

Clause No. 6 in Report No. 5 of Committee of the Whole was adopted, without amendment, by the Council of The Regional Municipality of York at its meeting held on November 21, 2013.

6
YORKINFO PARTNERSHIP
BUILDING OPPORTUNITIES 2013

Committee of the Whole recommends adoption of the following recommendation contained in the report dated November 7, 2013 from the Executive Director, Corporate and Strategic Planning:

1. RECOMMENDATION

It is recommended that:

1. The Regional Clerk forward this report to the local municipalities, school boards and conservation authorities for information.

2. PURPOSE

To inform Council about the changes to the focus of the YorkInfo Partnership that will help advance collaboration and data sharing among all partners.

3. BACKGROUND

YorkInfo Partnership includes the nine local municipalities, the two school boards, the two conservation authorities and the Region

Since 1996, the Region, the nine local municipalities, the school boards and the conservation authorities have worked together as the YorkInfo Partnership to maximize their collective investment in Geographic Information Services (GIS). Initially, the collaboration was informal, focussing on building a core set of mapping data such as parcels, roads and addresses and sharing the cost of acquiring orthophotography. For those partners who did not have GIS capacity, York Region's Geographic Information Services Branch (GISB) provided maps and services. Now all partners have acquired GIS technology, hired GIS expertise and have access to many layers of mapping data.

The Partnership has been central to the successful building and maintenance of geographic information systems (GIS) across York Region

The YorkInfo Partnership is valued by its members and plays an important role in creating GIS capacity and supporting effective service delivery to communities across York Region. Through collaboration, the YorkInfo Partnership has made significant achievements. As GIS became more integrated into an organization's daily business, the needs of the Partnership have evolved.

Partnership launched a review to build on successes and look at opportunities for continuous improvement

In 2012, members of the YorkInfo Partnership recommended a review be undertaken to examine the challenges facing the Partnership and identify opportunities to make it even better. This analysis would form the basis of a set of recommendations on how the Partnership needed to evolve to meet growing demands, maximize resources and realize other benefits outlined in the report. Senior staff from the Region, nine local municipalities, school boards and conservation authorities worked closely together through one-on-one meetings, workshops and surveys to conduct an operational and client-focused review of the Partnership, its services and effectiveness. The results of this review are documented in the *YorkInfo Partnership Renewal—Building Opportunities 2013* report (Attachment 1).

4. ANALYSIS AND OPTIONS

The *Building Opportunities* report examines the Partnership's achievements, challenges, and opportunities

Based on consultation, the Partnership has provided value for all the partners. Access to a common, maintained set of addresses, roads and parcels; pooling resources to regularly acquire orthophotography which is used broadly; and, building mapping expertise through training and knowledge sharing are the most valued activities.

The report acknowledged there were some challenges facing the Partnership which form the basis of opportunities. They include differences in GIS capability as organizations evolve, committing resources to partnership activities, and opportunities to streamline data collection and sharing.

The report identified a number of continuous improvement opportunities for the partnership to build on its success to date. These include a stronger focus on data collaboration and access supported by enabling technology and a priority setting framework.

Best practices of mature data sharing partnerships across North America include shared data acquisition, common goals and knowledge sharing forums

Similar partnerships in other jurisdictions were reviewed to identify best practices and to compare against the YorkInfo model. The partnerships reviewed are located in:

- Calgary, Alberta
- Sault Ste. Marie, Ontario
- Seattle, Washington
- Minneapolis, Minnesota

The review determined that best practices within all organizations are:

- the joint acquisition of data including orthophotography
- focusing the efforts of the partnership on common goals
- having a forum to share knowledge and build on best practices
- expanding the membership to other organizations such as utilities to gain access to additional data and resources.

Recommendations to guide the Partnership forward include enhancing information management and developing a multi-year Partnership plan

The report recommends the Partnership:

- focus efforts on data collaboration
- continue to build and enhance information management and GIS capabilities across all organizations
- establish common goals and align efforts in the development of a multi-year partnership project plan.

