effects. Once the options are
developed, a broad-based community participation program will lead to the selection of a preferred choice. The regional council connects all of the local planning departments together through the Choices Project to learn how each area envisions its growth. The network also will allow the towns in the region to work together on mass transit, parks and recreation areas, water and sewer and other infrastructure needs. The aim of the Greater Triangle Regional Council is a sustainable development plan which considers the economy, environment and regional equity (Earnhardt, 1996).

The appointment of a mediator with sufficient credibility, knowledge and personality traits also can be vital to resolving issues of fear of loss of control. The ability of the mediator to keep the process moving and to obtain agreement on difficult issues is especially important (DeHoop, 1997: 62, 74).

Similarly, a new technical base can dramatically change the direction of negotiations. For example, in the Kingston-Ernestown situation, the evolution of filtration technology made the construction of a local plant a more economical option than either the local conventional water treatment plant or the option of joining the Kingston water system which were considered during the Township of Ernestown initial Environmental Study Report (ESR) in 1991. The proposed new water treatment plant (capacity: 16 megalitre/day) will utilize a new technology (the micro filtration membrane process) and will incorporate most of the existing pumping station structure, low lift pump and intake pipe. In view of this more economical option, the issue of the Township of Ernestown's reluctant partnering with the Greater Kingston Area to form a regional water and sewage system was dropped. The construction of the plant is scheduled to begin by May 1998 and is scheduled for completion in 1999 (Schmidt, 1998). The plant will provide water and sewage service for the Township of Ernestown and will facilitate the eventual extension of service to Harewood and Brooklands. It will be funded by a loan, and by funds which have been held in reserve for the purpose of financing the project. The loan will be repaid through utility charges to Amerstview and Odessa, and bonds sold to the communities (CH2M Gore and Storrie Limited, August 1997).

The imposition of a deadline by a Provincial body also may encourage the development of a local or inter-community solution because of the risk that an external Provincial Commission will remove all opportunity for the proposed partners to have input into the results of the process. The time-compressed nature of mediation, however, can be a disadvantage because local citizens have limited opportunity to participate and the councillors have limited opportunity for study, informed debate or reflection, and may be forced into compromises that may not be in the best interest of the communities (an effort may be made to speed up the "deal-making process") (DeHoop, 1997:64).

Fear Of Urban Sprawl

Because of the inter-relationship between sprawl and infrastructure expansion or development, fear of urban sprawl also can become a major impediment to negotiating multi-community service and infrastructure projects. General principles related to sprawl reveal that the extension of water and sewage services can be a direct determinant of growth (City of Salisbury Task Force, 1998):

1. The provision of centralized water and sewer services is a major determinant in the density and location of new development in an urbanizing area;
2. Urban sprawl tends to increase the costs of providing other public services to a rather widely scattered population;
3. With cutbacks from provincial and federal funding, local governments are finding it increasingly

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5 The issue was dropped only after the City of Kingston submitted a number of Bump-Up Requests to the Minister of Environment and Energy. The Bump-Up requests required that the Township of Ernestown "bump-up" the project to an Individual Environmental Assessment. The cost to the Township of Ernestown for the Bump-Up Requests was $60,000 for the required paperwork and a year's delay in commencement of the project. Kingston's objections to the system were not firm questions. Their objections were based more on their desire to sell water to the Township and on political issues relating to amalgamation, than with the Township of Ernestown's plans for water distribution.
necessary to carefully plan for public water and sewer services and to provide them only where such needs can be fully justified;

4. Water and sewer service extensions are being viewed increasingly as an effective growth management tool;

5. Local government provision of water and sewer services can influence the location, density and timing of development; and

6. The methods by which water and sewer facilities are financed also are being used to positively influence development within an urbanizing area.

Further, excess capacities may promote sprawling development, with costs for new services exceeding generated growth of local revenues. Sprawl, combined with excess tax burdens, has been known to trigger out-migration, which leads to long-term reductions in property tax bases and further increases burdens on remaining residents (Wade Miller Associates, Inc., 1987, as quoted in Landau et al, 1990).

Related issues linked to sprawl center around the consequences of sprawl including environmental damage (such as ground water contamination and the threat posed to the province's watersheds), the erosion of the urban communities' tax base, and the inter-municipal competition for assessments which has the potential to erode the region's ability to retain and expand the assessment base (Reid, 1996).

Conversely, DeHoop (1997), in his research on the Kingston-Frontenac amalgamation, has noted that consolidation can be perceived as a deterrent of sprawl. That is, collaboration is a means of enhancing the "marketing" image of the central city which would allow the region to compete more effectively on a regional, provincial, national and international level, provides more power and influence with higher levels of government, provides a forum for directing urban growth through consistent and comprehensive land use policies, and facilitates the creation of more compact and sustainable communities.

Fear of urban sprawl may lead to the absolute refusal by a central city to extend water and sewage services to surrounding suburbs. The consequence, in some instances, has been a decentralized and fragmented infrastructure system, and a central city with a significant over-capacity of water. For example, the City of Buffalo, New York, refused to extend its water infrastructure to the surrounding suburban jurisdictions. The City feared that the use of city water supplies for suburban growth would jeopardize their ability to serve future residential and commercial projects in the undeveloped parts of the City, and that suburban economic expansion would threaten the City's economic development plans. As a consequence, the suburban jurisdictions developed water systems independent of the City which lead to the development of the Erie County Water Authority (ECWA), the Town of Tonawanda Water System, the City of Tonawanda System, and a decentralized network of several smaller municipal water systems which serve the Towns of Grand Island and Sardinia, and the Villages of Akron, Alden, Gowanda, and North Collins. Ironically, however, the City of Buffalo, in 1995, had 40 percent fewer residents than in 1950, has stagnant or declining levels of commercial and industrial customers, and a significant overcapacity in its water treatment facilities. Use of Buffalo's facilities to meet suburban demand would eliminate the need for the operation of at least one of the suburban treatment plants. Historic rivalries and independent infrastructures, however, have traditionally diminished the likelihood of a merger of the City and suburban water systems (Governance Project, 1996).


1. Skills that are the bases of collaboration and cooperation must be taught
2. Cooperation must be assisted
3. Policies and programs that have flexible eligibility criteria and program requirements for easy local adaptation must be developed.
Developing Inter-Jurisdictional Cooperation

The effectiveness of collaboration is the ability to overcome local boundaries and political hierarchies and to emphasize the "consistent and equitable mitigation of costs and distribution of benefits among participating communities" (Korschning, 1992: xxi). Cooperative water and wastewater agreements also should focus on sustainability and long-range planning. For instance, Russwurm (1977) recommends a "systems approach" which recognizes the inter-connection of all areas of community planning, and stresses that land should be viewed as a resource (long-term connotations) versus a commodity (short-term connotations). Successful land-use planning should concentrate on all four main functions of land: protection, production, play and place and should link substantive policy (what things are to be done) and jurisdictional policy (who is going to do it, and how is it going to be done). Emerging city form is best represented by the "urban field concept" which consists of the built-up core, a dispersed urban fringe - urban shadow where isolated urban use and smaller urban places, which are located intermittently amidst agricultural or forest lands, and a well-developed transportation and communications network which provides the channels whereby the system parts are linked. Russwurm also suggests that effective planning of urban fringes involves ignoring municipal boundaries (which have been established for other purposes), and that a crisis reaction approach should be avoided in dealing with land problems surroundings cities, (Russwurm, 1977).

City and regional leaders, when negotiating cooperative agreements, must search for ways to move beyond urban/suburban competitiveness toward a common ground of shared economic, cultural and environmental interests. An attempt to find common ground has been the focus in Atlanta, Georgia, which has been ranked as the United States' fastest-growing large metropolitan area, and which anticipates a population increase of 750,000 by 2005. The majority of the population growth will occur in the suburbs and result in urban sprawl becoming a major issue. Atlanta has found that as business becomes more global, the ability to compete as a region is vital and that their challenges are regional. As a result, Atlanta has been focusing on regional solutions that respond to the dynamics of urban sprawl and regional economics. Their solution has involved concentrating on long-term issues, diversifying the region, working across regional boundaries and creating sustainable economic partnerships that benefit both inner cities and suburban neighbors. They also promote relationship building which involves developing open inter-municipal discussion, establishing a common goal and maximizing shared resources. Through the establishment of regional authorities to manage regional functions, they are exploring the strategy of consolidating city and county governments to save resources and to encourage metro-wide cooperation. In realizing their goal for a "unified and healthy Atlanta region", the City will seek the support and cooperation of the region's highest-ranking business and government leaders, the Atlanta Regional Commission, the Renaissance Group of top businesses, academic and community leaders, and county officials (Campbell, 1997).

Further, regionalization of water and wastewater infrastructure and services presents the following advantages:

1. The costs of speculative public venture (that is private development and its anticipated tax revenues) are shared on a regional basis without the debt burden for expensive infrastructure overwhelming local tax bases (Landau, 1990: 2).
2. Regionalization provides a higher degree of coordination across political boundaries. Regionalization of certain services can result in economies of scale, cost savings through the elimination of duplicated administrative effort, and a regional system can represent an intensive use of capital facilities (Governor's Commission For A Sustainable South Florida, 1995).
3. Regionalization allows municipalities to provide at least some minimum national standard of service without having to levy unduly high tax rates. Regionalization ensures that all people have access to the basic necessities of life (Amborski, 1987: 40).
4. Long term, indirect savings and more effective regional services promote regional cohesiveness and the ability to plan strategically over a wider geographic area (Yeates, as quoted in DeHoop, 1997:11).
5. Accountability at the local level can be enhanced by eliminating confusion resulting from the proliferation of joint service agencies, boards and commissions (DeHoop, 1997:13).
6. The economic effect of the 1986 Safe Drinking Water Act Amendments is significant. All utilities face additional monitoring and capital costs, and small water systems may not be able to afford critical public health improvements. Regionalization of water supply service, either through physical connections or management structures, may provide economies of scale and reduce the costs of water services. Regional water supplies may increase water use efficiency, promote water conservation, minimize capital investment, and enhance source protection (Berberich, 1987).

Conversely, regionalization of services and infrastructure has been criticized as being less responsive to local needs and demands than locally governed service (Amborski, 1987: 38). Decentralized service delivery may help keep rates low, encourage innovation through intermunicipal competition, and provide a higher level of representation (Governance Project, 1996). There is also a reluctance to acknowledge that the viability of the central city is a regional concern, even though a region is frequently represented by its central city, both in name and in reputation. If the central city is physically and economically healthy and dynamic, the entire region benefits. If the central city is physically and economically weak and in distress, the entire region suffers (Governance Project, 1996). Suburban and rural municipalities may prefer to forge alliances and mergers with other municipalities to avoid paying an equitable share of social, environmental, physical, and economic infrastructure costs of urban regions. Suburban and rural municipalities tend to avoid central cities because their own resident population is either unwilling or unable to support the regional costs (DeHoop, 1997: 2).

Policy development, as a component of inter-jurisdictional cooperation, also represents a means of dealing with fear of urban sprawl. For example, the City of Salisbury, North Carolina, which faults federal and state subsidies (of the 1960's and 1970's) as the cause for urban sprawl, has implemented a number of policies to deal with the sprawl problem. Specifically, Salisbury, through the assistance of a water and sewer service authority, is guiding development in a proactive manner in order to encourage an urban form that can be more economically serviced by water and sewer lines, as well as by other municipal services. They have developed a Strategic Growth Plan, which identifies three key areas to be treated differently in terms of the provision of public water and sewer services:

1. The primary growth area (where the City would most like to encourage new development as well as infill development and promote revitalization) includes all of the area within the existing City limits, plus a surrounding, relatively closed-in area that can be economically financed and served.

2. The secondary growth area, (the area just outside the primary growth area) is also viewed as having a favorable location for future development. However, because the secondary growth area is less efficient to serve economically, the City will participate in the costs of water and sewer extensions to this area to a lesser extent than it will for development in the primary growth area. The outermost limit of the secondary growth area is known as the urban services boundary, the line beyond which the city normally will not extend either water or sewer service.

3. Outside of the urban services boundary lies the rural area, an area that is more difficult to service than the primary or secondary areas. A complementary objective accomplished by designating the rural area is to preserve appropriate agriculture and open space within the planning area. It should be noted, however, that in the event of a major economic development project, the City's policy of no service to rural areas can be overruled. For a major economic development project to be serviced with public water and sewer, it would have to meet all of the requirements of the Economic Development policies contained in the Plan, as well as any other applicable policies, plans and regulations. The actual policies are included in the following Text Box (City of Salisbury Task Force, 1998):
POLICY 3.1: WATER AND SEWER SERVICES SHOULD BE CONCENTRATED WITHIN THE LIMITS OF A GEOGRAPHICALLY DEFINED URBAN GROWTH AREA. THE PRIMARY GROWTH AREA SHOULD RECEIVE FIRST PRIORITY FOR THE PROVISION OR ENHANCEMENT OF WATER AND SEWER SERVICES.

POLICY 3.2: THE CITY SHALL AFFORD THE HIGHEST LEVEL OF PARTICIPATION IN THE COSTS OF PROVIDING WATER AND SEWER TO PROPERTIES WITHIN THE PRIMARY GROWTH AREA, TO ENHANCE APPROPRIATE URBAN-LEVEL DEVELOPMENT.

POLICY 3.3: THE SECONDARY GROWTH AREA SHOULD RECEIVE A LESSER LEVEL OF CITY PARTICIPATION IN THE COSTS OF PROVIDING WATER AND SEWER SERVICES TO PROPERTIES WITHIN THIS AREA.

POLICY 3.4: THE CITY SHALL NOT PARTICIPATE IN THE EXTENSION OF WATER AND SEWER SERVICES TO PROPERTIES IN THE RURAL AREA (OUTSIDE OF THE URBAN GROWTH AREA). EXCEPTIONS TO THIS POLICY MAY INCLUDE THE PROVISION OF SERVICES TO OTHER LOCAL GOVERNMENTS AND COOPERATIVE AGREEMENTS ON MAJOR ECONOMIC DEVELOPMENT PROJECTS.

The advantage of implementing policy to deal with potential urban sprawl is a clear set of guidelines by which all partners must abide. Leung noted that land-use planning encompassed five inter-related components: establishing goals, obtaining information essential for planning decisions, analysing the match between user needs and land supply, creating solutions that match user needs with land supply and resolving conflicts among different land uses, and implementing a planning scheme or decision through control-oriented or action-oriented measures (Leung, as quoted in Meyer, 1991). Similarly, urban growth management is meant to include a set of policies, strategies and techniques aimed at shaping urban form and structure in order to attain collective goals relating to quality and efficiency of the urban area (DeHoop, 1997: 12).

The case studies examined in this report detail the methods of negotiating issues of loss of control, urban sprawl and industrial competition. They also provide examples of models of inter-jurisdictional water and wastewater projects that have been applied. Other models for multi-community collaboration, which vary along a continuum of more consolidated to more fragmented, each with their own advantages and disadvantages, can provide alternatives for communities that are initiating cooperative water or wastewater agreements. The model applied in a specific case will depend upon the unique circumstances and issues that arise as a consequence of the communities' efforts to negotiate inter-jurisdictional cooperative agreements. These models, are summarized below (Governance Project, 1996).
Elected Regional Multipurpose District is a solution to regionalization in which a multi-purpose district provides or coordinates regional service delivery, while local governments and often metropolitan single-purpose districts continue to perform their assigned functions. One advantage of the multipurpose district model is that as citizens become more comfortable with regional governance, new functions can be added to the array of district services. Local governments, including area wide special districts, retain their autonomy, which has political benefits at the time of formation of a multipurpose district.

Regional Multipurpose Councils with Appointed Governing Boards is another model for regional coordination in which the regional councils focus on policy and coordination rather than actual service delivery, and have an important role in the financing of services (particularly the redistribution of area wide tax revenues). One example of a regional council is located in the Twin Cities (Minneapolis/St Paul). The Council is led by a 17-member appointed board of metropolitan residents and leaders (but not public officials). The Metro Council's initial responsibility was to coordinate planning and regional service delivery in a seven-county area. Its greatest powers are its ability to tax and the power to require compliance of city and county plans with a Metro Council-developed regional development code. Early successes with sewer services coordination led the state legislature to expand its scope to include regional parks, airports, transit, solid waste, housing, health, and crime.

Regional Special-Purpose Governments provide the most common structural approach to regional governance. They involve the formation of area wide special-purpose governments to provide virtually every function at the regional level. Supporters of special-purpose solutions to regional service needs cite districts' geographic flexibility, service delivery track record, and relatively high levels of political acceptance. Critics fault regional special-purpose governments as contributors to problems of metropolitan political fragmentation, and claim that the proliferation of autonomous specialized governments hinders coordination of service delivery. Common examples include transit authorities, water districts, sewer districts, natural resources districts, and countywide health authorities.

Formalized Networks apply an established process for identifying and deliberating avenues for regional or intercommunity cooperation. The process used by formalized networks includes:
1. identifying regional issues,
2. inventorying available resources and mechanisms for addressing these problems,
3. developing, lobbying for, and carrying out a plan for regional cooperation that may occur through forums, workshops, public hearings, or other venues, and
4. ongoing monitoring and updating of plans.

Intermunicipal Service Agreements include a wide variety of contracts and arrangements with varying degrees of regionalism that can result in considerable (though not necessarily systematic) intra-regional cooperation.

Privatization and Non-profitization refers to public, private, or nonprofit service delivery agreements in which private and nonprofit entities perform their functions regionally.
DETAILED CASE STUDIES

Selection of Case Studies

The following criteria were involved in the selection of the four case studies that relate to the cooperative infrastructure agreements examined in this report:

1. Urban-rural water systems: Water or wastewater cooperation which consists of an agreement between partners with site and situation factors similar to those in the Winnipeg area. Of particular interest were water and wastewater agreements formed by communities of high growth areas (Region of York, Greater Vancouver Water District), and situations in which water or wastewater services have been extended to bedroom communities (Halifax Regional Water Commission, Austin, Texas and area).

2. Recent Water and Sewage Negotiations: The negotiation or re-negotiation of water or wastewater agreements involving two or more partners has occurred in the past 10 years. The primary focus of the study is to examine strategies used to resolve initial concerns about annexation, urban sprawl and loss of control, when the system was first formed or when partners first agreed to an inter-jurisdictional water or sewage project.

Case studies included vary according to the degree of structural changes required for inter-jurisdictional water or sewage cooperation:

Case Study #1: Halifax Regional Water Commission: The Commission is a consolidation of the region's four former municipal water utilities. A regional water system was formed following the amalgamation of Halifax and its surrounding communities in 1995.

Case Study #2: The Greater Vancouver Water District (GVWD): The Water District is a federation of sixteen member and two non-member municipalities in the Greater Vancouver Regional District (GVRD). Three communities, North Vancouver City, Langley Township and Langley City, have become members of the GVWD in the 1980's and 1990's.

Case Study #3: Austin, Texas and surrounding communities: Austin, Texas extends its water and sewage infrastructure to its surrounding suburbs conditional to their annexation ten years into the future. Austin has annexed more than 25 municipalities or areas by 1996 and 1997, and has recently resolved a dispute with the community of Circle C which had attempted to escape its contractual obligation to be annexed. Austin also is currently involved in a debate over the extension of water and sewage services to the Barton Springs proposed urban development (PUD).

Case Study #4: York Region Inter-Regional Water and Wastewater Agreements: York's three interregional water and wastewater agreements involve the sharing of infrastructure maintenance and capital costs. The three agreements with Peel, Durham and Toronto, originally formed in the 1970's, have been renegotiated in 1996 and 1997.

The following factors were assessed in examining the processes and resolutions used in the case studies:

- The social-political feasibility of the project
- The motivation for the cooperative agreements
- The formal or legal agreements involved
- The anticipated advantages of cooperative systems by parties involved
- The key actors in the initiation and completion of agreements
- The conflicts of goals and interests
The methods of conflict resolution.

For each case study, an attempt was made to contact the appropriate government officials who represent both rural and urban partners and to obtain several viewpoints from the partners. A list of the respondents contacted for the research project and a copy of the structured questionnaires are included in Appendices A and B.

**CASE STUDY #1: GREATER VANCOUVER WATER DISTRICT**

The Greater Vancouver Water District (GVWD) was originally formed in 1924 through the Greater Vancouver Water District Act. The Act, which sets out the basic reporting arrangements, structure and context for the regional system, establishes the GVWD as a legal corporate entity responsible for providing water services to the region. The Act also gave the GVWD the power to acquire water rights and supply water (Greater Vancouver Regional District, "Water: A Community Resource", 1997).

The territorial limits of the Greater Vancouver Water District includes 16 member municipalities: Vancouver, Burnaby, North Vancouver District, West Vancouver, North New Westminster, Richmond, Coquitlam, Port Coquitlam, Pitt Meadows, Maple Ridge, Surrey, Delta, Port Moody, City of North Vancouver, Langley Township, and Langley City and two non-members: Port Roberts, Washington and the University Endowment Lands. The GVWD is a federation of municipalities that is owned by the taxpayers of the region and is governed by a Regional Board (Morris, 1998). The GVWD is also governed and affected by the policies and strategies of the Greater Vancouver Regional District (GVRD), which was formed in 1966 to provide overall regional management of the Greater Vancouver Regional District.

The Greater Vancouver Regional District is experiencing rapid growth. The negative effects of uncontrolled urban growth include developmental pressures on farmland, longer commutes from home to work, increased costs for public services and utilities, and increased pollution from increased automobile use (Greater Vancouver Regional District, 1996). The population forecast for the GVRD is 2.9 million by the year 2021 (Ward, 1992:B1). Vancouver's rapid growth is typical of cities in the Pacific Northwest (Vancouver, Seattle and Portland) which grew when other areas were in decline. The population of Greater Vancouver has increased by 209,000 people, since 1990. In particular, Maple Ridge and Pitt Meadows rival Surrey as the fastest growing communities in British Columbia. These former bedroom communities are turning into swelling urban centres (Monk, 1990, B2).

The Regional Board of the GVWD consists of appointed members of Council of the respective member municipalities. Each municipality has one Board vote for every 20,000 residents. No Director may hold more than five votes, with the result that the largest municipalities in population (Vancouver, Surrey, Burnaby and Richmond) have more than one Director. In 1997, the GVWD Board had 30 Directors with a total of 92 votes. A number of committees also have been developed to provide an advisory function to the Board (Morris, 1998). The GVWD operates on a not-for-profit basis and has a staff of approximately 230 employees (Greater Vancouver Regional District, "Water: A Community Resource", 1997).

Vancouver was the original member of the GVWD. Most member communities joined the system prior to 1950. More recent partners have included North Vancouver which joined in 1984, the Langley Township, in 1990, and Langley City in 1991 (Greater Vancouver Regional District, "Water: A Community Resource", 1997). In selective situations, some or all of the costs of adding the communities to the system were borne by the GVWD system as a whole (Morris, 1998). The Greater Vancouver Water District Act permits member municipalities to supply water to another municipality, but not the connecting infrastructure. The municipality's

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6 The full name of the Act is *An Act to Incorporate the Greater Vancouver Water District*.

7 The Greater Vancouver Regional District includes all members of the GVWD plus White Rock and Anmore.
opportunity to supply water to neighbouring municipalities also is subject to the approval of the GVWD's Board (Office of Legislative Council, 1996).

The GVWD draws water from three watersheds: Seymour Lake, Capilano Lake, and Coquitlam Lake (Coquitlam Lake is shared with B.C. Hydro). The system's output is approximately 1055 megalitres/day and has a peak output (in the summer months) of 2 billion litres/day. Its maximum watershed hydraulic capacity is 4500 megalitres/day. The GVWD sells water at a standardized wholesale rate to its members and two non-members, who collectively have a population of 1.8 million (1997 statistics). Members then retail the water to their community and third-party recipients with whom they have agreements (if applicable) (Greater Vancouver Regional District, "Water: A Community Resource", 1997). In most member communities, industrial customers are metered and residential customers pay a flat rate. The GVWD currently has plans to develop a metered system for residential customers in order to encourage conservation and to limit the need for infrastructure expansion (Morris, 1998).

The GVWD's standardized wholesale water rates do not apply to the University Endowment Lands and Port Roberts. The University Endowment Lands pay more than wholesale rate because of their non-member standing. Port Roberts pays based on a minimum consumption rate because they assumed the cost of the infrastructure required to become a part of the system. They have a contract that is based on a flat rate minimum consumption of which they currently use approximately a third of the minimum. Port Roberts, which joined as a non-member in 1987, had few alternatives for a water supply because they are an island resort community (Morris, 1998).

Past and Current Issues of Urban Sprawl

The Greater Vancouver area's water supply was originally controlled by the City of Vancouver's waterworks system in the 1920's. Vancouver, however, relinquished control when the GVWD was created through provincial legislation. The communities of South Vancouver and Point Grey were amalgamated with Vancouver in 1929 (Greater Vancouver Regional District, "Water: A Community Resource 1997). Vancouver's original concerns about urban sprawl and loss of autonomy were largely "put to bed" by the 1950's (Morris, 1998).

Surrey and the Township of Langley have expressed dissatisfaction with the water system because of the limits on urban growth which the GVWD has imposed. Surrey and Langley Township have expressed interest in breaking away from the GVWD's water system because of the political issues related to growth management. The City of Surrey, however, is totally dependent on the GVWD water supply because it has only a limited local water supply available from farm-based wells. The Township of Langley can provide its own water if they choose to end their membership with the GVWD (Mongracz, 1998).

Langley Township (population 80,000) is experiencing annual growth of approximately 3 percent. The Township became a member in 1987 and had purchased water during emergency situations prior to joining the GVWD. The main advantages of joining the GVWD were that water quantity and quality became a regional responsibility. Prior to joining, the Township of Langley was on a rural well system which experienced periodic contamination. Increased development in Langley Township also necessitated joining because there was insufficient ground water to meet the increased demand. They also realized that the public felt safer when water was supplied regionally. People were less likely to buy a property that was serviced with a well and septic system. Their other option for a source of supply was the Dewdney-Alouette Regional System, but the cost of hooking-up to the system was excessive, and the water district did not know if they could supply an adequate volume (Houghton, 1998).

Continuity of supply initially was a concern because the Township of Langley is at the end of the pipeline. The concern was resolved through GVWD's expansion of the system which involved interconnection of the watershed and the addition of river crossings. The benefits of joining the GVWD included lower sewage costs, fairer rates for residential customers, and a mechanism for metering industrial and
commercial users (Houghton, 1998).

Population increases in other member municipalities have created some concern regarding adequate supply to meet demand. Some areas which have experienced a population influx have placed a great demand on service. The regional plan allows some flexibility to accommodate new hook-ups and for sourcing a new water supply to meet future demand, although the shared costs for the projected infrastructure are substantial (Mongracz, 1998).

Strategies for Dealing with Past and Current Issues of Urban Sprawl

The agreements that the GVWD established with the member municipalities is dependent upon their time of entry. Earlier agreements (Vancouver and Burnaby), which aimed to maintain the status quo, are based on the provision of an unlimited water supply. In the 1950’s, the supply agreements were based on points of supply and were volume based. The latest agreements have been volume based and have evolved because of the need to share the water supply with a larger number of partners (Morris, 1998).

In the case of rapidly growing areas such as Surrey and the Township of Langley, the GVWD has established an agreement (effective until 2011) that obligates the GVWD to provide specific volumes (Morris, 1998). The agreement with Langley Township stipulates that Langley Township cannot provide water services to third party participants prior to the year 2011 (Entry Agreement, 1989). Langley Township has experienced increases in their tax rates and water rates, but joining the system was a necessary step owing to the unreliability of their well system (Morris, 1998).

The GVWD’s and GVRD’s two main strategies for dealing with potential urban sprawl are: 1) the Livable Region Strategic Plan and 2) the Regional Water Supply Plan. The Livable Region Strategic Plan is based on four years of intergovernmental and public consultation. The policy, approved in 1996 by the Greater Vancouver Regional Board of Directors, aims to create region-wide cooperation for managing growth. The plan is based on the 1990 Creating Our Future vision† and consists of four fundamental strategies for regional growth:

1. Protect the Green Zone: The Green Zone is a long-term boundary for urban growth which has been established by lands nominated by the municipalities. In addition to defining the limits of urban development, the Green Zone protects agricultural land and parks. The Green Zone includes two-thirds of the GVRD’s total land base and includes half of the GVRD’s developable lowlands.

2. Build Complete Communities: The GVRD has established town centres to encourage better distribution of jobs, a wider range of affordable housing choices, better distribution of public services and more effective transportation. Building complete communities also encourages multi-family dwelling zoning.

3. Achieve a Compact Metropolitan Region: To encourage densification and reduce per-capita community service costs, the Livable Region Strategic Plan recommends concentrating residential growth in the Burrard Peninsula municipalities, the North East Sector, North Surrey and North Delta to create Regional Town Centres. Communities in the central and eastern Fraser Valley will continue to grow at a slower pace to permit these communities to be more complete (with a balance between job and residential growth). The Strategic Plan also establishes region-wide targets for housing, population and employment growth. Local municipalities’ growth projections, which form the basis of the targets, are reviewed and

† The Creating Our Future vision is that "Greater Vancouver can become the first urban region in the world to combine in one place the things to which humanity aspires on a global basis: a place where human activities enhance rather than degrade the natural environment, where the quality of the built environment approaches that of the natural setting, where the diversity of origins and religions is a source of social strength rather than strife, where people control the destiny of their community, and where the basics of food, clothing, shelter, security and useful activity are accessible to all."
updated to realize the region-wide targets.

4. Increase Transportation Choice: The strategic plan encourages alternatives to single-occupant automobile travel including public transit, walking, and cycling (Greater Vancouver Regional District, 1996).

The Livable Region Strategic Plan is implemented through the delivery of regional services and through the GVRD’s partnerships with the GVRD member municipalities, other lower mainland local governments, the provincial government, the federal government and other organizations (Office of the City Clerk, 1998: 2). All member municipalities of the Greater Vancouver Regional District are required (under Section 866 of the Municipal Act) to include a Regional Context Statement as part of their Official Community Plan. The Regional Context Statement explains the relationship between the Official Community Plan and the Livable Region Strategic Plan, and (where applicable) describes how the City’s plans will be made consistent with the regional growth strategy over time. The Regional Context Statement also explains how the community’s plans, policies, by-laws and initiatives apply on a regional basis and will meet the four strategies of the Livable Region Strategic Plan. Every five years, all member municipalities report to the Livable Region Strategic Plan partners on the progress that has been achieved (City of New Westminster, pp. 7-14).

Under the Growth Strategies Statute Amendment Act, all member municipalities have the option of including a Memorandum of Understanding that includes the resolution of objections to the Livable Region Strategic Plan. In the case of the City of Surrey, the City of Richmond, and the Township of Langley, a Memorandum of Understanding has been appended to the GVRD’s Livable Region Strategic Plan. The Memorandum of Understanding outlines Surrey’s objections including the implicit growth targets for Surrey, concerns about the Strategic Plan’s infringement on local autonomy in planning and development, and the need to review proposals related to additional urban development and transportation systems (City of Surrey, 1998; McCallum, 1998).

Greater Vancouver Water District’s Regional Water Supply Plan provides a strategy for meeting the region’s water needs until the year 2041. Factors considered in developing the plan include the municipalities’ demand projections, evaluations of water supply sources, recommendations for required water treatment facilities, and projections of infrastructure requirements for repair and construction of water mains, pump stations and peak storage reservoirs (Greater Vancouver Regional District. Water and Construction Department, 1997). The plan presents strategies for meeting GVWD’s main issues:

- **The need for additional water supply by the year 2005.** The source being considered is Coquitlam Lake which is currently owned by B.C. Hydro and shared by the GVWD. A long-term agreement and a negotiating package will be provided to B.C. Hydro in exchange for full ownership of the Coquitlam Lake source. With effective conservation the need for additional supply may be delayed to the year 2013.
- **The upgrading of Seymour Falls Dam to meet seismic requirements and to remove hydraulic constraints on the source.** Seismic upgrades must be completed prior to 2041. Beyond the year 2041, the GVWD will have to consider a new and higher dam on the Seymour source as an additional measure for increasing water supply.
- **The construction of major new water treatment facilities to improve drinking water quality through the Drinking Water Quality Improvement Program.** Currently, GVWD’s water does not meet Canadian Drinking Water Quality Guidelines. Water quality problems relate to the potential for Giardiasis (beaver fever), the growth of Coliform bacteria and the lack of disinfectant residual, periodic cloudiness of the water, and the corrosion of pipes and faucets. The GVWD plans to implement a three-phased plan to upgrade the infrastructure.
- **The building of new infrastructure to maintain and expand water service and to replace old water mains.** By 2041, approximately 188 km of new water mains will be needed and 236 km of worn out water mains will have to be replaced. Based on population projections, the system will be serving 2,776,000 by 2041.
- **The costs and financial implications associated with the needed improvements.** The estimated cost of the needed infrastructure repairs and improvements within the next 10 years (from 1996 to 2006) is $967.2 million, with $2.7 billion in total cost (from 1997 to 2041). By the year 2011, bulk water rates to
the GVWD members are expected to be 2.5 to 3 times the wholesale water rate set in 1997 ($0.1394/1000 litres). Rates are anticipated to decline slowly after the year 2011.

**Past and Current Issues Related to Loss of Control and Annexation**

The GVWD has not attempted to amalgamate any of its partners. The issues of annexation and amalgamation are not concerns to the member municipalities because the GVRD water supply is controlled by the GVWD (a federation and a corporate entity) rather than by Vancouver (a central city) (Morris, 1998; Mongracz, 1998). Some municipalities have concerns about loss of autonomy but there is no real reason to feel threatened because through the federation concept all issues are openly discussed and voted upon. Some members, however, see the GVRD as an "octopus" that is removing community responsibility one area at a time (transportation is the next area that the GVRD is attempting to place under regional control) (Morris, 1998).

The City of Langley has expressed some concerns about the management of the members’ resources. In particular, the City of Langley is concerned about the Board’s accountability because the Board Members are appointed rather than elected. The City is concerned that regional planning can be excessive and that the services provided to the region’s population may become inadequate. In particular, the Strategic Planning Committee consists of an appointed group of councillors and a staff of planners who are not responsible for any planning mistakes, and who are making excessively expensive purchasing decisions. Although the Strategic Planning Committee presents the strategic plan to the municipalities for ratification, the councils of some communities change and the new government is not always satisfied with the plan. Currently, committee members who are not elected are not accountable if the plan fails (Mongracz, 1998).

**Strategies for Dealing with Past and Current Issues Related to Loss of Control**

In some instances, the perceived advantages of joining the water district were greater for some municipalities than others because no economical alternative for water supply existed. For instance, North Vancouver joined because their community’s previous water system was irreversibly damaged by a flood. Other communities that are more removed geographically from the mountains, or are located across the Fraser River, had limited opportunity to obtain water from other sources, but still pay the same water rate as other members (Loucks, 1998, Barber, 1998).

In some cases, the fear of loss of autonomy, although a concern, is not raised as an issue because the member community is unable to provide its own water and the GVWD facilitated the partnering through a phased-cost schedule. In the case of the City of Langley, the community is small and unable to meet its water needs independently. The GVWD also provided an incentive to join. The GVWD’s agreement with the City of Langley stipulates that the district will pay the initial costs of installing the water mains on the condition that Langley City pays back the costs over a 20 year period through increased water rates (based on 2.5 times the board rate of water or $2.25/1000 gallons) (Mongracz, 1996).

The City has maintained some independence from the GVWD, however, by installing their own water reservoir as a back-up supply for fire-fighting following a major water main rupture. The City of Langley choose to build their own five million gallon reservoir (at a cost of $6 million) rather than pay for the infrastructure to share a portion of the GVWD’s two million gallon reservoir (at a cost of $3 million). The City felt that, although the GVWD would provide sufficient water for their needs, they would prefer to have control of use of the water in their own reservoir, rather than share it with other members in the system (Mongracz, 1998).

Although all member municipalities must abide by specific regional guidelines, they remain responsible for developing local community plans. Each member municipality of the GVWD must develop specific plans for accommodating increased population and has authority to control their own zoning. Member municipalities
also may involve developers in setting growth projections through a cooperative planning process. That is, developers of urban megaprojects meet with city planners and politicians to arrive at a mutually acceptable set of rules for development. Although, this process does not allow for public participation, it does allow the member communities to pass on the costs of processing huge development applications to the developer in return for giving the developer an opportunity to negotiate, rather than face a straight acceptance or rejection of the development scheme. Thus, although the Greater Vancouver Regional District sets targets, the people in the communities still have a say as to what kind of growth they want for their community (Gutstein, 1992).

Other Past and Current Issues

White Rock, although a member of the Greater Vancouver Regional District (GVRD) did not join the GVWD because they operate on a well water system that is adequate for their needs. They were not satisfied with the GVWD’s water quality and supply, and felt that White Rock Utilities is a more efficient system. White Rock, a bedroom community with a limited industrial base, expects to be able meet their stable water demands in the future. Further, they feel that the water quality of their wells is superior to the GVWD’s water supply and, unlike the GVWD, they have not experienced periodic summer water shortages. Their decision to opt out of the GVWD also was based on their belief that White Rock Utilities’ metered system is more accountable to the community. The City of White Rock also may be experiencing some bitterness towards the GVRD’s policies related to Growth Concentration Areas. White Rock was undergoing rapid development until approximately 18 months ago when a glut of lower-priced condominiums were built in Surrey. These developments have resulted in a levelling off of population growth in White Rock (Merchant, 1998).

Some communities, such as the Village of Anmore, are interested in joining the GVWD system but cannot finance the cost of hook up of the infrastructure. As an alternative, Anmore is trying to develop a cooperative agreement with Port Moody but the negotiation process is difficult because political bickering is occurring between the two municipalities. Lions Bay, which also is a member of the GVRD, did not join the GVWD because it has its own water supply sourced from Harvey and Magnesia Creeks (Morris, 1998).

Port Roberts also has expressed concerns that their 50 year agreement with the GVWD does not reflect the water usage of its population. When the agreement was initiated, the GVWD anticipated that Port Roberts would experience significant growth. This growth, however, has not occurred to the extent anticipated. As a result, Port Roberts is locked into a minimum usage agreement. The community’s particular concerns center around the significant cost increases that resulted from the GVWD’s phased growth plan and that the resort community wholesale water costs are approximately $176,000 US/year (Buerkes, 1998).

Findings and Summary

Regionalism in Greater Vancouver deals with many essential services: sewage treatment, water, parks, hospitals, housing and transportation. One of the key advantages of this integrated strategy is that it facilitates changes to services and the addition of other areas of responsibility (such as transit, which the GVRD is currently attempted to place under their mandate) (Morris, 1998).

The implementation of a public education program also has facilitated regionalism in Greater Vancouver. The program includes publications on the GVRD’s role in planning parks, hospitals, sewage and drainage, solid waste, and water, education programs offered to elementary and secondary schools, community groups, service clubs and business organizations, and public consensus meetings. The Greater Vancouver region also has had a history of “impressive formal mobilization of citizens” in the regional planning process over the past 25 years. Citizen participation has been significant and has played a strong role in maintaining a vision of a “green city” as a goal. Having a vision also has been an unique and definite

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8 The concerns in the Port Moody-Anmore situation is in regards to the recreational system. New negotiators are currently working on the process, and progress is being made.
advantage to the GVRD. Unlike other regions, such as Toronto, the GVRD's vision has been an anchor that has kept the region's priorities clearly focussed despite political shifts in power (Reid, 1996).

The Livable Region Strategic Plan clearly defines the regions' growth limits but provides some flexibility for local decision-making. The plan was developed through a consensus/partnership-based regional strategic planning process. The GVRD Board monitors regional change and evaluates progress towards the targets and goals of the Livable Region Strategic Plan. The progress towards the goals and targets periodically are reported to the public and the Livable Region Strategic Plan partners. The plan also will receive a substantial review within five years of its adoption. Some municipalities (the Township of Langley, the City of Richmond and the City of Surrey) are not in complete agreement with the Livable Region Strategic Plan. As indicated in the Memorandum of Understanding which is appended to the Strategic Plan, pathways are available to resolve objections.