Strengthening focus on data collaboration will bring additional benefits to all Partners

The best opportunity is to build on previous success and further cooperate and coordinate efforts in the collection of data, and data sharing. Data is collected as a part of doing an organization's work and often this data is of value to others within the organization and in other organizations. This is especially true between levels of government who deliver services to residents.

Building shared data sets requires coordination, resources and support from those organizations that benefit. York Region has been working with the nine local municipalities in the collection of water and wastewater data to build an integrated picture of these networks. This will support all of these organizations in planning, reporting and service delivery. The Partnership can use the lessons learned from this initiative and apply it to building other collaborative datasets.

The Partnership should continue to look for opportunities for the joint purchase of datasets which are of benefit to each of the organizations. As an example, past experience with the purchase of orthophotography saved partners on average more than 50% of what it would cost to acquire individually. The Partnership is currently exploring using this approach to jointly acquire detailed information such as ownership, transfer, and easement information.

One of the impediments to the sharing of data is the need to develop and sign a licence agreement. Typically this requires the organizations to enlist their legal counsel and draft an agreement specific to the data.

Providing more opportunities to share best practices and exchange information will save time and money

The Partnership's workshops and software training are one of its primary benefits. GIS professionals interact to share knowledge and experience of technology and business trends, build awareness for common needs and gain new ideas. Since 2005, staff from all Partner organizations have participated in the Region's GIS training program free of charge, learning how to apply the technology in their areas.

Technical workshops were held on topics such as: implementing a new version of the core GIS software; web mapping; integrating Google maps into municipal websites; how to build story maps; and, data storage. In addition to sharing technical knowledge and experience, these workshops provide a forum for staff to build relationships with their counterparts in other York Region agencies. This form of information exchange provides value and the Partnership will look for additional opportunities to host these events.

The Partnership needs to build a multi-year plan with the flexibility of organizations to opt in or out based on their priorities

The report identified the need to have the Partnership develop a multi-year plan of projects it plans to undertake that will help their organizations achieve its goals. The plan would need the input of all partner organizations and require senior management buy-in to ensure the priorities align with their organization and that they could assign the resources required. The plan would be updated on an annual basis and organizations will have the ability to opt in or opt out of individual projects based on their interest, resources available, and priorities.

Evolved funding model allows Partners to participate based on the projects that most benefit their organizations

When the Partnership was first formed, organizations that had little or no internal GIS capability or software paid annual fees to the Region to cover the costs of creating and providing the geographic information and infrastructure. It also paid for the Region's GIS Branch to provide products and services. As GIS capability has grown within these organizations, partner needs are being met with internal resources.

The report recommends that Partners use the funds previously allotted to Partnership fees to contribute to their annual data acquisitions such as orthophotography. They can also use the funds to participate on special projects based on their interest and ability to commit resources to develop, implement and sustain data and share this with the other partners.

Partnership activities will be guided through YorkInfo Partnership committees

The *Building Opportunities* report went through a widely consultative approach with technical staff, executives up to and including the local municipal Chief Administrative Officers. The recommendations highlighted the need for corporate commitment, particularly on data collaboration and sharing. The roles of the YorkInfo Partnership committees have been modified slightly to support the implementation of the recommendations. York Region will coordinate the Partnership activities through the Manager, GIS Partnerships and Special Projects. The Partnership will report to the Local Municipal Chief Administrative Officers' Group on an annual basis on the proposed work plan and results from the previous year.

2013 work plan sets a strong foundation for collaboration

Senior staff from all of the Partner organizations met and agreed to two priorities for 2013: developing a data exchange agreement to replace the expired MOUs, and establishing a clear framework for collaboratively developing common data sets.

A data sharing task force is working together to develop one agreement to streamline data exchange, reduce the need for one-off agreements, and enable sharing between all partner organizations. There are no fees identified in the agreement and no fees are required to participate in the data exchange. In order to reduce administration overhead, there is no renewal term for the agreement. It will remain effective in perpetuity or until the member wishes to terminate their participation in the Data Exchange. Some member organizations will require the agreement to be authorized by their Councils or Boards. The agreements should be finalized by the end of 2013.