The main advantage of the GVWD is that the system is able to provide water more economically than the members could obtain individually. The system's reliability of supply, and the centralized distribution system also are advantages that allow for economies of scale and central control. Other factors that assisted the regionalization process include the broad-based network, the long-range vision of control of supply, and a long range vision for the system as a whole. The shared responsibility of the region's water system enables politicians to take a region-wide perspective on issues without the proliferation of special-interest lobbies.

Establishing the GVWD as a corporate entity reduced fears of potential annexation because water agreements are no longer enacted between a central city and a smaller municipality. As a corporate entity, however, GVWD does not eliminate concerns of loss of control. In particular, the Mayor from Langley City notes that some member communities are concerned that GVWD is bureaucratic and that it is building an expensive "empire". As well, members of the GVWD cannot opt out of the regional system because of contractual obligations as initial conditions of membership (Morris, 1998).

The solution to urban sprawl in the Greater Vancouver region was to create "downtowns" in other areas (metropolitan multinucleation) (Davis and Perkins, 1992). Regional Town Centres (RTC) assist in reducing motor vehicle pollution and guard against urban sprawl. Vancouver is not worried that it will suffer as a result of development in other municipalities because the region as a whole has experienced (and is continuing to experience) rapid growth. Critics of the RTC program, however, have noted that the program is weak in three areas:

1. A lack of understanding of the regional real estate market forces has lead to an underestimation of the attraction of downtown, especially as it relates to office development, and the growth potential of non-designated suburban centres, both within and outside the boundaries of the GVRD.

2. Inadequate consideration has been given to the uniqueness of the individual RTC's future development, location priorities, and social impacts.

3. Insufficient attention has been given to the role of transportation policy in the promotion of the RTC program. The Province, rather than the GVRD, is responsible for transportation policy and is working towards a goal of increasing the accessibility of downtown rather than the interconnection of the town centres (Davis and Perkins, 1992).

Until the 1980's, the GVWD implemented plans that responded to projected problems which were at most 10 years into the future. The Regional Water Supply Plan, a regional strategy to the year 2041, is the GVWD's first long-range plan. As such, the plan has long-range implications on each members' population growth and the control of urban growth has been shifted from a local level to a regional level.

The main factor that has hindered the regionalization process of the GVWD is the tendency of the municipal partners to look at issues from a community level. The GVWD, however, has encouraged municipal politicians to think regionally by laying out a master plan. Through projections in the Regional Plan,
the GVWD has found it much easier to see the advantages and disadvantages of the system without getting caught up in short-term politics. The GVWD has been lead by visionaries who can see the system's future needs and thus avoid ad hoc or random planning. In addition, the Managing Director of the GVWD recommends comparing the difficulties of supply of a local system by paralleling them with the advantages of a system on a regional basis and anticipating how the systems will compare in the future. The system also should be more efficient as a collective process, and should be fair in that no single municipality carries the burden for other municipalities.

The implementation of a water quality improvement program has been a challenge for the GVWD because of the geographic extent of system, and the changes required to the treatment process. In addition, anticipated challenges in the next 1 to 3 years include the question of metering and a user-pay process in residential areas. As with all changes, costs must be justifiable for the region as a whole. Current GVWD members and representatives are listed in Appendix A.

CASE STUDY #2: REGION OF YORK

The Region of York, which was formed January 1, 1971, consists of nine municipalities: Aurora, East Gwillimbury, Georgina, King, Markham, Newmarket, Richmond Hill, Vaughan and Whitchurch-Stouffville. York is one of the fastest growing of the five regions in the Greater Toronto Area (GTA). York's population has increased from 166,060 in 1971 to approximately 635,000 in 1997, and is anticipated to reach 1.1 million by the year 2021 (Regional Municipality of York, 1998).

The Region is located west of the Durham Region10, east of the Peel Region11, north of Metropolitan Toronto and south of Lake Simcoe. Lake Simcoe provides some of York's water and wastewater needs via the Georgina-Keswick waste water treatment plant and the King water treatment plant. However, because York does not have direct access to Lake Ontario, the majority of York's water and wastewater needs are met through three inter-regional agreements: the York-Durham water agreement, the York-Peel wastewater agreement and the York-Toronto water agreement (McGreggor, 1998).

Inter-Regional Service Partnerships

The York-Durham wastewater agreement, the York-Peel water agreement and the York-Toronto water agreements originated in the 1970's. The Region of York has recently re-negotiated all three of its water and wastewater agreements. Changes reflect York's increased population, the Province of Ontario's transfer of power to the local level, and the Region's need for long-term water and wastewater agreements. Issues that re-emerged during the re-negotiation process include the threat of industrial competition, the fear of urban sprawl, the fairness of rates, and the need for partner equality (McGreggor, 1998).

The Inter-Regional Service Partnerships represent the main components of the preferred solution for the development of a long-term water supply for the Region, which was developed through the York Region/Consumers Utilities Partnership, and which was approved by Council on May 23, 1996. The preferred solution recommends the expansion of water supplies to the region in a four-step phased strategy:

Phase I: Finalize the Metro agreement. Water supply from Metro Toronto will provide an ongoing supply to York Region, with sufficient supply until the year 2004.

Phase II: Implement a water-use efficiency program. This program will provide immediate cost

10 The Region of Durham includes the former communities of Pickering, Whitby, Oshawa, Corte, and Ajax.

11 The Region of Peel includes the communities of Mississauga, Brampton and Caledon.
savings for the region and its area municipalities as well as defer capital expenditures.

Phase III: **Construct a new water treatment facility at Lake Simcoe.** The construction of a new water treatment facility in Georgina is a required step to ensure the continued growth in the Town of Georgina and to replace the Sutton filtration plant, which is nearing the end of its useful life. Subject to further discussion with various regulators, this facility could be designed to deliver Lake Simcoe water to other areas in York Region.

Phase IV: **A long-term Great Lakes supply.** Water supply from the Great Lakes involves drawing water from Lake Ontario via Durham (West). The scale of the project could vary owing to a number of factors including the potential for additional supplies from Lake Simcoe, which could feed areas south of Georgina, and the possibility of co-operation with Durham Region (Zamojc, 1997).

The preferred solution was developed following a public participation process, and the selection criteria were based on the Region’s Statement of Goals (securing water supplies to sustain the region’s future growth, rate stability and cost minimization, financing of future infrastructure and protecting the environment), and were supplemented by criteria including independence, reliability, source of supply and economic benefits to the Region (Toronto Real Estate Board, 1997).

**York-Durham Wastewater Agreement**

York and Durham’s original inter-regional agreement was developed in the late 1970’s and early 1980’s. Through provincial intervention, they developed a three-party agreement between York, Durham and the Province of Ontario to share a 40 million gallon/day wastewater treatment plant. In the original agreement, it was decided that Durham would operate the trunk sewage system and that the plant’s capacity would be split 50-50 based on the assumption that the two Regions would grow at approximately the same rate. Issues of growth, although somewhat sensitive politically, were not permitted to stall the agreement because of the Province’s intervention (Murray, 1998).

In the early 1990’s, in response to York’s request for additional capacity, a new 80 million gallon/day plant was built. In 1997, the plant was expanded to have a 160 million gallons/day capacity and a new wastewater agreement was finalized between York and Durham. The plant currently serves a population of approximately 130,000 in the Durham Region and approximately 400,000 in the York Region. It was agreed that Durham and York would buy the system from the Province of Ontario and would be co-owners of the system (McGreggor, 1998). In regards to capital costs, the Regions agreed that the portions of the wastewater distribution system located within their own Region would be financed individually, and that the capital and maintenance costs of the main sewage trunk and the pumping stations would be shared (Murray, 1998).

Most municipalities are serviced by the agreement within the Region of York, with only a few exceptions in the rural areas of Georgina and Whitchurch-Stouffville which have their own sewage systems. Only two municipalities within the Durham Region (Ajax and Pickering) are involved in the agreement (the other municipalities in Durham are in a different watershed and are connected to a different sewage system) (Murray, 1998).

The main advantages of the agreement are that it connects the small sewage systems in York’s municipalities, takes the sewage effluent out of the watercourse, provides for economies of scale and responds to the two Regions’ need for wastewater infrastructure. The new agreement permits York to reach its projected growth estimates that could not have occurred if York was limited to a discharge requirement of 450,000 gallons/day. The plant’s capacity exceeds the projected demand of 125 million gallons/day (based on the Regions’ Official Plans which predict each Region’s growth until the year 2021) (McGreggor, 1998).

The main differences between the new agreement and the original agreement are that the municipalities are committed to specific flow levels, who pays for what is defined, and York is recognized as a faster growing region. The two Regions agreed that they would be responsible for the cost of maintaining
the collection system within their own region, and would pay according to the flows, which are metered at the boundary (the ratio of flows is approximately 80:20, York-Durham respectively). Built into the wording of the agreement is that re-distribution will be permitted at a later date. York and Durham also agreed to permit an outside party to audit the meter on a regular basis and to have an open-book mechanism for deciding on capital costs (Murray, 1998; McGregor, 1998).

Issues of Urban Sprawl and Perception of Loss

Urban sprawl, loss of control or annexation were not significant issues. The main reason is that prior to expansion of the wastewater plant, each Region presented their Official Plans for development and the plant was built to meet anticipated demands. These plans also were approved by the Province of Ontario prior to negotiating the new wastewater agreement. The Regions agreed that they would not extend sewage services to unserviced areas. Growth was not a difficult issue because in both Regions the residents tell the municipalities where they want to live, not the other way around. The Regions also found that because the agreement was inter-regional instead of inter-municipal, potential annexation was not a threat. In particular, although the individual municipalities still exist, political boundaries were not as pronounced because each Regional government looked after its own distribution and set the rates for the Region regardless of the size of the municipalities within their Region (McGregor, 1998).

A steering committee was formed to develop the 1997 agreement. The process of negotiation went well because there were two willing partners involved, there was trust between the two, and both regions had a fair amount in common. In particular, both Regions had similar financial goals and viewed the agreement as a win-win proposition with cost-savings to both. The fact that both Regions had developed an Official Plan prior to negotiating the agreement also sped up the process. Greater Toronto Area (GTA) household forecasts, which were agreed upon in principle by the GTA members, could have been used for population forecasts. The population forecasts showed that both Regions were in need of expanded wastewater services (McGregor, 1998).

Within the Region of York, however, the community of King City (population 5,000) reluctantly joined the York-Durham sewage system and had serious objections to the manner in which their community was connected. King City's Council Representative felt that their local septic tanks and water supply adequately served their residents and that connecting to the York-Durham sewage pipe would cause unlimited development in their municipality. King City also expressed concerns about the absence of public debate and public input into the decision-making process. Specifically, King City became connected to the "Big Pipe" following the Region of York's decision to re-zone 60 acres near the Town of Schomberg in order to accommodate the anticipated wastewater needs of Showa Limited, a Japanese-controlled shock absorber manufacturer. The fact that the details about the necessity of the rezoning were not released to council members during the special meeting in which the rezoning order was discussed, was contentious (Sewell, 1998).

The Regions anticipate some challenges within the next three to five years when the plant is upgraded, since a decision will have to be made regarding who will be permitted to use the extra plant capacity. There also is some concern regarding who is responsible for discharge violations if the permitted environmental effluent flows are exceeded (Murray, 1998). In part, however, these concerns are answered by the agreement because of the flexibility built into the wording regarding the timing of future expansion and the assurance that both Regions have established model sewer use bylaws based on pollution abatement regulations. A master servicing plan for the system also will have to be developed to ensure adequate future infrastructure maintenance (Murray, 1998; McGregor, 1998).

York-Toronto Water Agreement

The York-Toronto Water Agreement originally was signed in 1974 with the assistance of the Province of Ontario. Within 20 years of the original agreement, however, the Region of York's water demands were
at full-capacity (McGreggor, 1998). About 78 per cent of the Region of York's water was supplied by Metro Toronto, which sets the price, and provides no guarantee that they could meet the Region's growth demands (Illingworth, 1996). In view of this short-sighted agreement, the Region of York, in 1990, began re-negotiating the agreement to obtain additional water supply from Toronto (McGreggor, 1998).

Toronto realized that York had limited options for a water supply, and stated that it would cost the Region of York $400 million for a 27 million gallon/day supply. Unsatisfied with Toronto's proposed price, the Region of York looked at an alternative long-term water strategy, beginning in 1993, by reviewing proposals put forward by private companies. In 1996, a partnership with Consumers' Utility (the parent company of Consumer Gas and NorthWest Water) was proposed which would provide water to the Region of York at a rate of approximately $7-10 million per million gal/day. As the Region of York moved through the environmental assessment phase, the City of Toronto presented a more realistic offer. The new agreement proposed was $123 million for 27 million gal/day, which is approximately $4.5 million per million gal/day (McGreggor, 1998).

In developing the new water agreement with Toronto, it was necessary for the steering committee to clearly demonstrate to the Council members that there was need for additional services, and to fully disclose to both Councils the costs of capital sharing. It also had to be demonstrated to Toronto's Council members that it would not be compromising either cost or capacity. The assurance that the agreement would be a win-win agreement came from developing a master servicing plan which showed the costs with and without servicing to York. It was pivotal to the negotiation of the inter-regional agreement that Toronto's council could see that on a cost-sharing basis, a water system with York as a partner was less expensive than building and maintaining a system on their own (McGreggor, 1998).

Some Council members from the City of Toronto initially expressed reluctance to renew the agreement with York because of concern over the growth of York's urban boundaries. From York's view-point, their anticipated population growth was caused by Toronto's concentration of commercial areas and the naturally occurring need for the workers to live somewhere in order to fill these jobs (McGreggor, 1998). From Toronto's view-point, the key requirements in the agreement included restricting York's peak daily demand, ensuring that the agreement provided a return on infrastructure investment and ensuring that Toronto was not subsidising water rates in York. To meet these requirements, York agreed to pay a dollar penalty if they exceeded their peak daily allowance, a 'power factor' (a premium on their water rates to account for the additional power required to transmit the water from Toronto), and to share the capital costs of the connecting infrastructure (Thorne, 1998).

The agreement, which will be finalized in June 1998, provides York with a specific supply of water with an adjustment on an annual basis. The agreement will be for 20 years, (the longest time period permitted under the Ontario Municipalities Act). Initial negotiations, which were being conducted by the Region's respective Commissioners, stalled due to personality conflicts and mutual mistrust. In particular, both Commissioners felt that their respective Regions were not getting a fair deal on rates. Negotiations between the two Regions improved when both Commissioners retired. The newly assigned Commissioner from Toronto had a previous working relationship with the Engineer of the Region of York. This, as the Commissioner has stated, was a key factor in facilitating the continuation of the agreement negotiation talks (Thorne, 1998).

The agreement negotiations have proceeded largely owing to York's persistence, and the fact that Toronto felt that it might miss the opportunity to provide water to the Region of York because of the alternative water agreement which York was considering (McGreggor, 1998). Toronto also has noted that York only accounts for 13 percent of their total treatment capacity (Thorne, 1998). Both parties were concerned that the Province would become involved and ask the Greater Toronto Service Board (GTSB) to step in to create a government utility without providing opportunity for input (McGreggor, 1998).
York-Peel Water Agreement

In September 1997, the Peel Regional Council approved an inter-regional wastewater servicing agreement with the Region of York. Under the servicing agreement, Peel provides wastewater services to Woodbridge (City of Vaughan, Region of York) and two future areas of development - an area located north of the existing community and a business area located between Hwy. 27 and the Peel/York boundary. Servicing for York will begin in 2001 when the York/Humber pumping station has reached full capacity. York's maximum usage to the year 2031 will represent only 8 per cent of the site capacity at the Lakeview WWTP and/or 9.8 percent of the site capacity at the Clarkson WWTP, while accommodating all future wastewater servicing needs for Peel (Zamojc, 1997).

The benefits of the inter-regional partnership are:

- Both Peel and York save on infrastructure costs, obtain capital cost savings through shared infrastructure, and obtain savings through the sharing of plant operation, maintenance and overhead costs while providing service to a larger customer base.
- Peel anticipates cost savings between $63.2 million and $82.4 million over the next 30 years, and capital cost savings between $10.4 million to $29.6 million.
- Peel will receive, as part of the agreement, a return on assets of $14.8 million from York for capacity rights, along with an additional $38 million from York in contributions to the Infrastructure Reserve over the next 30 years.
- By contracting service to York, Peel is able to advance some components of the Peel wastewater system at no cost to Peel taxpayers.
- By partnering with York, Peel will be able to share the cost of mutually beneficial infrastructure works and will be able to proceed with those works earlier, allowing greater flexibility in the development of Peel.
- York is able to service existing and future growth in Woodbridge and benefit from capital and operational cost savings as a result of connecting to Peel's system (Zamojc, 1998).

Some Region of Peel Council members (especially Councilors from Brampton—the area which paralleled the Vaughan area to be serviced) expressed concern that commercial interests might find the Region of York more attractive than the Region of Peel. These concerns, however, were eased following a market assessment which advised Peel Council members of the impact of renewing the water agreement. In particular, the report showed that competition from the Region of York was not dependent upon a sewage treatment or water system. The GTSB also assisted the signing of the agreement because they viewed it as a natural progression and likely would have mandated a partnership if competition became more important than servicing needs (McGreggor, 1998). The Region of York also had an alternative agreement option that would have cost only $50 million more. Ten guiding principles were established by the Peel Regional Council to ensure Peel's taxpayers would benefit from the inter-regional wastewater agreement with York (Regional Municipality of Peel, May 5, 1997).
The Region of Peel’s guiding principles as outlined in the Resolution 96-918 Passed by Regional Council September 12, 1996

1. The current and future water supply and sewer services to Peel ratepayers is not put at risk;

2. Peel will maintain control of the water supply and wastewater services and all related infrastructure and capital works inside Peel;

3. Incentives must be created to manage water resources prudently;

4. A system of controls and enforcement must be in place to ensure compliance with environmental standards for sewage systems within acceptable costs;

5. Peel ratepayers are not to subsidize any costs related to the supply of these water and wastewater services, including capital, design and development costs and staff time;

6. Peel ratepayers are not directly or indirectly to underwrite the financing of any costs related to the supply of these services;

7. Revenues to Peel must exceed full costs;

8. Revenues to Peel must be secured in a manner which does not place Peel ratepayers at risk;

9. Specific servicing solutions must result in benefits to Peel;

10. The provision of water and wastewater services will not result in a negative impact on Peel or its area municipalities.

The Region of York deemed it necessary for the agreement to be a win-win situation for both partners. They also found it helpful for all parties to look at the big picture. That is, if companies are to move to the Region they require somewhere for the employees to live. The Region of York also found that creating market competition helped speed the negotiation process. Likewise, by having a Regional Plan already in place, growth issues were less of a concern during negotiations. Specifically, the Region of York noted that when water agreements provide impetus for growth, land-use planning occurs in a haphazard manner and inter-jurisdictional negotiations may become more difficult (McGreggor, 1998).

York also agreed to finance any new infrastructure required within Peel which is of sole benefit to the Region of York. Any infrastructure built within Peel will be owned by Peel regardless of the source of funding and York will compensate Peel for any costs resulting from the advancing of infrastructure for York. The costs of new infrastructure that benefits both Regions will be shared by Peel and York based on the proportion of the wastewater capacity utilized or reserved for future use by York. York will be charged a wholesale rate for wastewater flows processed by Peel to cover all operating costs. Contracting with York will allow some components of the Peel system to proceed earlier than planned at no cost to Peel ratepayers. Peel will achieve cost savings, above capital costs, through the sharing of plant operation, maintenance and overhead costs by providing service to a larger customer base. York will realize capital cost savings and operational cost savings from this agreement (Zamojc, 1997).

York Regional Council has selected a private sector partner (Consumer Utilities) to assist the Region in developing and implementing a long-term water strategy. This decision was made by the York Regional
Council following a presentation by the Water Committee Task Force regarding the tendering process (Illingworth, 1996).

The Region of Peel also currently is developing a 10-year master servicing plan designed to optimize the water distribution system. The master plan includes the Region’s plans for revising services to its members and is based on population, future demand, and issues related to hard servicing options. The preferred option involves twinning the existing pipes. This option takes into account factors such as the population density and environmental impact of a twin trunk sewer system on valley land (Zamojc, 1998).

Challenges anticipated in the next three to five years include questioning of the long-term implications of the decision, arguments over assessments, and continued pressure from economic developers who may cause council members to challenge the sensibility of the agreement. The biggest challenges will be to ensure continued cooperation, to deal with potential concern of loss of industrial business, and to demonstrate that this concern is a perception rather than reality (McGreggor, 1998).

Halton-Peel Water Agreement: Not the Preferred Option

The Region of Halton12 had an opportunity to develop a cooperative water infrastructure project with the Region of Peel. The agreement, which was not implemented, would have expanded the Halton Region’s water services to accommodate the growth of the City of Milton. Following an environmental assessment and a cost analysis, the Region of Halton concluded that it was more economical to meet the growing needs from the existing lake base from Oakville. The project, which initially was intended to be a $500 million project, has been scaled back to $36 million. The water extension project will be financed through development charges in front-end agreements with developers. This strategy allows new growth to pay for itself.

In addition to the higher costs, the Region of Halton was hesitant about forming an agreement with the Region of Peel because of growth controls which the Region of Peel was proposing. In particular, Council members from Brampton were concerned that the Region of Halton's growth would have a negative impact on their own growth. Brampton felt that growth control measures (on Halton) should be part of the agreement so that business interests did not choose Halton instead of Peel for development (Marshall, 1998).

Findings and Conclusions

The Region of York formed a task force to develop a master plan for long term water supply with all three agreements. The task force, which was lead by the four mayors of the large municipalities, was responsible for steering the initiative and driving it forward. In hindsight, having the mayors rather than staff drive the plan forward was a good decision because it gave the initiative a high degree of exposure and direction. The Regional Official Plan which was formed in 1994 prior to finalizing the water and wastewater agreements, allowed the growth issues to largely be "put aside". Also of assistance was the GTA's Hemson forecasts which provided a basis for dealing with land-use planning issues and provided recommendations on how much land should be developed.

The GTSB also acted as a coordinating body in directing the municipalities to cooperate intra-regionally and inter-regionally. At the same time as the development of the agreements in 1996 and 1997, the Provincial government was establishing the GTSB for dealing with servicing issues and issues of consolidation. Ontario's actions served as a catalyst because the Regions were concerned about the possible changes that the Province might impose. In particular, some councillors were concerned about how the Province's plans to consolidate and amalgamate might change political representation and staffing. It was felt that failure to negotiate an agreement might result in Provincial intervention and the GTSB establishing the agreement rather than just coordinating and monitoring it. There also was the realization that there was a need for

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12 The Region of Halton includes Georgetown, Halton Hills, Acton, Burlington, Oakville, and Milton.
coordinating issues because of potential water and wastewater shortage.

The Region of York's concerns about tiered rates among the regions has not been resolved. Unlike other utilities, in which all members pay the same rates, different jurisdictions pay different rates for water and wastewater. Although the costs are relatively low (approximately $250/household) and the variance is not substantial, the Region of York has noted that rates should be standardized because water and wastewater services are essential services. Tiered rates create administrative complexity and result in customer confusion, especially along boundaries where rates change.

The re-negotiation of the Durham-York wastewater agreement in 1997 went smoothly. Factors attributing to the ease of negotiation include good documentation on past demand (which included flow records on a per capital basis), good documentation and equal access to official plans detailing historical population growth, and consensus that the facility would be operated and maintained in compliance with environmental regulations. In addition, capital requirements for past and future development were clearly understood and there was consensus regarding the water quality requirements to be met by the system (McGreggor, 1998).

In the Durham-York wastewater agreement, the wastewater system was never solely owned by one Region and the Regions had established trust from their earlier partnership. Political turf protection and issues regarding provision of different service standards, rates for customers, and how to decide how costs would be apportioned were, therefore, avoided because of their previous experience working with one another (Thompson, 1998). Openness, and complete disclosure of capital cost forecasts also assisted the negotiation process. As well, the host municipality had a clear business plan which demonstrated the value of putting its assets to use, and of using the new income as a means to contribute to future replacement costs of the existing infrastructure. York's ability to demonstrate to each potential partner (Durham, Peel and Toronto) how a joint agreement would involve utilizing the water infrastructure assets to their fullest, the benefits of building to a larger scale, and the insignificance of incremental cost (that is, the costs of expanding their pipeline size to serve both Regions) compared to the costs of forming a system with capacity for their Region alone, were vital to putting the inter-regional agreements in a more positive light (McGreggor, 1998).

Some of the issues that York is dealing with in their York-Peel agreement also may reflect the Region of Peel's inability to resolve its own problems related to rate fairness and urban sprawl issues. In particular, Mississauga recently raised concerns that they are subsidizing the rural-have-not areas. Likewise, following the formation of the Region of Peel in 1974, the growth from the south (that is, Mississauga) moved north (to Brampton). Mississauga, at that time, expressed concerns that they had funded the majority of the capital infrastructure required for growth but Brampton was reaping the benefits. Brampton, on the other hand, felt that Mississauga had reached a growth plateau, and it was Brampton's turn to benefit from the capital infrastructure (McDonald, 1998; Zamojc, 1998).

The Region of Peel recommends on-going communication at both the municipal and the public levels when negotiating agreements both within a region, and inter-regionally. In realizing that they are dealing with issues of change, and that resistance is likely to be encountered, it is important to have actual business case studies showing the benefits of the change, and a mechanism for managing competition (McDonald, 1998). The Region of Peel wastewater report is provided in Appendix A.

**CASE STUDY #3: HALIFAX REGIONAL WATER COMMISSION**

The Halifax Regional Water Commission was created by the Halifax Regional Municipality Act S.N.S. 1995, Chapter 3, Section 214, on April 1, 1996 (Halifax Regional Water Commission, 1996). The Commission, a crown corporation owned by the Halifax Regional Municipality, is a union of the former Halifax County Water Utility, the Dartmouth Water Utility, and the Halifax Water Commission (Rooney, 1998).
The regionalization of the water system was mandated following a provincially enforced amalgamation. The choices for a model for the Regional Municipality of Halifax's water utility were 1) a municipal department-run system (similar to the system previously operated by Halifax County and Dartmouth), 2) privatization, or 3) a Commission structure (similar to the system previously operated by Halifax). A Commission structure was chosen because the Halifax Water Commission had the best performance record of the three former water utilities. Privatization was not viewed as a viable option because it was feared that rates would increase significantly (Yates, 1998).

Pockwock Lake and Lake Major are the main supply sources from which the system draws water. The system can draw water from the Chain Lake Emergency Pumping Station if the transmission line fails in the Pockwock system. The regional system serves approximately 69,000 connections and a population of approximately 325,000. The Pockwock Lake Treatment Plant provides water services to Halifax, Bedford, Saxville, Lakeside and Timberly. The Lake Major Treatment Plant provides water service to Dartmouth, Eastern Passage, Forest Hills, and Cole Harbour (Halifax Water Commission, October 1995; Yates, 1999). Seven smaller systems, serving a total of 25,000 residents in Halifax County, are operating in conjunction with the Halifax Regional Water Commission. No decision has been made whether or not these smaller systems will be integrated into the regional system (Rooney, 1998).

The Pockwock Lake Treatment Plant currently is operating at 21 million gallons per day and has a capacity of 40 million gallons per day. The Lake Major Treatment Plant currently is operating at 10 million gallons per day and has a 13 to 14 million gallons per day capacity. Capacity is being upgraded and expanded. The estimated costs of the upgrades to the treatment plant and transmission system is $40 million, and $10 million respectively. Upon completion, the treatment plant will have a capacity of 16 million gallons a day and will provide an improved quality of water to Dartmouth, Eastern Passage and Cole Harbour. The Pockwock Lake transmission system also will be extended five to six kilometres to open up new areas of land and to allow for expansion of existing areas. There currently is a need for a major sewage treatment project in Saxville because untreated sewage goes directly into the sea (Rooney, 1998).

The main advantage of regionalization is that it allows closer monitoring of the system which has resulted in a $1 million leakage problem being resolved. A centralized regional system, instead of three smaller ones, also is more efficient from a management perspective. The main difficulty the regionalized system is encountering is differences in the levels of service (level of service has been improved in some areas). Residents and Council members are focussing on local issues and, consequently, have different ideas on planning, water rates, and the development of infrastructure (especially the issue of who benefits, who pays) (Yates, 1998).

Pre-Regionalization

The Halifax Water Commission (HWC) provided water services to the City of Halifax since 1945. HWC was a 100 percent metered utility, regulated by the Nova Scotia Utility and Review Board. It's structure was apart from the civic government and, therefore, the utility did not compete for limited municipal capital and operating funds. Water revenue generated by the Commission was used to cover the Commission's capital and operating requirements. Water main renewals and maintenance projects were carried out annually by the Commission. The system provided water services to 25,000 connections (mainly industrial) and had a daily output of 17 million gallons (Halifax Water Commission, October 1995). The Commission expected to be debt-free by the year 2000 and took pride in being "a small but effective Commission" (Halifax Water Commission, June 1995). Prior to the formation of the Halifax Regional Municipality, Pockwock Lake served as a water source for a total population of 170,000 people in Halifax, and on a wholesale basis to Bedford, Saxville, Waverly, Windsor Junction, Lakeside and Timberlea (Halifax Water Commission, October 1995).

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13 The Lake Major Treatment Plant currently uses only chlorine and lime for treatment purposes. The plant has experienced major water quality concerns including a need, in 1994, for residents to boil their water. Prior to amalgamation, the utility was under close scrutiny by the Province.
The Dartmouth Water Utility, owned by the City of Dartmouth and operated as a city department, served 26,000 connections in the areas of Dartmouth, Cole Harbour Eastern Passage and Forest Hills. Most connections were residential and the system had an output of 10 million gallons/day. The Utility drew water from Lake Major and, prior to amalgamating, was experiencing problems with inadequate treatment facilities (Rooney, 1998).

The Halifax County Water Utility provided water services to 15,000 customers in Bedford, Saxisville, Windsor Junction, Lakeside and Timberlea. Most of the connections were residential and the system output was approximately 3.5 million gal/day. The Bedford South Water Service District was part of the Halifax County Water Utility and provided water services to Bedford and surrounding areas (Rooney, 1998). In March 1994, the Bedford Water Supply Development Strategy Report was produced at the request of the former Halifax County Water Utility. The report presented the results of a hydraulic study and cost estimate for a fully integrated, reliable water transmission and distribution system that would meet the short and long-term requirements for the Bedford South Water Service District (Halifax Regional Water Commission, 1996).

Prior to amalgamation, the Halifax County Water Utility bought bulk water from the Halifax Water Commission. Seven smaller systems also were operated on behalf of the County. These systems drew from a separate supply and were responsible for their own maintenance. They originally had been set up because of water quality problems, had been running illegally, and had rates much higher than the rest of Halifax County (Rooney, 1998).

All three utilities had set their rates at a level to be self-sufficient. Also, prior to amalgamation, the Metropolitan Authority, which provided transit services and solid waste services, was the only forum in which regional issues could be debated (Meech and Vodicka, 1997).

Regional Strategies

The Regional Municipality of Halifax is in the process of developing several strategies for regional cost-sharing and growth management policies.

Growth Management Strategies

Although amalgamation occurred more than two years ago, the Regional Municipality of Halifax has just begun to develop growth management strategies. These strategies are necessary because, prior to the amalgamation, the counties "let anything go", areas were developed with each municipality's own interests in mind, and no by-laws had been developed to deal with growth (Dickson, 1998). As well, prior to amalgamation, each of the former municipalities initiated capital projects that would not have been pursued under normal circumstances, thus depleting their financial reserves (Meech and Vodicka, 1997). Currently, it is less expensive to develop in "unserviceable" areas, although some unserviceable areas have water quality and quantity problems (Dickson, 1998).

The Regional Municipality of Halifax feels that it is important to have a growth management plan in place for the maintenance of a reasonable tax rate. Developers are aware of the proposed growth management plan and have been submitting major subdivision applications. During the spring of 1998, the Regional Municipality plans to develop a database for future decision-making (Dickson, 1998).

The basic plan for growth management will be to have serviceable boundaries marked. Serviceable development will be permitted within the boundaries and only non-serviceable development will be permitted outside of the boundaries. The Halifax Regional Water Commission also will assist in defining the growth boundaries, by looking at which water trunks can be extended (Dickson, 1998).

The future Growth Management Strategy will consist of a two-pronged approach. First, the Municipality plans to promote the concept of growth management to the development community. This is anticipated to
be a relatively straight-forward task since the development community is already in agreement with the concept and is moving in that direction. Promotion will focus on qualitatively describing the true costs, and the environmental/habitat costs. Second, the strategy will involve a public relations and education program to promote the concept of growth control to the public. One of the main components of the education campaign will be to explain the relationship between taxes and development: taxes rise significantly when development is not controlled. They also will explain the environmental costs to the public to place the consequences of uncontrolled development foremost in the public’s minds (Dickson, 1998).

**Capital Cost Contribution Policy: A Standard Policy for Developers**

A Capital Cost Contribution Policy has been developed to manage the sharing of infrastructure costs for new and existing developments serviced by the Commission. The policy is designed for developers and deals with issues of who pays for infrastructure extension. The basic principle of the policy is "whoever benefits, pays". In formulating a standard policy for developers, the Halifax Regional Water Commission looked at models from both other areas (especially Ontario), and the format being used in Halifax County. The policy is based mainly on the policies used in Halifax County (75 percent is based on their policies), but is modified to reflect a regional focus. The policy was submitted for ratification to the Nova Scotia Utility and Review Board (NSURB) in August 1996, and was approved in April, 1998 (Yates, 1998).  

The Capital Cost Contribution Policy applies to the entire Municipality, with the implementation of specific charges to the Bedford South Water Service District. The policy has been developed in order to plan for the Regional Municipality's anticipated new development and the accompanying demands for new infrastructure. The aim of the contribution policy is to accommodate new development without burdening the existing customer base. The main components of the Capital Cost Contribution Policy are the Gates Report (with application of a general formula for the entire region) and documents related to the specific charges for the Bedford South Water Service District (Halifax Regional Water Commission, 1997). The standardized formula for the calculation of developers' charges (as in the Gates Report) and application of the formula in the “Calculation of Bedford South Developers' Charges” are provided in Appendix B.

The Gates Report provides an adjustment for density of infrastructure in the capital cost contribution. The allowable density of specific areas within the water service district or development area will be established jointly by the Commission and the Planning Department of the Municipalities. Density determinations will be used to calculate the per acre contribution of a development above or below the proposed average density of the total developable area. This density adjustment is preferred by the major developers in the area. A density cap has been applied to the Bedford South area to reflect the area's rapid growth. The density cap formula used has been designed in a flexible manner to allow its use as a model in similar circumstances in the future. The Gates Report also requires that future customers contribute to the Commission's capital projects, thereby providing a simple, consistent, predictable and fair tool for allocating the costs associated with expansion of the system (Halifax Regional Water Commission, 1997).

**Issues of Loss of Control**

All current partners initially were reluctant to join but had little choice because the amalgamation was a "shotgun merger". All four municipalities (Dartmouth, Halifax, Halifax County, and Bedford) had concerns about losing their identity, absorbing each other's debts, and changes in service levels. The City of Halifax felt the least impact from the amalgamation because the Commission structure remains the same, and thus they see the water system as no net loss or gain. Dartmouth's water rates have increased, but they realize that through regionalization their water quality problems will be resolved. Halifax County's rates have decreased since the merger (Yates, 1998).

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14 The NSURB has accepted their proposal except for sections that request rate increases.
Other Issues

Other issues discussed during the regionalization process included the proposed upgrading of the Lake Major Treatment Plant, rate standardization, and human resources. The Regional Water Commission standardized rates effective April 1, 1998. The rates are set at values established by the former Halifax Water Commission (average household rate of $172/year). The standardized rate represents an increase for Dartmouth (previous average household rate was $140/year), and a decrease for Halifax County (previous average household rate of $190/year) (Yates, 1998). The Water Commission also had requested a 2.5 percent per annum rate increase (to the year 2002) to finance the Halifax Harbour Clean-up Project and upgrades of the treatment plants and transmission system. The NSURB, however, has not agreed to the proposed increase and has stated that the Water Commission should continue to operate at current rates for another year. An independent consultant will then be retained to review the Commission's financial accounts and to assess if the rate increases are justified (Rooney, 1998). In dealing with human resource issues, the Water Commission also is in the process of establishing one collective agreement to replace the three current collective agreements, and is conducting a job evaluation process (Yates, 1998).

Since amalgamation, the Halifax Regional Municipality has requested special designation as a Capital Region and has presented a case to the Nova Scotia government for additional funding. The Regional Municipality's request is based on the fact that it must provide additional infrastructure because it is a hub of provincial and regional facilities. Its facilities, such as hospitals, corrections centers, and universities, provide services to a significant number of non-residents, which strains the current infrastructure (roads, traffic improvements, sewers, etc) and creates a demand for new infrastructure. The Municipality also is asserting that properties (such as those owned by the federal and provincial governments, and the privately-owned Nova Scotia Power Inc.), which provide grants-in-lieu of taxes based on property assessment, receive the benefits of municipal services but generate little or no tax revenues for the Municipality. Halifax Regional Municipality believes that the assessed values are not current and, if taxed, the properties would generate significantly more tax revenues to the Municipality (Fitzgerald, 1998).

Summary and Conclusions

Provincially mandated amalgamation has forced the Halifax Region to develop two regional policies: a Growth Management Policy and a Capital Cost Contribution Policy. Developing Council consensus on the proposed Growth Management Policy is not anticipated without a struggle. The Regional Municipality plans to publish a Growth Strategies Report that evaluates growth issues and clearly defines the problem areas (e.g., Lower Saxville is a high growth area) in early summer, 1998. This report, which will be followed-up with a two-prong public relations and education campaign for developers and for the public, is expected to facilitate further development and the acceptance of a Regional Growth Management Policy (Dickson, 1998).

Political critics have denounced the merger for several reasons: 1) the transition costs are double the estimate made by Nova Scotia's merger coordinator ($22 million instead of $10 million), 2) property and business taxes (predicted to decrease following the merger) have increased by nearly 10 percent in some areas, 3) costs have increased owing to higher service levels in outlying areas and the equalization of municipal employees' salaries and wages, and 4) the merger was completed without local approval. The merger also has been described as a disruption of local government, and a destruction of local representation (McDonough, 1997).

Regionalization of the water and sewage infrastructure has been a benefit to Dartmouth because the quality of water will be improved through the Lake Major Treatment Plant upgrade (Yates, 1998). Regionalization also has given the area more "political clout" and stronger justification for additional provincial funding. The amalgamation of the municipalities, however, has distanced the taxpayers from the decisions that most directly affect their lives. Public participation was minimal because amalgamation was enacted from a higher level of government (Hamilton, 1996).
CASE STUDY #4: AUSTIN, TEXAS AND SURROUNDING AREA

Austin is the twenty-second largest city in the United States, with a population of approximately 548,000. The City recently has been involved in a number of disputes with its surrounding suburbs and local developers. In particular, Austin’s unpopular practice of extending City sewer and water infrastructure conditional upon annexation of the suburb, has been disputed by the suburb Circle C, and by Freeport-McMoRan, a parent company to a real estate and development firm. Other Austin suburbs, such as Williamson County and Travis County, also have initiated “Austin-bashing” legislation to deal with their feelings of intimidation and loss of control.

The six-year economic boom of the 1980’s and early 1990’s, which benefited the suburbs, was of marginal benefit to Austin. As a consequence of recent suburban disputes, the City’s slower growth, its concerns about urban sprawl, and its potential loss of commercial business, Austin has been focusing on revitalizing its image, and on re-building its central core.

Circle C versus the City of Austin

In 1983, the City of Austin agreed to back $40 million of bonds to extend water and sewer services to the new 2,700 acre Circle C development in Southwest Travis County. As part of the contract, Circle C agreed to be annexed by Austin in ten years time. At the time of initiation, the contract was perceived to be of benefit to both Austin and Circle C. For Austin, the bonds were a means of financing the City’s growth, of paying for the extension of sewer and water services to other surrounding developments, and of gaining millions of dollars in property taxes following annexation. For Circle C, the extension of City services was the only viable choice for providing water and sewage services to the planned development (the other option was getting water directly from the Edwards Aquifer and using septic tanks for sewage). By helping finance water and sewer service to new areas years before formal annexation, the Austin council hoped to prevent the City from being surrounded by incorporated suburbs and being unable to expand its tax base. Austin also believed that Circle C would provide affordable housing and that the new development would abide by the City’s water quality ordinance and other terms of the agreement (Phillips, June 15, 1997).