The *Guide for Data Collaboration* will guide stakeholders through the steps in building useful data sharing designs and standards for common data, such as roads, water/wastewater systems, land use, further enhancing the culture of collaboration. The Partnership used the approach outlined in the Guide to develop the All Pipes data model enabling improved business efficiencies and decision support in the delivery of this critical joint service. Partners are now using parks information to pilot the practices outlined in the Guide. Common parks information is important to support emergency response.

2014 work plan has already been developed together and will focus on data collaboration and self-service access

The Executive Committee identified four priorities for 2014: establishing region-wide standards for digital plan submissions; joint acquisition of 2014 to 2018 orthophotography, enabling self-serve, on demand access to geographic data; and, developing a multi-year work plan.

The Partnership will work together to establish region-wide standards for digital development application submissions. This will result in data consistency, increased opportunities for data sharing and automation, and improvements in efficiency and effectiveness.

The Partnership has agreed to move forward and recommend jointly acquiring orthophotography for 2014 to 2018. This forms the basis of the *2014 to 2018 Orthophotography Renewal* report also being considered at the November 7th, 2013 Committee of the Whole meeting. The Partnership will also explore the potential of collaboratively acquiring Teranet property information and easements.

Quarterly data deliveries to partners will be replaced with a self-serve environment, allowing partners to access and download the most current authoritative spatial data whenever they need it. The infrastructure and automation processes necessary will be in place by the end of 2013 and the data will be accessible through a common on demand access portal early in 2014. This portal will be built on the same platform as York Region's Open Data and Data Discovery applications.

Early in 2014, senior staff will meet to develop a partnership plan that will set goals, define projects and set priorities that will guide the efforts of the partnership. Work will be performed by tasks forces and working groups from interested organizations.

Link to Key Council–approved Plans

The YorkInfo Partnership supports the *2011 to 2015 Strategic Plan* in the priority area of “Strengthen Organizational Capacity” as it enables access to a common source of authoritative data to Regional staff and staff in other organizations in support of efficient service delivery and informed decision making.

5. FINANCIAL IMPLICATIONS

Financial model enables joint purchasing and more efficient service delivery

Partners agreed to move toward a financial model where funds are contributed toward sharing the costs of acquiring large datasets, reducing duplication and promoting access to business information. This will result in more efficient service delivery and provides more value to the taxpayer.

6. LOCAL MUNICIPAL IMPACT

All nine local municipalities are members of the YorkInfo Partnership. They and the Region have the responsibility to deliver services that fully employ the best use of data sharing and technology for the best value to residents. As an example joint acquisition of orthophotography saved each organization 50% on average.

7. CONCLUSION

Senior staff from all local municipalities were involved in the Partnership review and the development of recommendations. The review results are documented in the *YorkInfo Partnership—Building Opportunities 2013*. Some recommendations include:

- focus efforts on data collaboration
- continue to build and enhance information management and GIS capabilities across all organizations
- establish common goals and align efforts in the development of a multi-year partnership project plan

The Partnership work plan for 2013 includes a comprehensive data exchange agreement, and a framework for developing common datasets, using parks as a pilot.

2014 Partnership priorities include region-wide orthophotography acquisition, establishing region-wide standards for digital development application submissions, providing a self-service environment for data, and the development of a multi-year partnership plan.

Through this collaborative approach, all Partners will have greater access to a common source of authoritative information and maximize investments in the geographic infrastructure that supports the management of our communities.

For more information on this report, please contact John Houweling, Director of Geographic Information Services at Ext. 1529.

The Senior Management Group has reviewed this report.