The Circle C community developed quickly, being favoured by Californians who relocated to Austin for technology industry jobs. Although the community was separated from Austin by extensive undeveloped tracts, Circle C enjoyed underground electrical and telephone lines and city water and sewer services, and was only a fifteen-minute drive from downtown. It had soccer fields, a disc-tossing course, a golf course, a tennis center, an Olympic-size pool, numerous parks, several schools, a child care center, and a paved bicycle loop. Circle C, a subdivision of 1500 homes (1995 statistics), was described as a family-oriented place, with a low crime rate and a wide-open feeling. It was considered the “ultimate suburban dream” by its residents and consisted of homes with a market value of a minimum of $190,000. In addition, plans for Circle C’s development in the early 1990’s included multi-family housing units, retail outlets and other commercial development to provide additional sustainability to the Circle C bedroom community (Haurwitz, June 16, 1997).

In 1992, environmental activists, such as the Save Barton Creek Association and We Care Austin, which disapproved of a Circle C multiuse development located over the Edwards Aquifer, lobbied for the passing of the Save Our Springs (SOS) ordinance which limited development in the Barton Creek Watershed (including Circle C’s development). In response, Circle C’s developer lobbied the Texas Legislature for the passing of a bill that would exempt Circle C and other developments from the SOS ordinances. In 1995, the developer also appealed to the Texas Legislature that Austin’s frequent changing of water quality regulations governing development in the Barton Creek area had imperiled his ability to plan the future of Circle C. The Texas Legislature created the Southwest Travis County Water District—a decision which removed Circle C from Austin’s development-limiting water regulations and protected Circle C from future annexation. The legislation also made Circle C a sovereign state, free from all city regulations, and established a governor-appointed board to administer the community (Phillips, “A Bradley chronicle”, June 15, 1997).
Under less strict state regulations, the developers of Circle C could build more commercial buildings, apartments and other facilities on the same amount of land. By obviating annexation, the bill cost Austin potentially millions of dollars in future property tax revenues. The Bill also established a dangerous precedent in that the Legislature resolved a local dispute by creating a unique entity governed by an appointed rather than elected board. At the same time, a raft of other proposals that limited Austin's power over development along its borders and permitted developers such as Freeport-McMoRan Inc. to develop under less strict state water pollution standards, cleared the Legislature. Austin Council, and its residents, felt that the revenues that would have resulted from annexation were their due because of the millions of dollars of subsidies that Circle C was provided (see insert).

<table>
<thead>
<tr>
<th>Austin has invested more than $32 million into the Circle C subdivision. The subsidies at the City, State, County and Federal level and from the Austin School District include:</th>
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<tr>
<td>• The State funded the extension of the MoPac Expressway across the aquifer recharge zone to Circle C and constructed the first part of the Outer Loop (State Highway 45) along the southern border of the Circle C subdivision.</td>
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<tr>
<td>• The State and the City contributed $500,000 and $300,000, respectively, for a paved circular bicycle path at Circle C.</td>
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<td>• Austin maintains the Slaughter Creek Metropolitan Park, which serves Circle C residents, at a cost of about $12,500/year.</td>
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<td>• Austin guaranteed $35 million in bond debt for Circle C's water and wastewater service. This was intended to be conditional upon changing water quality standards and eventual annexation of Circle C.</td>
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<td>• Bowie High, which services Circle C and some South Austin residents, was built for $27 million. The school district also built Kiker Elementary in central Circle C and Bailey Middle School, at costs of $4.7 million and $12 million, respectively. The school board is considering building three more schools.</td>
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<td>• The developers defaulted on $90 million worth of loans from Gibraltar Savings Association. When Gibraltar failed in the savings and loans crisis, the federal government covered the difference between what had been loaned and Circle C's value. The government passed a judgement of $53 million on the developers who have not yet paid (Slusher, October 13, 1995).</td>
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Residents of Circle C who feared that annexation would affect their quality of life, were relieved that the Bill would not permit annexation. Some residents expressed concerns that Austin had not demonstrated why they should want to be City residents, feared that annexation would led to reduced services (police, fire, EMS) and distrusted the Austin City Council, which had not kept its annexation promises (for improved services) to the recently annexed community of Oak Hill. Many residents who valued the high standards of maintenance and amenities of the manicured subdivision, also stated that lower property taxes from the City were not worth the possible deterioration of their community (Wear, October 10, 1997).

In 1996, the City challenged the Circle C law as unconstitutional, and through State District Court action, the Southwest Travis County Water District was dissolved and the Circle C community and its municipal utility district was annexed by the City of Austin in December, 1997 (Phillips, June 17, 1997). Annexation gave the City the right to $275 million of taxable property, to collect development fees, to levy water and wastewater surcharges and to change various fees on utility bills and sales taxes (when and if
commercial development begins in Circle C). In return, the City assumes at least $13 million in bond debt and developer reimbursement debt for infrastructure, is required to provide service to any new development, and the district can "extract" and sell water. The Circle C Area Service Plan states:

The plan is in effect for a 10-year period and the renewal of the plan is at the option of the City of Austin. As part of the plan, the following services will be provided: police protection, solid waste collection, water and wastewater facilities maintenance, emergency and fire protection, road and street maintenance, parks, playground and swimming pool maintenance, and publicly-owned facility, building or service maintenance...60 days following the effective date of annexation (City of Austin, December 9, 1997).

Freeport-McMoRan Inc. versus the City of Austin

Freeport-McMoRan Inc., an international New Orleans' oil and gas company and their affiliate real-estate company, FM Properties, have been requesting City water and sewer services and a development agreement from Austin Council for more than five years (1990-1995). The City of Austin has approved the development agreement but has repeatedly refused the request to extend sewer and water infrastructure and services to the 4000 acre Planned Urban Development. Following each refusal, however, Freeport has managed to put the development agreement issue back on City Council agenda. This dispute has cost the City of Austin countless hours of Council time and over $1.5 million in litigation expenses (Bryce, February 16, 1997).

Austin's reluctance to enter into agreement with Freeport stems from Freeport's contractual "breaches" in overseas contracts\(^{15}\), the City's concern about potential tax losses due to urban sprawl, and the City's fear of setting a precedent which might encourage other suburbs to pursue legislative action to void their agreements with the City (that is, that they will agree to be annexed after the extension of water and sewage to their Municipal Urban District) (Slusher, November 24, 1995).

Austin has agreed to the development agreement that would make it possible for FM Properties to start developing regardless of the City's approval of sewer and water infrastructure. To service the development, FM Properties could obtain approval from the Texas Legislature. With state approval, Freeport could develop residential lots and use septic tanks and sewage irrigation. Freeport's Chief Executive Officer, however, has stated that the single family homes proposals will not work financially without the accompanying commercial development, and it is unlikely that the commercial developments could be supported with septic tanks. It also is unlikely that homes valued at $300,000 would be desirable if they are serviced through septic tanks. Development costs would rise because Freeport would be responsible for developing its own water and sewage infrastructure and would have to set aside developable acreage for irrigation purposes.

Freeport has won the right to declare themselves a "water quality protection zone"\(^{16}\) which frees them from all Austin environmental regulations. They also have won approval of seven municipal utility districts (MUDs) which can issue bonds for infrastructure and have immunity from annexation for 15 years. They have won a "fallback" bill which allows a water district that currently provides some service to the area to break

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\(^{15}\) The company is a part owner in a Indonesian gold and copper mine which experienced human-rights abuses in 1995. The Overseas Private Investment Corporation (OPIC) cancelled Freeport's political risk insurance for contractual "breaches" and for having "severely degraded" rainforests around the mine. Freeport representatives claim that the insurance was cancelled out of future environmental concern and that their employees were not directly involved in the human rights violations.

\(^{16}\) The Water Quality Zone bill allows developers with more than 1000 acres in Austin's extraterritorial jurisdiction (ETJ) to declare their property a "water quality zone" and be responsible for regulating their own water quality by submitting their own water quality plans to the Texas Natural Resources Commission (TNRCC).
contracts with Austin, to annex Freeport's property and to provide them with water and wastewater service. The justification for the State passing the fallback bill is that Austin has "abused" its right to protect water quality, causing "an economic decline in the city". Freeport's development plans, however, will remain at a standstill, despite the passing of the bills, unless the City of Austin agrees to extend sewage infrastructure and service.

On July 20, 1996, the City of Austin decided to provide sewer services to Freeport McMoRan's Lantana development. The $4.1 million agreement with Freeport-McMoRan is to provide service to the Lantana tract within the city limits (700 acre development in the southwest part of Austin, serving 5000 people) which lies over the Edwards Aquifer Recharge Zone. The water utility expects to accrue $2.3 million per year in revenues from the system. Environmentalists are concerned that the system eventually would serve the proposed Planned Unit Development (PUD) which is North of Lantana and also lies over the Edwards Aquifer. Heightened environmental concerns about the proposal relates to a provision to build two reservoirs on PUD land, instead of in Lantana (DeMarban, July 22, 1995).

Critics have noted that the approved Lantana deal appears to be arbitrary build-out projections. The initial Lantana proposal involved 99 customer hook-ups, but the City of Austin projects 606 hook-ups per year. The costs would be a pay-as-you-go scheme where the City would pay back Freeport based on the number of hook-ups. If Freeport does not use all the hook-ups, they can be used to tie other residents into the system because other development will take place there. This has raised concerns that Freeport could hook up its PUD outside the city limits.

Environmentalists also are concerned that the Council may soon have a pro-developer mindset majority if two contested seats are taken over by new members with the same developer-mentality as the Mayor and the two continuing Council members (DeMarban, August 22, 1995).

"Austin-bashing" Legislation

In addition to the disputes with Freeport-McMoRan Inc. and the Circle C development, Austin has been subjected to "Austin-bashing" legislation. In particular, Williamson County and Travis County have attempted to pass a bill that would give residents in Austin's extraterritorial jurisdictions (ETJ's) a binding vote on whether they want to be annexed. The bill, which was overturned by Austin, also would have affected Wells Branch, Lost Creek, Anderson Mill, Circle C, Shady Hollow and Onion Creek.

Other ETJ's have expressed concerns that the City is unreasonable in its approach to managing development in outlying areas. In particular, ETJ's are concerned about:

- Strip annexation along US183 highway into Williamson County to obtain tax dollars from Lakeline Mall and other developments,
- Plans to annex Anderson Mill,
- A jurisdictional dispute over land near Cedar Park,
- An ongoing dispute over the Brushy Creek Wastewater Treatment Plant, and
- An Austin-subsidized venture in Williamson County (Slusher, June 9, 1995).

Austin, however, defends annexation as being necessary and logical. Austin's official position on annexation is that it is carried out as part of the original agreement for the extension of water and sewer services to the area, the City's boundaries have expanded to surround the neighborhoods, and that some areas are located on failing septic systems and so the extension of Austin's water and sewer services (and thus annexation) is necessary to cover the expense (City of Austin, December 9, 1997).
Solutions for Urban Sprawl and Dealing with Fear of Loss of Control

Improving the City of Austin's Image

The City of Austin has initiated a public information campaign that outlines their view on annexation and deals with possible objections to the plan. Fact sheets that discuss the issues raised by the Taxpayers Defence Fund and the recently annexed suburbs have been made available at Austin City Hall and on the Austin City Connection web-site.

A summary of the City of Austin’s position regarding annexation issues, as outlined on the Fact sheets, is as follows:

- The 3.5 percent increase in water and wastewater rates and the 6.7 percent increase in drainage fees paid by Austin residents account for only 20 percent of the $760 million in revenue produced over 25 years by the annexation. The water and wastewater rate increases are required to maintain or upgrade the infrastructure of the newly annexed areas.

- Austin taxpayers are not financing the cost of the operating expenses for the newly annexed area. In fact, over a 25 year period, the average annual operating revenue ($19 million) from annexed areas exceeds the average annual operating expenses ($10.5 million). Annexed areas also add $1.5 billion of new assessed value to the current tax roll with a potential to double that value based on future development in the newly annexed areas, which are currently only 50 percent occupied.

- Annexation is a planned expansion for the City of Austin. Services such as police and fire protection will not be disrupted when the newly annexed areas begin receiving services (within 60 days of annexation) because of the City of Austin has planned for the expansion of facilities, staff and budgets.

The City of Austin describes annexation as a simple process by which a city can extend its service laws, voting privileges and taxing authority to new territory. In addition, the City stresses that boundaries within the Austin region are becoming irrelevant and that “boundaries cannot seal off problems of the central city or limit access to its attractions or amenities”. In addition, the Fact sheets state that annexation is motivated by economics, and environmental and social equity:

The economics of annexation are based on the fact that if we [the City of Austin] do nothing different, over time and based on growth trends, Austin’s expenses will increase as our revenue base to cover these expenses decreases. Although the population of our region is expected to double by the year 2020, most of that growth is forecasted to occur outside of our current city limits. But it is a slippery slope. A combination of sustained loss of population growth combined with a significant city-suburb income gap seems to define the “point of no return” for a central city, and ultimately the region. As with a life raft in open sea, as people move to the edges of the raft, we may still stay dry but we will all sit a little lower in the water. Data from the National League of Cities shows that the smaller the income gap between the city and the suburb, the greater the economic progress for the whole metropolitan community (City of Austin, December 9, 1997).

The City also has made available to the public the “City of Austin, 1997 Annexation Program, Estimated Financial Impact All Funds”, the “City of Austin, 1997 Annexation Program, Estimated Financial Impact All Funds Water and Wastewater Rate Increase and Drainage Utility Rate Increase” for all annexation areas, and Annexation Information Sheets comparing the monthly cost to home owners before and after annexation for each individual annexation area.
The City of Austin has set up a hot-line for inquiries and an annexation transition team has been created. The purpose of the transition team is to inform all residents and provide a smooth transition for each recently annexed area. The team serves as a forum for residents’ current interests, as a speaker’s bureau to help inform the community about the annexation initiative and to assist residents of newly-annexed areas during the first six months of transition and advise Council and staff on service plan implementation issues (City of Austin, December 9, 1997).

Rebuilding Its City Core

Austin’s recent initiatives for revitalizing its urban core and re-attracting suburbanites to a downtown lifestyle have included:

- Constructing a major shopping complex, an eleven-story condominium tower, apartments, hotels and offices.
- Using City assets to stimulate private investment in the central core. Austin has been renting City-owned land in under-developed areas to apartment developers. The City also has converted a storage yard (a two-block eyesore), into apartments through negotiations with Dallas-based developer, Post-West Properties.
- Developing City assets which have suppressed downtown activity involves a $25 million storm water tunnel for Waller Creek, where development has been hindered by the potential for floods. Developers and City officials believe that the unsightly creek can become Austin’s version of the San Antonio Riverwalk. Austin also has expanded the Austin Convention Center to facilitate conventions that are in danger of outgrowing the space (an estimated cost of $84 million). The development of the tunnel and the expansion of its Convention Center was financed by increasing the hotel-motel tax by two cents on the dollar (American Statesman Writer, February, 8 1998).

In addition, Austin has hosted the “New Urbanism: Creating Community in Cities and Suburbs” conference which was attended by 550 planners, architects, developers, lawyers, environmentalists, and neighborhood activists whose aim was to learn how to manage Central Texas’ burgeoning growth without "turning the region into a series of renegade suburbs and strip malls". Austin is developing a practical urban growth plan through the Citizens’ Planning Committee (CPC) Community Vision Project. The 22-member CPC has been revamping the City’s vision of land use planning, transportation, neighborhood representation and regional growth planning. The CPC’s Community Vision Project explores what types of incentives would work in a community such as Austin so that it would be more attractive and safer. The process of community participation is important. Workshops that are a joint venture between the UT School of Architecture and the Community and Regional Planning Program are citizen brainstorming events to discuss alleviation of traffic, reduce urban sprawl, and support urban businesses, shops and recreational facilities (Barnett, March 22, 1998; Duff, June 30, 1996).

Summary and Conclusions

Austin’s concerns focus on how special case disputes involving Circle C and Freeport may set a precedent for other surrounding suburbs. Austin has suffered a weakening in power as a result of its "bullying" annexation approach. The 1997 court ruling which overturned Circle C’s attempt to free itself from annexation, confirms that cities have been given the support of American courts to impose broad regulatory powers over growth, development and water utility facilities within their extra-territorial jurisdiction.

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17 The Annexation Transition Team consists of 14 residents of the City of Austin who were appointed by the City Council and 14 representatives from the major areas annexed. It also consists of an elected Chair, Vice-Chair and other officers as necessary. The team meets as frequently as necessary and is to be abolished on June 1, 1998.
Austin is taking a retro-active approach to urban sprawl issues. It has attempted recently to restore its image by focussing on improving the annexation process and by revitalizing its core. The ability to re-build its central core, however, likely has been financed by its numerous annexations in addition to the 2 percent increase on the hotel/motel tax. Austin is focussing on the process of community participation which serves as a means of appearing more democratic in its planning approach.

Although the attempts of Circle C to use State legislation to escape consolidation with Austin represent an uniquely American scenario, the extent of Circle C's efforts demonstrates the profundness of the concern for independence and the ability to control development. The reluctance of Circle C's residents to be annexed by Austin, despite lower taxes, also suggests that costs are not the only motivator for choosing to reside outside of a central city.

A PERSPECTIVE ON REGIONAL INFRASTRUCTURE

The cooperative water and wastewater agreements discussed, with the exception of the Austin case study, initially were mandated by Provincial legislation. The forced merger of the four municipalities of the Halifax Regional Municipality (HRM) occurred rapidly and with little opportunity for public participation and with limited strategic planning. This is evident by the region's current (and delayed) development of retroactive land use planning policies. In the cases of the GVWD and York, Provincial intervention was the historical starting point but the expansion of the GVWD's membership (in the 1980's and 1990's) and the renegotiation of York's three inter-regional agreements were driven by local needs. In both situations, however, the partners had previous experience working with one another\(^\text{18}\). Austin's decision to wait ten years before annexation served to hinder the formation of any linkages which might have served to "connect" Circle C to Austin and to facilitate annexation.

Globalization, provincial downloading, and the increasing demands on local governments for fiscal accountability and frugality, are among the factors that motivate inter-municipal water and wastewater agreements. Respondents from the GVRD and the partners of York's three interregional agreements noted that one of the key considerations was that infrastructure and maintenance costs were more economical as a collective process than individually. Similarly, HRM's historical fight for more political "clout" on a national level may have been facilitated by the amalgamation of the municipalities. Regionalization of the HRM's water system also led to the remediation of Dartmouth's water quality problems and a lowering of water rates for the Bedford and the Halifax County areas. Austin's practice of extending water and sewage infrastructure and service to any nearby suburb willing to be annexed, and it's inability to meet minimum service standards required by recently annexed communities (Oak Hill), partially accounts for the Texas Legislature's sympathy for the suburbs and the battle with Circle C. Austin Council's absence of a strong position on the extension of City water and sewage infrastructure also encouraged Freeport's five-year bid to obtain the infrastructure required for their development.

In each case, the motivation for the cooperative water and wastewater infrastructure agreements occurred as a response to political or economic change. For instance, the regionalization of Halifax's water and sewage system followed a Provincial government motivated amalgamation. Similarly, the Ontario government's downloading policies stimulated the re-negotiating of the York-Durham wastewater agreement and the formation of a partnership between the two Regions (in lieu of the previous agreement which was developed between the Province of Ontario, York and Durham). The re-negotiation of the York-Peel and the York-Toronto agreements, likewise, responded to York's population growth. With the York-Toronto agreement, the negotiation of a mutually acceptable water rate was facilitated by privatization trends and the trend towards increased competition among water companies. North Vancouver's decision to join the GVWD was

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\(^{18}\) The Township of Langley and Surrey had developed familiarity with GVWD members through their membership in the GVRD and through the emergency water agreements which had been formed with the GVRD. The original water and wastewater agreements which York had developed with Peel, Toronto and Durham were initiated in the 1970's. This historical working relationship assisted the negotiation processes.
a consequence of a flood which destroyed their water system. Economic growth in the GVRD stimulated the City of Langley's and the Township of Langley's demand for increased water supply. Likewise, Circle C's development and their request for water and sewage infrastructure from Austin, occurred because of a need to accommodate Californians who were relocating for jobs within Austin's high technology industry.