(The attachment referred to in this clause is attached to this report)



**YORKINFO PARTNERSHIP RENEWAL
Building Opportunities 2013**



Contents

Executive Summary	2
Background of the Partnership	4
Achievement	6
Opportunity	10
Challenge	14
Current State Assessment	18
Recommended Solution	28
Timetable	33
Appendix A Current State Assessment Partner Feedback	35
Appendix B Current State Assessment – Review of GIS Partnerships in Canada and the USA	37
Appendix C YorkInfo Partnership Charter	43
Appendix D Sample Memorandum of Understanding	51

Executive Summary

Since its beginning in 1996, the YorkInfo Partnership has played an important role in creating geographic information systems (GIS) capacity and supporting effective service delivery to communities across York Region. Local municipalities, school boards, conservation authorities and the Region have collaborated to develop GIS that support the partners' business needs.

Through this collaboration, the YorkInfo Partnership has achieved several important successes. It:

- facilitates access to and sharing of data such as roads, parcels, and address points that are core to business systems, service delivery, and decision making.
- pools resources to acquire aerial imagery used by planners, engineers, local businesses and others.
- has developed and enhanced each partners' technical and information management capacity through knowledge sharing and training programs.

In an effort to continually improve, maximize the use of resources and realize additional benefits, the partners are interested in evolving the Partnership. This renewed partnership would focus on data collaboration and access, supported by governance that promotes authority, accountability, and sustainable funding.

York Region Geographic Information Services Branch (GISB) solicited feedback from Partners through one on one meetings, workshops and surveys, and worked closely with Partners to collectively develop the recommendations in this report that will advance the Partnership.

"The York Info Partnership helps give me more time to provide high value GIS services to Township staff; enabling them to better support the community. Without the partnership, we would need significantly more staff and funding to maintain and create the data that it provides."

Greg Czajko,
GIS Coordinator,
Township of King

As we move forward, the partnership needs to identify and establish common goals; expand its role in supporting joint service delivery throughout the region; identify and remove duplication; support the establishment of common business processes for information management; and create new shared business applications and a supporting technical infrastructure that enables easier access and use of data.

The report recommends the partnership:

1. Redefine its purpose to focus on data collaboration, facilitating business intelligence, and building and maintaining IM / GIS capacity.
2. Evolve the governance structure to ensure appropriate authority and accountability.
3. Establish a framework (standards, policies, processes and infrastructure) for efficient information sharing and access.
4. Create a fair and sustainable funding model. Establish and fund a partnership coordination position.
5. Establish categories for different types of partners, and consider adding other sectors and groups.
6. Operate with results-based accountability.
7. Communicate the role and value of the new partnership to stakeholders.
8. Continue to enhance information sharing and management through workshops and GIS training.
9. Update its charter, operating documents and agreements to reflect changes.



Background of the Partnership

Government organizations in York Region began to investigate the benefits of Geographic Information Systems (GIS) in the mid-1990s. In 1994, The Regional Municipality of York initiated the York Region Geographic Information Systems Project to evaluate the feasibility, costs and benefits of implementing GIS. Creating a corporate GIS required significant investment. With limited funds and little in-house knowledge available, a decision was made to work with other publically-funded organizations within the Region to build a basic data framework of roads, address ranges, land parcels, and to exchange land policy, infrastructure, topographic and environmental information.

Initially, the collaboration was informal. Data acquisition/sharing and cost sharing were the two primary goals. For partners who did not have internal GIS capability, York Region's GIS Branch also provided map products and services. As interest in collaboration among other government agencies grew, a more formal partnership model that defined the purpose, goals, roles and responsibilities, protocols for data, applications and resource sharing was needed. This became the YorkInfo Partnership. Membership includes:

- Town of Aurora
- Town of East Gwillimbury
- Town of Georgina
- Township of King
- City of Markham
- Town of Newmarket
- Town of Richmond Hill
- City of Vaughan
- Town of Whitchurch-Stouffville
- Lake Simcoe Region Conservation Authority
- Toronto and Region Conservation Authority
- York Catholic District School Board
- York Region District School Board
- The Regional Municipality of York

GIS Collaboration Formalized through Memoranda of Understanding

The Partnership is formalized through a series of bilateral Memoranda of Understanding (MOU) between the Region and each of the Partners. No formal multilateral agreements exist amongst the other organizations, but limited exchange of data does happen through data sharing licenses.

Partnership Charter

As the use of GIS grew within the partner organizations, a more structured governance was required. In 2003, the *YorkInfo Partnership Charter* (Appendix C) was developed which outlines the expectations between the Partnership organizations. It defines the vision, mission statement and the principles that guide Partnership interactions. It sets out the broad goals that guide the development of annual objectives and work plans.

Governance Framework

Partnership activities are coordinated through a framework of member representatives participating on an executive board, coordinating committee and technical committee that meet regularly throughout the year. An annual general meeting is held to focus on strategic topics. Task forces are formed as needed to develop common business applications, establish data standards and license agreements and deliver knowledge sharing workshops.

Annual Work Plan

The YorkInfo Partnership collaboratively develops and delivers an annual work plan that is guided by the *YorkInfo Partnership Charter*. The work plan provides a framework for planning and managing both the operational activities and the projects that bring new capabilities. These activities can include the creation and sharing of quality geospatial information, development of common standards and policies, sharing of knowledge and skills, and the development and acquisition of tools.

Achievement

“The Town of Georgina really benefits from the YorkInfo Partnership. This includes access to data and resources, as well as the various training workshops and other deliverables and collaborative opportunities that the partnership provides.”

Shawn Condé, Manager,
Information Technology Services
Town of Georgina

Key shared datasets include:

- Road network
- Address points
- Parcel fabric
- Draft approved and pending plans of subdivision
- Forestry
- Water and wastewater facilities
- Lakes and rivers
- Aerial images

The Partnership is highly valued. Significant achievements have been made that could not have been accomplished without collaboration. All organizations have developed GIS capacity and use the information delivered quarterly by the Region. Regional and local services benefit from the partnership through:

Data Sharing

Data sharing, access and management are at the core of the partnership and provide the basis for its most significant business improvement and sharing opportunities. Map data in particular can be expensive to collect, manage and maintain.

Sharing core and thematic geographic information is a primary goal and benefit. York Region maintains and distributes quarterly updates of over 80 administrative, environmental and infrastructure databases to the partners. Virtually all local and regional services benefit including school bus routing, health and social services delivery, flood regulation and more.

Sharing project data supports operations, projects and compliance.

The partners share land use information to enable Official Plan updates and amendments, facilitate appeals and support Local Official Plan conformity exercises. Shared bike path data enables cyclists to plan routes and promote sustainable transportation.

Shared aerial imagery acquisition distributes costs across agencies. The partnership's cost for aerial imagery is half the cost of each partner acquiring it independently. Up-to-date and historic aerial imagery are essential to local and regional municipal operations, programs and strategies. Imagery provides a rich geographic context for infrastructure, community and long range planning activities, emergency planning and response and public communication. The Partnership provides access to a series of aerial imagery ranging from 1995 to 2012.

Emergency management and response. Maps are essential to emergency events. In a cross-jurisdictional emergency, Information Management professionals can quickly share information, analysis and maps between emergency operations centers and emergency responders. The Region's

Geographic Information Services Branch, Emergency Management Branch, other departments and local municipalities work together to review and update infrastructure data critical to the region's operations and continuity. The updated critical infrastructure data and mapping are provided to each local municipality on an annual basis.

Applications, Software and Technical Infrastructure

When partners need to deliver the same information service, there can be significant value in working together to share all or part of a common solution. There have been a few examples of this:

East Gwillimbury Map Viewer. East Gwillimbury integrates the town's data, such as town-owned properties with a secure web map application with imagery, planning boundaries, transit, source water protection and development plans from the Region. The Map Viewer enables staff to quickly see what structures are on a property, and provides the public with map-based information services, helping free up staff resources.

3D visualizations. Since 2005, York Region and several partners have been developing a 3D model of Regional centers and corridors to help planners, senior management and the public understand impacts of plans for intensification. The 3D view helps effectively communicate options to staff, council, consultants and the public. The partnership has been sharing knowledge, experience and technical components for 3D modeling and video production. Municipalities use the existing models, standards and methodologies to develop visualizations of proposed buildings and scenarios. The partnership can facilitate the implementation of an integrated, shared 3D database.