The anticipated advantages of the cooperative agreements include reduced infrastructure and maintenance costs, the reliability of water quality and supply, and an assurance of being able to meet the community's future water needs. For instance, the Nova Scotia government anticipated that the amalgamated Halifax Regional Municipality would result in greater efficiencies and cost effectiveness (these savings have yet to occur). As well, the regionalization of the three municipal water service providers also ensured that the community of Dartmouth would have access to water which met Canadian Drinking Water Standards. The advantages of a regional system which the GVWD partners have noted include economies of scale that are achieved through reductions in administration and servicing costs, water quality and quantity become a regional issue, and the ability to plan as a region (the GVWD's Liveable Region Strategic Plan). As well, when the City of Langley joined the system, modification in the inter-connecting infrastructure was possible, and resulted in cost savings for all the partners. York, because of limited access to Lake Ontario, has established cost-effective and environmentally sound inter-regional agreements to meet current and projected water needs (as outlined in its Regional Plan), and to ensure a reliable supply and quality of water. With all three agreements, there was consensus that a joint project was the most efficient and effective arrangement for all partners involved. For Circle C, the extension of Austin's sewer and water infrastructure facilitated the creation of the developer's dream of an exclusive, luxury suburban community, which would not have been feasible on a septic tank system. For Austin, the extension of infrastructure to Circle C facilitated a short-term need for bond income and served as a means of facilitating eventual annexation.

The case studies are instructive. For instance, Austin's bitter dispute with Circle C and Freeport can be explained partially by the City's absence of clear planning guidelines, and its partisan approach to providing sewer and water extensions to the surrounding suburbs. The Texas Legislature's involvement and the "Austin-bashing" bills also might have been avoided if Austin demonstrated a willingness to negotiate its annexation policy. In addition, the York-Toronto agreement demonstrates how the negotiation process can be hastened when competition from other potential water suppliers becomes a concern and the issues are discussed openly and by new negotiators. In HRM, the politically-sensitive (and rushed) retroactive land-use planning might have been avoided if the amalgamation had permitted public participation, or had included land-use planning as one of the Provincial government's objectives. In the GVWD, partners have commented that there is no mechanism for dealing with rapid development, and that an elected board would have been preferable to an appointed board since Board members are accountable to the region rather than the constituents' community. Conversely, partners from the GVWD have noted that they value the trust and openness that the federation concept permits. The Austin case study demonstrates that the absence of long-range planning can magnify a small issue and establish unwanted precedents.

In all of the case studies, the social-political feasibility of the projects was facilitated by the absence of viable alternatives. In the York case study, however, the feasibility of the agreements also was facilitated by the partners' previous experience working with one another, their common background, their ability to establish trust and strong leadership and to develop clear expectations. With all three of the inter-regional agreements it was a clear business case: additional water and wastewater services were required and a joint service arrangement was the most practical and cost-efficient option. York benefited from the essential services which it could not obtain independently and Peel, Durham and Toronto benefited from reduced infrastructure and maintenance costs. A climate of cooperation and mutual trust was facilitated by commonalities: similar growth trends, agreement on level of service to be delivered, and a common governing structure (region-region cooperation). In all three agreements, the costs of developing and

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19 These are also values that the Ontario Ministry of Municipal Affairs and Housing have emphasized as being important in joint service agreements. Joint Services in Municipalities, Five Case Studies, A Guide for Municipalities in Ontario, Management Advisory Publications, Toronto, Ontario. April 1983.
maintaining an inter-regional infrastructure versus the cost of each region developing mutually exclusive infrastructure were analysed and compared. Council and staff became committed to the agreements which were a win-win scenario for all partners and which were spearheaded by a task force lead by the Region’s mayors. The feasibility of each partnership also was examined closely and appropriate research (an industrial competition study) and statistics (previous, current and forecasted flow levels; current and projected growth) were fully disclosed to all partners during the negotiations.

The formal agreements established by the GVRD and the HRM, in addition to water and sewer cooperation, cover other aspects of regional importance. Within the GVRD, the partner communities established a contract with the GVRD, a corporate entity. The contracts vary according to the time of entry and reflect the issues and trends of the time period. The contracts cannot be revoked and have not been renegotiated to reflect recent circumstances. With the HRM, the amalgamation created a community of communities in which all issues of the former four municipalities are handled by the regional government. Issues of loss of control were never discussed because the amalgamation was provincially mandated.

The formal agreements established by York and by Austin cover only water, or both water supply and wastewater treatment. In the York case study, the fact that the agreements are inter-regional versus inter-municipal means that planning at the Regional level has already been implemented. In the Austin case study, annexation was a condition of the agreement but issues of regional importance were not discussed.

RECOMMENDATIONS TO THE MANITOBA WATER SERVICES BOARD
FOR DETERMINING PROJECT PRIORITIES

The following sequential steps are recommended for determining priorities for cooperative water or wastewater infrastructure projects in Manitoba.

Recommendation #1: Establish an information base which includes details such as population forecasts, past, current and future water and wastewater needs, quality expectations and environmental concerns. Each partner should establish a Statement of Goals and an Official Plan for development. The Official Plans should be approved by the Province of Manitoba.

Rationale: The establishment of an information base that includes expected demand and flow records on a per capita basis or by industry, quality expectations and an understanding of the anticipated environmental effects will facilitate openness during the negotiation process and will serve as "common ground" (a starting point for negotiations).

For example, York’s preferred solution for inter-regional water and wastewater projects was guided by criteria that were based on the Region’s Statement of Goals. By using a pre-defined Statement of Goals as a base for negotiations and for the selection of a preferred solution, York clearly defined its priorities and expectations from the beginning. Also, York’s negotiations with each of its inter-regional partners was facilitated by the availability of each region’s provincially-approved Official Plan. The Official Plans, which included population forecasts, were used to define the required capacity of the water and wastewater treatment plants and reduced the political bickering about growth issues. The York-Toronto and the York-Peel water agreements were not viewed as the impetus for growth, and with the guiding principles of the Official Plan, land-use planning was not anticipated to occur in a haphazard manner.

Recommendation #2: Establish a negotiation process that encourages clear and open communication, the full disclosure of supporting documents, and Council acceptance. The negotiation process should involve direction from the Province and a consideration of alternative water and wastewater options.

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20 The goals were future growth, rate stability, cost minimization, financing of future infrastructure and environmental protection.
Rationale: Council acceptance can be facilitated by demonstration that none of the proposed partners will compromise the values of their Statement of Goals. A Master Servicing Plan, which shows the costs with and without a cooperative agreement, will demonstrate the cost savings of joint infrastructure and maintenance. Complete disclosure of supporting documents such as market assessments, capital cost forecasts, and population forecasts also may reduce fears of industrial competition and urban sprawl.

Determining who will lead the negotiations is vital to the success of the process. York found that a task force lead by mayors rather than staff gave the cooperative agreement a high degree of exposure and direction and made the negotiation process less sensitive to changes in political power. Toronto noted that initial negotiations, led by the regions' respective commissioners, would have led to failure because of personality conflicts and mutual distrust. When the Toronto commissioner retired and a new Commissioner was assigned, his previous working relationship with York's engineer aided the negotiations.

Consultation from individuals who were key players in similar water or wastewater agreements also may provide insight on how to resolve issues that have stalled or potentially might stall agreement negotiations. Alternatively, as in the Austin case study and the Greater Triangle in North Carolina example, consultation can be in the form of a citizen's advisory group.

The Province also should provide clear direction and transition support for the municipalities. Experience demonstrates that Provincial influence is crucial for motivating the negotiation of cooperative agreements. Issues such as the viability of central cities and fiscal equivalency should be made clear in Provincial policy and programs. In addition to the support of Provincial staff, transition support should include direct financial contributions for transition purposes. Making this known in advance will motivate the parties to arrive at a solution (DeHoop, 1997).

The importance of reviewing alternative solutions also is demonstrated by the resolution process which was implemented in the York-Toronto water agreement. That is, once Toronto became aware of York's plan to establish an agreement with a private water company, Toronto demonstrated increased willingness to negotiate a reasonable rate. Return on investment, one of Toronto's priorities, was not compromised because York agreed to a rate differential (a small premium to compensate for the additional power required for pumping) and to financial penalties for exceeding daily peak output.

Recommendation #3: Examine "What-if Scenarios" with consideration of the long-term consequences of the agreement, and the establishment of win-win situations. The criteria for developing options should be based on the proposed partners' Statements of Goals.

Rationale: In examining "What-If Scenarios", market assessments and opinion polls that focus on what makes an area attractive to residents and businesses will provide real-life indicators of an agreement's effects. As in the Austin case study, Circle C residents, who were opposed to annexation by Austin despite lower taxes, demonstrated that community ties and "quality of life" issues can emotionally affect a community's reaction. In evaluating the development of an agreement between Winnipeg and the communities of the Capital Region, factors which might not seem obvious or logical may become apparent with additional study.

Factors that contribute to a win-win agreement can be gleaned from the case studies:

- A clear business plan must demonstrate both the value of putting assets to use and the benefits of using new income to contribute to future replacement costs of the existing infrastructure. The GVWD, for example, would not be able to afford upgrades and water quality improvements without broad-based membership.

- A long-term view of the agreement must consider the consequences of cooperation to the region as a whole. As illustrated by the Austin case study, a narrow focus that concentrates on short-term financial gain (generated through the sale of bonds for financing the extension of infrastructure to Circle C) and
anticipated tax revenues (which Austin would receive following annexation of the suburb), presents long-term political problems. These problems include precedent setting practices that encourage development of areas without consideration of the City's concerns about urban sprawl (as demonstrated by Freepo-McMoRan Inc.'s persistent requests for City sewer and water infrastructure), the passing of state legislation which favours the suburbs, and an inability of the Central City to meet the service requirements of recently annexed areas. Also, Austin's lack of a solid planning direction for the area has raised citizen concern that a pro-developer Council could negatively affect the City's stance on environmental issues related to development. Comparison should be made between what cost would be accrued ten years down the road with and without inter-jurisdictional cooperation (O'Brien, quoted in DeHoop, 1997).

→ A mechanism should be established to ensure that all partners pay a fair share for current residents and for future development without burdening any of the partners. As demonstrated by the Austin case study, the subsidies provided to Circle C were resented by Austin's Council and its citizens and provided additional justification for annexation. The Canadian case studies all demonstrated the need for paying a fair share. That is, in the GVWD all new members are responsible for paying for the connecting infrastructure and are responsible for the maintenance of the water lines within their jurisdiction. With York, the absence of subsidies was a main requirement which contributed to the sense that the agreements were win-win for all partners involved. In Halifax, the Capital Cost Contribution Policy and the standardization of rates ensured that all members of the regional municipality pay their fair share for water and sewage services.

→ A mechanism should be established for dealing with growth. Some partners of the GVWD have stated that new growth is not a priority for the GVWD and that the delay in accommodating new hook-ups can be quite substantial. Conversely, other members perceive growth as a disadvantage for the region as a whole because of the expensive system upgrades that will be necessary to meet future demand. In Austin, no solid policies were developed for establishing an organized plan for suburban growth and political changes affected the City's position on growth.

→ Region-wide densification will assist in the reduction of the consequences of urban sprawl. Densification, for example, may take the form of Regional Town Centers as in the GVRD, rebuilding the central core as in the Austin case study, or in the form of Urban Growth Boundaries as described in the HRM case study. Alternatively, a Regional Context Statement which is appended to each partner's Official Community Plan, may be used to set targets for each partner's growth in relation to the overall Strategic Plan for the region. A Regional Context Statement might be employed to reduce the threat of loss of control for the smaller partners by permitting the individual communities to maintain control of developing specific plans for growth, zoning and other local issues. The establishment of a corporate body (like the GVWD) to control water supply also might reduce fears of annexation for the suburban and rural communities since the control of water and wastewater will no longer rest with the central city. It should be noted, however, that the GVWD was created through Provincial legislation in the 1920's.

→ Regional Performance Measures should be established. Performance measures provide facts for ongoing dialogue about public policy goals that can be used to set expectations among elected officials, government policymakers, line workers, civic leaders and citizens. Aims include assessing the economic competitiveness of the region and the quality of life of the citizens so as to develop the most appropriate regional solution for the entire area. For example, the Citizens League and the Citizens League Research Institute of Cleveland, Ohio evaluated the Cleveland regional area according to 100 benchmark standards that included 5 main categories:

1. Amenities: Cultural Opportunities and Leisure Activity;
2. Economy: Economic Vitality and Community Prosperity;
3. Education: Educational Opportunities and Workforce Preparedness;
4. Government: Political Participation and Accountable Leadership; and
5. People: Caring People and Healthy Lives.
When they compared the Cleveland region with thirteen other American regions they developed data that details their weaknesses and strengths, serves as the basis for a "gap analysis" to identify actions that would improve Greater Cleveland's quality of life and competitiveness, and provide a comprehensive baseline to consider as future decisions are made (Citizens League Research Institute, 1997).

**Recommendation #4:** Select a preferred solution from the "What-If Scenarios". Public participation in selecting a preferred solution will serve to make the agreement responsive to local needs and to establish an unique solution reflective of the area's concerns. The agreement should be comprehensive enough to include definitions of levels of service, cost-sharing, growth management policies, and a formal arena in which regional issues can be debated.

**Rationale:** Several lessons can be learned from the Halifax Regional Water Commission case study. These lessons, which apply to the transition process and the details of a cooperative agreement (which in Halifax's case, was achieved through amalgamation), include:

1. The realization of cost-savings from the amalgamation of the Halifax Regional Municipality was inhibited by the increased levels of service which were demanded by the former municipalities.
2. The HRM benefited from amalgamation because it provided a formal arena in which regional issues could be debated (previously the only forum was the Metropolitan Authority). Amalgamation also gave HRM more political "clout" and justification for their request for additional provincial funding (because of their responsibilities as a Capital Region).
3. The limited public participation left the residents of the former municipalities feeling suspicious. Issues of loss of control were never debated or resolved because the amalgamation was provincially mandated.
4. The HRM discovered that growth management policies had to be established for the maintenance of reasonable tax rates. HRM is including serviceable/unserviceable growth boundaries based on information provided by the HRWC, detailing the extent to which water trunks can be extended in a cost-effective manner.
5. HRM's strategy for growth management includes explaining the true costs and the environmental costs to developers. They also plan to implement a public education campaign that explains how uncontrolled development can increase taxes and that places the environmental costs of sprawl foremost in the public's mind.
6. HRM's Capital Cost Contribution Policy deals primarily with future development and provides a simple, consistent, predictable and fair tool for allocating expansion costs. Some provision in the policy was required to address the rapid growth that occurred in Bedford just prior to and just after the amalgamation.

Similarly, as demonstrated by the Austin case study, the extension of water and sewage treatment does not develop a relationship between the central city and the suburbs. That is, although Austin benefits financially from the numerous annexations, the consequences of its aggressive annexation include a decline in its image (both with the Texas Legislature and the surrounding communities) and does not provide a solution to the decline of the central city. Despite the increased tax base, Austin still has found it necessary to develop a strategy for re-attracting suburbanites to the core and revitalizing the downtown area. The strategy for Austin has involved using City assets as "bargaining chips" to stimulate private development, and turning the City "eye-sores" into tourist attractions. Austin also has found it beneficial to organize planning events that involve multi-perspectives on dealing with growth, and engaging public participation through the "Citizens' Planning Committee Community Vision Project" which encourages "ownership" through the process.

Each community merits a plan of its own--both as an individual community and as a part of the urban region. Success will depend upon strong regional plans which create a sense that the city and the surrounding

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21 Their goal was a mix of regions, some similar to Greater Cleveland (Detroit, Pittsburgh and St. Louis), some seen nationally as regional "role models" (Atlanta, Charlotte, Cincinnati, Indianapolis, Minneapolis, Phoenix and Seattle) and some which are stable (Boston, Chicago and San Francisco).
communities are part of an integrated system. A regional plan also could involve establishing designated areas as potential sites for various activities so that growth does not occur in a haphazard manner. These areas could be determined on the basis of existing services such as road capacity and mail and school bus routes to permit more efficient provision of other agreed upon services. Urban growth is controlled to address specific problems not just limit expansion.

A system also may vary in the degree of regionalism that has been implemented for the provision of the service. The degree of regionalism appropriate for a water system in a given region depends upon the region's historic, legal, financial, political, economic, physical geographic, and other attributes that influence service delivery arrangements.

Consideration of who benefits and who pays must be included in determining the costs of services. Efficient, cost-effective and equitable provision of services generally requires compact continuous development, not the irregular development which is frequently associated with urban fringes. When existing services already exist, additional users may help reduce the per capita costs. Regional government cannot ease the problems of urban sprawl unless the regional plan is accompanied by planning controls which work to lessen the equity issue: That is, a systems approach (Russwurm, 1977).

As stated by Maurice Yeates:

Communities which prosper will be those which are administered in a coherent fashion...are environmentally sensitive, and have planning systems in place that enable the community to take full advantage of the development and redevelopment opportunities that occur (Yeates, 1991. as quoted in DeHoop, 1997:11).
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APPENDIX A
Respondents Contacted

Buerkes, Dan. Manager. Port Roberts Water District.
McGregor, Bruce. Director of Engineering, Region of York.
Morris, John. Manager, Greater Vancouver Water District.
Murray, Llyod. Technical Support Manager of Works Department. Durham Region.
Thompson, David. P. Eng. Township Engineer. Township of Ernestown. 613-386-7351, Fax: 613-386-3833.
Thompson, Ken. Director of Engineering and Construction. Durham Region.
Thorne, Michael. Interim Functional Leader for Water Supply and Water Pollution Control. City of Toronto. 416-392-8200 Fax: 416-392-3639
Zamojc, Mitch. Commissioner of Public Works, Region of Peel.
May 5, 1997

CHAIR AND MEMBERS
PLANNING AND PUBLIC WORKS COMMITTEES

SUBJECT: INTERREGIONAL WASTEWATER SERVICING REGION OF YORK

RECOMMENDATION

That the Internal Steering Committee, which includes the Chairman and the Chair of the Public Works Committee, enter into formal financial negotiations with the Region of York for the sale of wastewater service;

And further, that the approved guiding principles be adhered to;

And further, that a financial arrangement and business plan be brought back to Public Works Committee for its consideration.

DISCUSSION

1. Background

On September 12, 1996 Council adopted a resolution endorsing the concept in principle of providing water and/or wastewater services to adjacent municipalities based upon a number of guiding principles (Appendix 1). Studies as to the feasibility and potential economic impact of providing wastewater service to York Region were undertaken. Supply of water was not included as York is pursuing an interregional agreement with Durham Region.

On March 27, 1997 a report entitled “Regional Municipality of Peel, Water and Wastewater Conceptual Servicing Plan” was presented to Council. The purpose of this report was to identify the options for expanding Peel’s water and wastewater systems to accommodate future growth in accordance with the Regional Official Plan. It is important to note that Peel systems can in fact be expanded to accommodate growth up to 2031. This conceptual plan forms the base document for the review of wastewater servicing for an area of Vaughan (Woodbridge Service Area) in the Region of York.

The report outlined three concepts:

Concept 1 Separate East and West Systems

Consists of twinning the original systems, along the same alignments through the river valleys, as was originally intended.

Concept 2 West to East Interceptor and Develop East System

Proposes to divert sufficient flows from the northern part of the west system to the east system to avoid expansion of the west trunk. This would require twinning of the east trunk in the Etobicoke Creek valley but, avoids any construction in the Credit River Valley.

This proposal was abandoned due to high costs and insufficient site capacity of the Lakeview WWTP.

Concept 3 East to West Interceptor and Develop West System

This concept proposes to divert sufficient flows from the northern part of the east system to the west system to avoid expansion of the east trunk. This would require twinning of the west trunk in the Credit River Valley but, avoids any construction in the Etobicoke Creek Valley.
CG&S (CH2M Gore & Storrie Limited) was retained by the Region Peel to determine if the Peel system could be designed to accommodate the requirements of York with no negative effect on Peel's system growth requirements. The IBI Group were also retained to study the potential economic impact upon Peel of providing the service to York. All costs for engineering and economic impact studies were borne by the Region of York.

2. Region of York Wastewater Requirements

York Region has requested that Peel consider providing wastewater capacity to an area of the City of Vaughan known as the Woodbridge Service Area which is shown on the attached Appendix 2.