Richmond Hill/Langstaff

Capacity Building

Workshops and in-house training save money and raise capacity. The partnership's workshops and software training are consistently identified as one of the key benefits. Not only information management professionals, but planning, engineering and other staff participate, building technical capacity within their business areas and enabling the exchange of ideas with counterparts from other organizations. Over 375 staff have participated in 72 courses since 2005, conservatively saving over \$130,000 for partner agencies.

Communications. Working together builds trust and understanding. The partnership provides a forum for information exchange. The partnership facilitates a better understanding within the region among those involved. These sessions provide staff with new opportunities to interact with their counterparts, gain knowledge of technology and business trends, build awareness for common needs and gain new ideas.

Opportunity

Example opportunities for improved data access and sharing:

- Building footprints
- Hydrants
- Easements
- Storm water pipes
- Parks
- Points of interest

The YorkInfo Partnership offers broad opportunities for improving information management, particularly with respect to Geographic Information Systems (GIS), across the member organizations. By pooling resources, essential data can be created, such as building footprints, or storm water pipes. By working together, applications to view and access data that would be difficult for a single agency to create, such as a region-wide Common Operating Picture (COP), are within reach. Opportunities to pool resources and support and enhance business processes will be realized by:

- Identifying common business requirements and developing and sharing data to support them
- Promoting a consistent and trusted information base for policy, planning, operations and decision-making
- Enabling and implementing technology that facilitates improved access, sharing, policy and decisions.
- Sharing resources associated with data collection and maintenance

By implementing the recommendations set out in this report, the Partnership will be strongly positioned to collectively create and maintain data and make it centrally accessible through common applications.

Data

The All Pipes Project provides a good illustration of how and why the partnership can be more effective. The All Pipes project looked at the shared responsibility for managing water/wastewater across the region, as well as the difficulties and opportunities associated with the varying data standards and information requirements among the parties involved.

Operational and planning decisions and reporting requirements at local and regional levels for water/wastewater need to incorporate what's coming in and going out. The project affirmed that a common, consistent view and management structure for water and wastewater infrastructure data within the region would be highly beneficial. The All Pipes database will enable faster, better and more consistent decisions, support cross-regional water/wastewater policy, and make the delivery of this critical portfolio less expensive.

The All Pipes Project identified **success factors** for common service delivery projects:

- **Commitment** from partners' senior management
- An appropriate **governance structure** with a clear mandate for reporting and accountability
- **Standards** that dictate rules, guidelines and definitions
- Core **database attributes** and data **integrity rules** that meet business needs without undue effort
- A secure, online **data access/sharing** mechanism
- Staff **capacity** across the region to maintain the data



These same factors are necessary to drive the new YorkInfo Partnership.

Water/wastewater is not unique. There are other program data being collected and managed – but not shared, and therefore duplicated. Other municipal services like transportation, utilities, and planning, all cross municipal boundaries and government levels.

Centralized Access

The Partnership can be the catalyst for common business applications and infrastructure that support information access and analysis for local and Regional use both internally and for the public. The Partnership has seen some success with shared applications such as:

- York Region Business Directory
- YorkMaps

Core to the success of any application is that it provides a consistent and easy to use view of the information. There are many additional resource-sharing opportunities for shared web-based applications. A few examples include:

Access to integrated development tracking information. The partnership can help enable common access to planning and development-related information. With this, partners could more easily track applications through the approval process and identify outstanding issues. Conditions of draft approval could be automatically circulated for clearance. Local municipalities could easily access building permits, and planning applications. School boards could use the system to forecast student population change anticipated from new subdivisions. Several partners have expressed interest in moving ahead with a pilot project that applies technology to the development process.

Municipal Property Assessment Corporation (MPAC) information.