This area includes the existing urban area of the Woodbridge Community and two areas to be developed; the residential Woodbridge Expansion Area located north of the existing Woodbridge community and an employment area located between Highway 27 and the Peel/York boundary known as the Huntington Lands. Wastewater capacity may also be provided to a Future Study Area located north of the Huntington Lands. Although land uses have not been established for the Future Study Area in the City of Vaughan Official Plan, it is likely that 50% of the area would be used for residential purposes and 50% for employment use.

The total area being considered is 5500 ha. The existing urban area comprises 2851 ha. and the growth area to the year 2031 is expected to be 2649 ha. These numbers do not include the future study area north of Huntington lands.

The existing built up urban area of Woodbridge is presently serviced through the York/Durham system with the Humber pumping station discharging easterly into the Steeles Avenue Trunk. It is possible to construct a new forcemain westerly along Steeles Avenue into Peel to connect the existing pumping station to Peel's East Etobicoke Creek Trunk Sewer, west of Airport Road. The existing capacity in the York/Durham system, which presently serves this area, would be reallocated elsewhere in the York Region.

York has indicated two wastewater alternatives as identified below:

Immediate Transfer

This alternative entails the transfer of all flows from the Humber Wastewater Pumping Station via a proposed forcemain along Steeles Avenue to the Peel trunk system. The actual transfer of approximately 1.6 m³/s peak rate is expected in 2001 increasing to 2.3 m³/s in 2031. The average rates are 0.364 m³/s and 0.616 m³/s respectively.

Gradual Transfer of Flows

This alternative entails a gradual transfer of flow from new growth only after the Humber Pumping Station has reached its full capacity. This proposal will require a new pumping station in Vaughan with a forcemain to Peel along Steeles Avenue. The flows of approximately 0.18 m³/s peak rate are expected to commence in 2001 increasing to 1.1 m³/s in 2006 and to 2.3 m³/s in 2031. The average rates of 0.046 m³/s and 0.616 m³/s respectively.

3. Engineering Requirements

CG&S Consultants were retained by the Region of Peel to determine the requirements for wastewater servicing within the Peel System to service the needs of York. A copy of the report is attached (Appendix 3).

Treatment Facilities

The Region of Peel operates two wastewater treatment facilities which discharge treated effluent into Lake Ontario, each with an associated system of trunk sewers and sewage pumping stations.

Lakeview WWTP.

Concept 1 utilizes the east trunk system and discharges to the Lakeview WWTP. The plant capacity is 336 MLD (when the current expansion program is completed) and the ultimate site capacity is 654 MLD. York's requirements in 2031 is 0.616 m³/s or 53.2 MLD and would represent 8% of the site capacity.
Clarkson WWTP.

Concept 3 utilizes the west trunk system and discharges to the Clarkson WWTP. The current plant capacity is 163.5 MLD and the ultimate site capacity is 545 MLD. York's requirement in 2031 is 0.616 m³/s or 53.2 MLD and would represent 9.8% of the site capacity.

Immediate Transfer of Flows.

The immediate transfer of flow in the amount of 1.6 m³/s would require that the twinning of the trunks be completed by 2001 for wastewater Concepts 1 & 3. The twinning design will be based on York's need in 2031 of 2.3 m³/s. Note that Concept 2 was eliminated from further consideration through the evaluation process in the Conceptual Servicing Report. The following infrastructure will be required in order to satisfy York servicing needs:

**Concept 1 - Immediate Transfer**

_York only_

2001  Forcedemain on Steeles Avenue  
        Lakeview WWTP upgrade  
2031  Twin Reach E-G downstream of CPR Interceptor  
        Twin Reach E-H

_York/Peel_

2001  Twin Reach MV-C  
        Twin Reach E-C  
        Twin Reach BR-H and BR-I  
        Twin Reach E-D, E-E and E-F

**Concept 3 - Immediate Transfer**

_York only_

2001  Forcemain on Steeles Avenue  
2006  Clarkson WWTP upgrade  
2031  Twin Reach E-G downstream of CPR Interceptor  
        Twin Reach E-H

_York/Peel_

2001  Twin Reach MV-C  
        Diversion tunnel  
        Twin Reach W-E, W-F, W-G and W-H  
        Upgrade Clarkson WWTP Outfall  
2011  Twin Reach W-I  
        Twin Reach W-K

Gradual Transfer of Flows.

The gradual transfer of flow in the amount of 1.1 m³/s would require the twinning of the trunks to commence by 2006 for wastewater Concepts 1 & 3. The twinning design will be based on York's need in 2031 of 2.3 m³/s. The following infrastructure will be required in order to satisfy York servicing needs:

**Concept 1 - Graduate Transfer**

_York only_

2001  Forcemain on Steeles Avenue

53
2006  Lakeview WWTP upgrade
2031  Twin Reach E-G downstream of CPR Interceptor
      Twin Reach E-H

York/Peel

2006  Twin Reach MV-C
      Twin Reach E-C
      Twin Reach BR-H and BR-I
      Twin Reach E-D, E-E and E-F

Concept 3 - Gradual Transfer

York only

2001  Forcemain on Steels Avenue
2006  Clarkson WWTP upgrade

York/Peel

2006  Twin Reach MV-C
      Diversion tunnel
      Twin Reach W-E, W-F, W-G and W-H
      Upgrade Clarkson WWTP Outfall
2011  Twin Reach W-I
      Twin Reach W-K

PRELIMINARY ECONOMIC EVALUATION

The economic evaluation of the servicing of York was completed from two perspectives; engineering cost sharing and the economic impact from a planning perspective.

1. Engineering Evaluation

The joint servicing options were reviewed based upon standard engineering principals as well as those stated in Council Resolution #96-918. All of the options outlined in the report satisfied the applicable principles. There will be no negative impact on Peel’s future development plans.

The cost sharing with York will be based upon the following categories:

a) CAPITAL

1) **New** infrastructure in Peel that benefits **York** only

All costs associated with the provision of infrastructure in Peel will be borne by York when the sole purpose is to provide service to York. Table 1 identifies estimated costs.

### Table 1

<table>
<thead>
<tr>
<th>YORK ONLY COSTS ($ Million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concept 1</td>
</tr>
<tr>
<td>Concept 3</td>
</tr>
</tbody>
</table>
2) **New infrastructure in Peel that benefits both York and Peel**

Cost sharing for proposed new works has been based on the greater of either the percentage of total component capacity that will be allocated to their use, or the cost of increasing the size of the infrastructure component, to meet the demand. In addition, the net present value of the cost to advance Peel projects will be financed by York. Table 2 - Identifies estimated cost savings through joint servicing.

<table>
<thead>
<tr>
<th>Concept</th>
<th>Peel's needs without York</th>
<th>Total costs York/Peel</th>
<th>York's Share</th>
<th>Peel's Share</th>
<th>Savings for Peel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concept 1</td>
<td>$69.3</td>
<td>$73.9</td>
<td>$15.0</td>
<td>$58.9</td>
<td>$10.4</td>
</tr>
<tr>
<td>Concept 3</td>
<td>$139.9</td>
<td>$144.9</td>
<td>$34.6</td>
<td>$110.3</td>
<td>$29.6</td>
</tr>
</tbody>
</table>

Details of the project costs can be found in Tables 1-4 in Appendix 3.

In addition, other costs which require cost sharing and further discussion include:

3) **Recovery for York's use of existing infrastructure in Peel**

This cost sharing arrangement has yet to be determined but, will reflect cost recovery for that portion of existing infrastructure utilized for the servicing of York.

b) **OPERATING**

Operating costs include volume based variable costs ie; treatment of sewage, for that part of the trunk system used to service York Region. This cost sharing arrangement is to be determined.

Peel ratepayers will not subsidize any costs related to the supply of these services to York. Any further negotiation with York will be in accordance with the Council adopted principles as per Appendix 1.

2. **Economic Impact on Peel of Providing Wastewater Service to York Region**

Following preparation of Terms of Reference, the IBI Group was engaged, under the direction of Peel staff, to undertake a study of the potential economic impact on Peel of providing wastewater service to York Region. Attached, as Appendix 4, is a copy of the IBI Group report. The following is a summary of IBI’s findings:

*Development in York Will Not Be Advanced by Providing Service From Peel*

York Region has advised that there would be no difference in the timing of development in the Woodbridge Service Area if service is provided from Peel rather than from the York/Durham system.

*Brampton and Vaughan Compete in Different Housing Markets*

The ethnic composition of Brampton and Vaughan are very different. Generally, houses in Woodbridge tend to be large single family detached homes while Brampton has developed with a diversified mix of housing types of quality and affordable housing. The 1991 Census indicates that in Woodbridge 73.2% of the housing occupants are of Italian descent while in Brampton occupants of Canadian, Portuguese, East Indian origins predominate. Overall it is concluded that the extension of wastewater service to York from Peel would not have any competitive advantage on residential development in Peel.
Provision of Peel Services to York May Advance Employment Development in East Brampton

As Mississauga's industrial land supply is depleted, it is likely that Brampton will experience increases in industrial land absorption. Servicing of the Huntington Lands in Vaughan will likely accelerate, relative to other areas in the GTA, due to its locational advantage. The proposed industrial lands in East Brampton are not presently directly served by a 400 series highway. Any substantial development of the Huntington Lands will require extension of Highway 427 and this will be a positive factor for the development of East Brampton by increasing the critical mass of the area and increasing its profile. Increased justification for extending Highway 427 will serve to open up employment lands in East Brampton and enhance the position of employment lands in Caledon as the Highway will improve the overall accessibility to the Northwest portion of the GTA and provide a catalyst for future development.

It is concluded that providing wastewater capacity to York from Peel will have little or no impact on land absorption and assessment in Peel since the lands to which service could be extended could be serviced through the York/Durham system within the same general time frame.

INTERREGIONAL BENEFITS TO PEEL

An interregional wastewater scheme servicing both Peel and York Regions will provide significant benefits to both partners.

1. Peel Benefits

For Peel the benefits can be summarized as follows:

- There will be capital cost savings for Peel over a Peel only program. These savings will range from a minimum of $10.4 m for Concept 1 to a potential of $29.6m for Concept 3.
- Partnering with York will allow some of the works to proceed earlier at no cost to Peel providing more flexibility with respect to Peel development.
- Other cost savings will accrue to Peel through a sharing of operation and maintenance costs for both treatment and trunk facilities.
- Peel will be in a position to negotiate a “buy-in” charge for the use of existing components of the system which do not require upgrading.
- Servicing of the Huntington lands will accelerate development in east Brampton and increase the need to extend Highway #427 which is of benefit to Peel.

2. York Benefits

For York the primary benefit is a potential capital cost saving by partnering with Peel over a York only program. York considers that continuing to service the existing and new growth in the Woodbridge service area from the York/Durham system is costlier than obtaining service from Peel.

ISSUES FOR PEEL

Concerns were raised by Councillors and staff at the area municipalities regarding the several issues. These are listed below:

a) Peel’s Long Term Needs

The current and future wastewater service to Peel ratepayers will not be put at risk as the long term needs (2031) have been identified in the “Water and Wastewater Conceptual Servicing Plan”.

b) Infrastructure Ownership

Peel will maintain ownership and control of all infrastructure inside Peel.

c) Environmental Compliance

All works within Peel will be carried out in compliance with environmental standards.
d) Development Charge Revenue

A concern was raised by City of Brampton staff regarding adequate Development Charge funding being available to provide for the servicing needs of Brampton over the next 20 years. The new Development Charge by-law will include the necessary funding to satisfy the needs of the Peel Official Plan and beyond. In addition York will contribute capital funding toward oversizing required for their needs. The sharing formula will provide additional financing to Peel and reduce its infrastructure capital costs.

g) Construction in Peel

Construction in Peel for York servicing is limited to a forcemain along Steeles Avenue, from Peel boundary to the east arm of the Etobicoke Creek trunk. All other works would be carried out as oversizing to those works identified in the Water and Wastewater Conceptual Servicing Plan. The net result is that very little additional work would be required as a result of the needs of York as these would be required for Peel long term servicing in any event.

CONCLUSION

The IBI Group's examination of the potential economic impact on Peel of providing wastewater servicing to York indicates little or no impact on development in Peel. In fact the provision of services to Vaughan could accelerate development in east Brampton and advance the need for extending Highway #427. The timing of development in Vaughan will not be advanced, and due to the different markets, will not result in direct competition.

After careful engineering examination, staff can conclude that there are significant cost and system benefits for the ratepayers of the Region of Peel as identified above and supply to York will in no way be detrimental to Peel's ratepayers in both the short or long term. Existing capacity will be utilized wherever available or system expansion for Peel's needs will include additional capacity for York. Peel ratepayers will in no way subsidize or underwrite the financing of any costs related to the supply of services for York.

The servicing proposal by CG & S consultant shows that it is feasible and desirable to provide wastewater service to York from the Peel system. Financial negotiations will continue with York subject to Council approval in principle and a report detailing a full business plan will be presented to Public Works Committee and Council.

M.D. Zamojc, P.Eng.
Commissioner of Public Works

P.E. Allen
Commissioner of Planning

cc: M.R. Garrett, Chief Administrative Officer
J. Pennachetti, Treasurer and Commissioner of Finance
RESOLUTION 96-918
PASSED BY REGIONAL COUNCIL
SEPTEMBER 12, 1996

That Regional Council endorse in principle the concept of providing water and wastewater services from the Peel systems to meet a portion of the needs of the adjacent municipalities based upon the following principles:

1. The current and future waste supply and sewer services to Peel ratepayers is not put at risk;
2. Peel will maintain control of the water supply and wastewater services and all related infrastructure and capital works inside Peel;
3. Incentives must be created to manage water resources prudently;
4. A system of controls and enforcement must be in place to ensure compliance with environmental standards for sewage systems within acceptable costs;
5. Peel ratepayers are not to subsidize any costs related to the supply of these water and wastewater services, including capital, design and development costs and staff time;
6. Peel ratepayers are not directly or indirectly to underwrite the financing of any costs related to the supply of these services;
7. Revenues to Peel must exceed full costs;
8. Revenues to Peel must be secured in a manner which does not place Peel ratepayers at risk;
9. Specific servicing solutions must result in benefits to Peel;
10. The provision of water and wastewater services will not result in a negative impact on Peel or its area municipalities;

And further, that staff enter into discussions with the Ontario Clean Water Agency (OCWA) with a view to establishing a relationships to permit the provision of these services to adjacent Regions in accordance with the above noted principles;

And further, that staff enter into discussions with the adjacent Regional Municipalities or their agents for the purpose of developing specific servicing proposals in accordance with the above noted principles for the approval of Regional Council;

And further, that an internal steering committee consisting of the Regional Chair, the Chief Administrative Officer, the Commissioner of Public Works, the Treasurer and Commissioner of Finance, the Commissioner of Corporate Services and Regional Solicitor and Councillor Lorna Bissell be established to review the detailed servicing concepts and financial strategies based on the above noted principles;

And further, that a report detailing a full business plan be presented to the Public Works Committee for approval prior to any agreements for water or wastewater services being prepared.
APPENDIX B - QUESTIONNAIRES

WATER SUPPLIER QUESTIONNAIRE - REGIONALIZATION

The Rural Development Institute of Brandon University, is conducting a research study on issues relating to water system regionalization. The following questions deal with the issues which arose when the water system in your area was regionalized.

A. System Identification:

1. What is the name of the system and what regional area does the system serve? How many communities are members of the system? What is the population served? Which partners joined most recently?

2. From what sources does the system draw water? Systems origin? System capacity?

3. Are there any concerns about over extending your system such that it won't be able to attract new customers?

4. When did the water system in this area become regionalized?

5. Who are the current partners (jurisdictions) in the regional system?

6. What are the plans for expansions of the system? What communities would this include? What concerns or fears are these communities raising as it relates to the plans for expansion? What is being done to resolve these concerns?

7. What type of governing body administers the system? How is this governing body organized? Why was this structure chosen?

B Regionalization Process:

1. What were the main advantages of developing a regionalized water system in this area?

2. Were the perceived advantages more important to some jurisdictions than others?

3. What were the main disadvantages of developing a regionalized water system in this area?

4. Were perceived disadvantages more important to some jurisdictions than others?

5. What were the main issues or concerns which were discussed during the regionalization process?

6. What effect did a water system have on tax rates in the community to which water was extended?

7. Were any of the current (or proposed) partners or jurisdictions initially reluctant to join the system? What were their concerns? How was this resolved? Are there any jurisdictions which opted not to join? Why?

8. What concerns did [your jurisdiction] have regarding the issue of urban sprawl or loss of tax base?

9. Were some jurisdictions concerned about annexation? Why? On what information or facts were these fears based? What occurred to alleviate these concerns?

10. In your experience, what are some factors, events, or issues which speed up the process by which a regional system is developed?

11. In your experience, what are some factors, events or issues which hinder or stall the process by which a regional water system is developed?
12. What type of agreement was developed? What are the advantages of this agreement? What are some disadvantages of the agreement?

13. If other communities are considering regionalization of a water system, what recommendations do you have regarding the process of implementation? What should be avoided?

14. As a supplier for the system, what current problems, if any, are being faced as a result of regionalization of the system? What issues or concerns, if any, do you anticipate will evolve regarding the water system within the next one to three years? next three to five years?

15. From whom could I obtain additional information about your regional water system?

16. What other systems are you aware of which are experiencing concerns about urban sprawl or fears of annexation?
WATER RECIPIENT QUESTIONNAIRE - REGIONALIZATION

The Rural Development Institute of Brandon University, is conducting a research study on political issues relating to water system regionalization. The following questions deal with 1) the issues which affected your community's decision to join the region's water system and 2) the issues currently affecting your community in relation to being a member of the regions water system.

A. System Identification:
1. Please provide some basic information about your community such as community size, anticipated growth, and special community water service needs.
2. When did your community become a member of the regionalized system?

B. Regionalization Process:
1. What were the main advantages of your community becoming a member of the regional water system?
2. What were the main disadvantages of your community becoming a member of the regional water system?
3. What alternatives did your community have for obtaining a suitable water supply? What were the advantages of this option? What were the disadvantages?
4. What were some concerns or issues that your community had about becoming a member of the regional system? How were these issues resolved?
5. Was your jurisdiction concerned about the possibility of becoming annexed? What occurred to ease these concerns?
6. What concerns did your community have regarding the fairness of water rates?
7. What concerns, if any, did your community have regarding adequate levels of services in terms of quality and quantity? How were these concerns resolved? What provisions were made to account for these concerns?
8. How has being a member of the regional system affected your community's tax rates?
9. What measures could be implemented to reduce (or prevent) member communities from experiencing a sense of loss of control?
10. Please comment on the structure of the governing body of the regional water system. What are some of its positive characteristics? What could be improved?
11. If other communities are considering regionalization of a water system, what recommendations do you have? What should be avoided?
12. What challenges, if any, is your community facing as a result of being a member of the region's water system? What issues or concerns, if any, do you anticipate will evolve regarding the water system within the next 1 to 3 years? next 3 to 5 years?
13. What challenges, if any, is your community currently facing as it relates to growth, adequate water supply and political rivalries? What challenges will evolve within the next 1 to 5 years?
14. What other systems are you aware of which are experiencing concerns of urban sprawl, fears of annexation, or loss of control?

Thank you for your time.
INTERREGIONAL WATER AGREEMENTS QUESTIONNAIRE

The Rural Development Institute of Brandon University, is conducting a research study on inter-municipal water and wastewater agreements. The following questions deal with the issues which arose when inter-municipal water and waste-water agreements were initiated.

A. System Identification:

1. Please provide some basic information about the water or wastewater agreements which have been initiated with other municipalities? What is the population served?
2. When was the partnership initiated? When was the agreement finalized?
3. When the agreement was discussed, were there any concerns about over-extending your system, such that your region would not be able to attract new customers?

B. Issues:

1. What were the main advantages of developing the inter-municipal agreements?
2. Were the perceived advantages more important to some jurisdictions than others?
3. What were the main disadvantages of developing the inter-municipal agreement?
4. Were perceived disadvantages more important to some jurisdictions than others?
5. What were the main issues or concerns which were discussed during the inter-municipal agreement? Which communities raised these concerns? How were these issues resolved?
6. What effect did the agreement have on tax rates in the community to which water was extended? Water rates?
7. Were any of the current (or proposed) partners or jurisdictions initially reluctant to join the agreement? What were their concerns? How was this resolved? Are there any jurisdictions which opted not to join? Why?
8. What concerns did the [specified partners] have regarding the issue of urban sprawl or loss of tax base?
9. Were some jurisdictions concerned about annexation? Why? On what information or facts were these fears based? What occurred to alleviate these concerns?
10. In your experience, what are some factors, events, or issues which speed up the process by which a water or wastewater agreement is developed?
11. In your experience, what are some factors, events or issues which hinder or stall the process by which a water or wastewater agreement is developed?
12. Please describe the nature of the agreement: For instance, the quantity of water supplied, the duration of the agreement, the conditions which apply. What are the advantages of this agreement? What are some disadvantages of the agreement?
13. If other communities are considering cooperative water projects, what recommendations do you have regarding the process of implementation? What should be avoided?
14. What current problems, if any, are being faced as a result of the agreement? What issues or concerns, if any, do you anticipate, will evolve regarding the water system within the next one to three years? next three to five years?
15. From whom could I obtain additional information about the water and wastewater agreements in this region?
16. What other areas have developed similar cooperative agreements?
## APPENDIX B

### The Greater Vancouver Regional District

<table>
<thead>
<tr>
<th>Members of the regional water system</th>
<th>Date of Entry</th>
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<tbody>
<tr>
<td>Vancouver (original member)</td>
<td>February 3, 1926</td>
</tr>
<tr>
<td>Burnaby</td>
<td>January 20, 1927</td>
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<tr>
<td>North Vancouver District</td>
<td>January 1, 1928</td>
</tr>
<tr>
<td>West Vancouver</td>
<td>May 1, 1929</td>
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<tr>
<td>New Westminster</td>
<td>January 1, 1931</td>
</tr>
<tr>
<td>Richmond</td>
<td>January 1, 1931</td>
</tr>
<tr>
<td>Coquitlam</td>
<td>January 1, 1931</td>
</tr>
<tr>
<td>Port Coquitlam</td>
<td>January 1, 1931</td>
</tr>
<tr>
<td>Pitt Meadows</td>
<td>February 13, 1948</td>
</tr>
<tr>
<td>Maple Ridge</td>
<td>February 13, 1948</td>
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<tr>
<td>Surrey</td>
<td>January 1, 1950</td>
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<tr>
<td>Delta</td>
<td>January 1, 1950</td>
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<tr>
<td>Port Moody</td>
<td>January 1, 1950</td>
</tr>
<tr>
<td>North Vancouver City</td>
<td>October 29, 1984</td>
</tr>
<tr>
<td>Langley Township</td>
<td>November 10, 1990</td>
</tr>
<tr>
<td>Langley City</td>
<td>February 26, 1991</td>
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### Greater Vancouver Regional District Board Members

- **Anmore**
  - Mayor Hal Weinberg, Village Hall, 2967 Sunnyside Road, RR#1, Anmore, B.C. V3H 3C8

- **Belcarra**
  - Mayor Ralph E. Drew, Village Hall, 4084 Bedwell Bay Road, Belcarra, B.C. V3H 4P8

- **Burnaby**
  - Mayor Douglas Drummond, City Hall, 4949 Canada Way, Burnaby B.C. V5G 1M2

- **Burnaby**
  - Councillor Lee Rankin, City Hall, 4949 Canada Way, Burnaby B.C. V5G 1M2

- **Coquitlam**
  - Director: Mayor Lou, City Hall, 1111 Brunette Sekora Avenue, Coquitlam, B.C. V3K 1E9

- **Delta**
  - Mayor Beth Johnson, Municipal Hall, 4500 Clarence Taylor Crescent, Delta B.C. V4K 3E2

- **Electoral Area A (University Endowment Lands)**
  - Erica Crichton, 1589 Western Crescent, Vancouver, B.C. V6T 1V2

- **Electoral Area C (Bowen Is., Barnston Is., Howe Sound, Indian Arm)**
  - Richard Littlemore, RR#1, D-23, Bowen Island, B.C. V0N 1G0

- **Langley City**
  - Councillor Gayle Martin, City Hall, 5549-204th Street, Langley, B.C. V3A 1Z4

- **Langley Township**
  - Mayor John Scholtens, Municipal Hall, 4914-221st Street, Langley, B.C. V3A 3Z8

- **Lions Bay**
  - Mayor Brenda Broughton, Village Hall, 400 Centre Road, P.O. Box 141 Lions Bay, B.C. V0N 2E0
Maple Ridge
Mayor Carl Durksen, Municipal Hall, 11995 Haney Place, Maple Ridge, B.C. V2X 6A9

New Westminster
Mayor Helen Sparks, City Hall, 511 Royal Avenue, New Westminster, B.C. V3L 1H9

North Vancouver
Mayor John Loucks, City Hall, 141 West 14th Street, North Vancouver, B.C. V7M 1H9

North Vancouver
Mayor Don Bell, Municipal Hall, P.O. Box 86218, North Vancouver District, B.C. V7L 4K1

Pitt Meadows
Mayor Dave Duncan, Municipal Hall, 12007 Harris Road, Pitt Meadows, B.C. V3Y 2B5

Port Coquitlam
Mayor Len Traboulay, City Hall, 2580 Shaughnessy Stret, Port Coquitlam, B.C. V3C 2A8

Port Moody
Mayor Rick Marusyk, City Hall, 100 Newport Drive, P.O. Box 36 Port Moody, B.C. V3H 3E1

Richmond
Councillor Kiichi Kumagai, City Hall, 6911 No. 3 Road, Richmond, B.C. V6Y 2C1

Richmond
Councillor Croisande Percival-Smith, City Hall 6911 No. 3 Road, Richmond, B.C. V6Y 2C1

Surrey
Mayor Doug McCallum, City Hall, 14245-56th Avenue, Surrey, B.C. V3A 3A2

Surrey
Councillor J. Marvin Hunt, City Hall, 14245-56th Avenue, Surrey, B.C. V3A 3A2

Surrey
Councillor Pam Lewin, City Hall, 14245-56th Avenue, Surrey, B.C. V3A 3A2

Vancouver
Mayor Philip Owen, City Hall, 453 West 12th Avenue, Vancouver, B.C. V5Y 1V4

Vancouver
Councillor Nancy A. Chiavario, City Hall, 453 West 12th Avenue, Vancouver, B.C. V5Y 1V4

Vancouver
Councillor Gordon Price, City Hall, 453 West 12th Avenue, Vancouver, B.C. V5Y 1V4

Vancouver
Councillor George Puil, City Hall, 453 West 12th Avenue, Vancouver, B.C. V5Y 1V4

Vancouver
Councillor Lynne Kennedy, City Hall, 453 West 12th Avenue, Vancouver, B.C. V5Y 1V4

West Vancouver
Mayor Pat Boname, Municipal Hall, 750-17th Street, West Vancouver, B.C. V7V 3T3

White Rock
Mayor Hardy Staub, City Hall, 15322 Buena Vista Avenue, White Rock, B.C. V4B 1Y6
Non-member Municipality Abbotsford  
Councillor Wendy Lee, City Hall, 32315 South Fraser Abbotsford, B.C. V2T 1W7

**Water Committee**

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Phone</th>
<th>Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td>J. Marvin Hunt</td>
<td>Chair Councillor, City of Surrey</td>
<td>604-591-4805</td>
<td></td>
</tr>
<tr>
<td>Mayor David Duncan</td>
<td>Vice Chair-District of Pitt Meadows</td>
<td>604-465-5454</td>
<td>Fax(604)465-2404</td>
</tr>
<tr>
<td>John Morris</td>
<td>Manager of the GVRD</td>
<td>604-432-6209</td>
<td></td>
</tr>
<tr>
<td>Mayor Rick Marusyk</td>
<td>Director-City of Port Moody</td>
<td>604-936-7211</td>
<td>Fax(604)936-9830</td>
</tr>
<tr>
<td>Mayor Jack Loucks</td>
<td>Director-City of North Vancouver</td>
<td>604-985-7761</td>
<td></td>
</tr>
<tr>
<td>Richard Littlemore</td>
<td>Director-Electoral Area C</td>
<td>Not Available</td>
<td>Fax(604)985-9417</td>
</tr>
<tr>
<td>Councillor Kiichi Kumagai</td>
<td>Director-City of Richmond</td>
<td>604-276-4133</td>
<td>Fax(604)278-5139</td>
</tr>
<tr>
<td>Councillor John Keryluk</td>
<td>City of Port Coquitlam</td>
<td>604-944-5442</td>
<td>Fax(604)944-5404</td>
</tr>
<tr>
<td>Councillor Doug Evans</td>
<td>City of Burnaby</td>
<td>604-294-7231</td>
<td>Fax(604)294-7220</td>
</tr>
<tr>
<td>Councillor Trevor Carolan</td>
<td>District of North Vancouver</td>
<td>604-987-7131</td>
<td>Fax(604)984-9637</td>
</tr>
</tbody>
</table>
## Halifax Region

### Calculation of Developers Charges

1. Total Cost of infrastructure (engineering estimate)  
   A (Note 1)
2. Interest during construction  
   B (Note 2)
3. Total cost of infrastructure installed  
   \( A + B \)  
   C
4. Deduct portion of infrastructure paid by Fire Protection  
   \( (37\% \text{ of } C) \)  
   D (Note 3)
5. Balance to be recovered from the Commission and new customers  
   \( C - D \)  
   E
6. Deduct portion of infrastructure that benefits the Commission  
   \( E - F \)  
   G
7. Balance to be recovered from new customers (Developer)  
   \( H - I \)  
   J
8. Gross area (acres) of land to be developed  
   H (Note 5)
9. Area of land that cannot be developed  
   I (Note 6)
10. Area of developable land  
    J
11. Development charge per acre  
    \( \frac{G}{J} \)
12. Average density of total development within water service district  
    L
13. Density above average density  
    M
14. Developer's cost per acre, above average density  
    \( M \times K \)  
    N
15. Density below average density  
    O
16. Developer's cost per acre, below average density  
    \( O \times K \)  
    P

**Note 1**: The infrastructure costs to be based on the best engineering estimate available.

**Note 2**: Interest during construction to be based on half the average time to construct the total project if a reasonable number of contractors were employed.

**Note 3**: The Percentage of the Commission's demand assets allocated to Fire Protection shall be that percentage used in the most current decision of the NSUARB for new rates and charges. The most current allocation of assets to Fire Protection by the former Halifax Water Commission is 37% and this percentage is a reasonable representation of the new Halifax Regional Water Commission. (re: Hearing Exhibit H-30)

**Note 4**: The cost of infrastructure that benefits the Commission will be established by the engineering staff of the Commission.

**Note 5**: The total land area will be established by the Commission in consultation with the Planning Department of the Municipality.

**Note 6**: The undevelopable land will be established by the Commission in consultation with the Planning Department of the Municipality.

*Appendix b*: Contains sample calculation for Bedford South
Hearing Exhibit H-3 as amended by Exhibit H-26

Calculation of Bedford South Developers’ Charges

1. Total cost of infrastructure (engineering estimate) $6,155,269 (A) (Note 1)
2. Interest during construction $6,155,269 x .07 = 430,869 (B) (Note 2)
3. Total cost of infrastructure installed 6,586,138 (C)
4. Deduct portion of infrastructure paid by Fire Protection 37% of C 2,436,871 (D) (Note 3)
5. Balance to be recovered from Commission and new customers (C-D) 4,149,267 (E)
6. Deduct portion of infrastructure that benefits the Commission. The total land area of Bedford South is 898 acres of which 300 acres is developed. The Commission benefits in proportion to total area 300 x 4,149,267 1,386,169 (F) (Note 4)

7. Balance to be recovered from new customers (Developer E-F) 2,763,098 (G)
8. Gross area of land to be developed 898 acres - 300 acres 598 acres (H) (Note 5)
9. Area of land that cannot be developed (Assume 0) 0 acres (I) (Note 6)
10. Area of developable land 598 - 0 598 acres (J)
11. Development charge per acre G 2,763,098 $ 4,621 (K)
J 598
12. Average density of total development within water service district 18 PPA (L) (Note 10)
13. Density above average density (assumed) 24 PPA (M)
14. Developers cost per acre above average density M x K 24 x 4,621 6,161 (N)
L 18
15. Density below average density 18 PPA (O)
16. Developers cost per acre below average density O x K 18 x 4,621 4,621 (P)
L 18

Note 10 The actual density would be established at the time the development agreement is executed.

Based on 5.4 lots per acre and a population density of 18 persons per acre, the per lot contribution by the customer (developer) would be \( \frac{4,621}{5.4} = 856 \)
APPENDIX C

Manitoba's Capital Region

Resolution of the dispute between Winnipeg and the surrounding rural areas over the extension of Winnipeg's water and sewage system has come to a standstill. Winnipeg City Council announced in February of 1998 that the City will not supply water and sewage services to the surrounding fringe communities as outlined in the original Cartier Regional Water System Plan.

The proposed infrastructure project, which has an estimated cost of $30 million, would have involved bringing potable water to Headingley, constructing a water treatment plant in St. Eustache, and connecting Portage la Prairie's pipeline to Winnipeg. Under the proposed plan, Winnipeg would sell 240,000 gallons/day to a regional authority which would then sell the water to the RMs of Headingley, Cartier, St. Francois Xavier and Portage la Prairie. The agreement would have allowed Headingley to pump 75,000 gallons/day of sewage into the City's westend sewage treatment facilities but would have limited the amount of additional sewage treatment to 5% each year. In return, Winnipeg would receive an annual revenue of $200,000 for its surplus water (Santin, January 28 1998: A2).

Secondary benefits to Winnipeg and surrounding areas include the development of region-wide waste management strategies, the attraction of new residents, and the attraction and development of industries. The surrounding communities anticipate a growth rate of 28%. Headingley (1996 population of 1600) expects to double or triple its size in the next 20 years. Their development plan designates a strip of land on both sides of Portage Avenue (TransCanada Highway) for commercial development and the land south of Portage Avenue for residential development. This strip of land is now zoned agricultural. The major landowners of these properties, have tried unsuccessfully in the past to rezone this land for residential and commercial purposes (Santin, January 27, 1998: A4).

The absence of a sewer line and treatment facilities, however, restricts urban development in Headingley and other surrounding communities. As well, although the Province of Manitoba would provide a grant of $2.1 million for the proposed water and sewage infrastructure project, Headingley's population could not support the additional $4.1 million of borrowing required for the project, unless they attract new taxpayers to help finance the debt through land assessment taxes (Cole, January 28, 1998: A10).

Fear of Urban Sprawl and Industrial Competition

The City of Winnipeg, however, contends that the extension of water and sewer services to the surrounding rural areas will lead to urban sprawl and loss of urban tax base. In particular, Winnipeg City Council contends that most of the "new growth" in Headingley would consist of relocated Winnipeg residents. Winnipeg fears that by providing water to Headingley, house construction and business will move into Headingley from Winnipeg's central core. Headingley's municipal property taxes are one third lower than Winnipeg's and critics claim that this is because Winnipeg residents pay a hidden subsidy to keep rural taxes low. Proponents of the infrastructure project note that Headingley's taxes will increase as residents pay for water and sewer infrastructure but will still be less than those in Winnipeg (Santin, January 27, 1998: A4).

Proponents of the Cartier Regional System contend that residents who move to bedroom communities are moving because of quality of life not because of lower taxes. They also note that, without a water and sewage treatment agreement, Winnipeg will lose whatever control it has on development in outlying communities since the agreement puts limits on how quickly the outlying communities can grow. They note that Winnipeg's fears are exaggerated because the current and projected population growth in Headingley is insignificant compared to the City's population (Santin, January 26, 1998: A1).

Political critics contend that once Winnipeg extends its services, other bedroom communities will want
to join, and this will further increase urban sprawl issues (Santin, January 28, 1998: A2). Others criticize the plan because Winnipeg will need all of its current excess water and sewage capacity if it hopes to attract large industries. The Provincial Council of Women and the Council of Women of Winnipeg state that the deal is being completed in the absence of any development studies on the Capital Region and without a proper accounting of the financial impact on the City (Taillieu, January 28, 1998).

Critics also note that the Province’s anti-urban sprawl policies are not being met by the Cartier project. In particular, the policy states that the full costs of developing, operating and maintaining services would be apportioned among those who benefit from development. The policy also aims to achieve more efficient land use through compact and mixed use development, infill of vacant land and more intensive use of land. However, Winnipeg has more than 6,000 vacant buildings, 4,000 potential building lots and 800 to 900 building lots (within the next 10 years) in Linden Woods. Vacancies in Winnipeg involve more serviceable land than can ever be developed in all the bedroom communities combined (Santin, January 27, 1998: A4).

Fear of Loss of Control

The surrounding rural areas are concerned that forming a partnership with Winnipeg would result in a loss of control over land use planning and other local issues. Historically, this has been a conflict between Winnipeg and Headingley and resulted in Headingley seceding from Winnipeg in 1992 over a dispute about water. Headingley does not want to be in Winnipeg’s control and fears that Winnipeg would have the ability to “turn off the tap” if the infrastructure project was allowed to proceed (Santin, January 26, 1998: A1).

As a consequence, the rural areas have sought an alternative water supply and source of sewage treatment facilities. The two options currently available are to obtain supply from the Cartier Regional Water Supply System with a water treatment plant in St. Eustache, and to strike an agreement with the R.M. of St. Francois Xavier to tie into the existing lagoon. The proposed lagoon, however, is considered to be environmentally unfriendly. Letters of concern and objection have been filed with Manitoba Environment. Particular objections have been voiced by the Department of National Defence which does not want a drainage ditch built across its property, and by St. James’ residents who object to the dumping of sewage into Sturgeon Creek. Capital costs of the Headingley-St. Francois Xavier lagoon also are higher and the Province of Manitoba would have to provide additional funding (Santin, January 29, 1998: A3; Santin, January 30, 1998: A3; Taillieu, January 28, 1998).

For political reasons, the Province also is unlikely to agree to a deal that creates uncontrolled growth (Santin, January 26, 1998: A4). The Province, however, has stated that Headingley and the fringe communities will receive water and sewer services regardless of whether or not Winnipeg provides them (Thompson, February, 7, 1998: A15).

Regional Planning Issues

The City is not opposed to sharing its resources or cooperating with the bordering municipalities but has stated that the provision of water and sewage services is conditional upon the development of a Capital Region strategy. Winnipeg’s Executive Policy Committee feels that a Capital Region strategy should include the assessment of the regionalization of fire and ambulance protection, land use, transportation, cooperative economic development, and regional recreational planning (Thompson, February 7, 1998: A15).

In addition to fears of the negative impact on the City’s tax base, Winnipeg fears that the infrastructure project would end all opportunity for the City and the Province to discuss a development plan for the Capital Region (Santin, January 29, 1998: A3). In particular, the water deal has been criticized as being “ad hoc”. The City of Winnipeg wants the Province to give it a direct vote in managing growth and development in the region and region-wide management of services including water (Cole, January 28, 1998: A12). Winnipeg has stated that it will not extend water to the other bedroom communities until it has signed a comprehensive land-use agreement for the Capital Region with the Province (Santin, January 28, 1998: A1).
At present, Winnipeg and the fringe communities are separate and distinct. The Province has grouped Winnipeg's fringe communities (13 rural communities) into planning districts comprised of municipalities. Because Winnipeg is excluded, the City and its immediate neighbours have no forum for jointly studying planning and development issues of mutual interest. Winnipeg's regional planning and cooperative policy development abilities also are limited because the Capital Region communities are the responsibility of the Minister of Rural Development. The Department of Rural Development does not bear responsibility to Winnipeg for policies which permit the urbanization of fringe communities and which may result in higher infrastructure costs for all Manitobans and erode the City's tax base (Santin, January 27: A4).

The Mayor of Winnipeg views urban sprawl issues as more than a need for Winnipeg's taxes to be more competitive, but rather as a need for a broad development framework to allow rural growth without damaging Winnipeg's tax base or straining its infrastructure. She feels that a well-organized Capital Region development plan should be formulated, and that Headingley's request for water should be studied in conjunction with Winnipeg's ability to plan for the region. The Province of Manitoba is reviewing Winnipeg's concerns about ex-urban growth to assess their legitimacy (Cole, January 29, 1998, A12).