York Region is preparing to share a web-based mapping application that provides staff access to parcel and limited MPAC assessment information. In particular this could assist the municipalities that use Teranet parcels. However, the Teranet parcels lack the relationship between the roll number and the Property Identification Number (PIN) required to provide building permit information for assessment updates. The application could potentially be expanded to integrate building permit information.

Common Operating Picture (COP) for Emergency Management.

A Common Operational Picture (COP) is a dashboard-like viewer or a “single identical display of relevant information shared by more than one level of command” that makes it easy to organize and visualize information. The region’s emergency services (fire/ police/ CMD/ REOC) could benefit from a common operating picture that enables collaboration and integrated planning and response. Both Community and Health Services and Emergency Management within the Region, along with many of the YorkInfo Partners have expressed interest in a region-wide COP.

Challenge

There are technical, business and organizational challenges the Partnership needs to take into consideration and/or address that will enable it to realize the many opportunities to improve information management and access.

Technical

A few partners have limited technical and resource capacity to fully participate and take advantage of the data and services available – or provide data back to the partnership.

Developing applications suitable for cross-regional use can be difficult. Even if the basic business processes match, each client may require different reporting standards. As well, an application must be designed, built, managed and maintained – all requiring initial and ongoing financial and staff commitment.

Business

A key purpose of the partnership is to identify and support the consolidation of business processes that collect and maintain duplicate data. A better alternative would be to have it collected once and shared. That's usually easier said than done, since considerations such as ownership, authority, timeliness of the updating, system capacity to support data access, and the overall business process re-engineering need to be considered. By establishing one authoritative source of data, business decisions can be made on common, accepted and trusted information across all partner organizations.

In many cases, the data exist, but people can't get access. Even within an organization, this can be a challenge. Not having access can lead to incomplete or uninformed decisions, long delays and expensive duplication of effort. Organizations are also at varying levels of expertise, resources and technology. Partners are challenged to find resources for items directly linked to their corporate strategic objectives and operational needs. Individual corporate work planning models and criteria do not recognize partnership goals in the process. GIS functionality reports into different departments in Partner organizations—often making it difficult to get a corporate focus.

Varying municipal business processes do not produce data to a standard that would support its easy sharing or use in other applications or among other partners. The All Pipes project demonstrated this challenge. The Partnership will identify best bets for either transforming data to an accepted standard, or investigate potential options of changing the business process to support a standard.

Organizational

The Partnership needs management authority, reliable funding and long-term vision to succeed. The Partnership must continue to demonstrate value to all the Partners. With stronger commitment and participation from all Partners, there can be greater benefits realized.

What's Driving the Renewal

There is increasing recognition and interest among partner organizations to take advantage of the many additional opportunities to improve information management and access. At the same time these opportunities may help address the challenges we face and work towards continuous improvement. Moving forward, an important partnership principle is that everyone's contributions are valued; and, together, all partners benefit.

Memoranda of Understanding (MoUs) are expiring.

Accountability and participation in the partnership relies on the goodwill of individuals and the organizations involved. It will only be achieved if there is clear value to each partner to participate. The original purpose for the partnership may not still be valid for some partners. The current MOUs and data licence agreements are between the Region and the individual partner organizations. Many outline services from the Region that are no longer required by some partners because the partner has developed their internal technical and Information Management capability.



Alignment with organizational priorities and strategies

The organizational priorities of each of the partners recognize the need for access to business information. In the case of York Region, its recent *From Vision to Results: Strategic Plan 2011 to 2015* identified the need for instant access to information, and not on an ad hoc, request-based approach. Internal clients in several business areas, such as economic development, would readily support such an initiative. The partnership's annual work plan should be based on activities that support organizational goals.

Governments making information freely available

Governments are moving or have already moved to make information freely available. The Open Data initiative in particular will make structured government data freely available and usable to the public and business community. By establishing a common, authoritative information source the public will be accessing information that is consistent and reliable.

Legislative requirements drive common data

Legislation such as the *Clean Water Act*, the *Lake Simcoe Protection Act* and the proposed *Great Lakes Protection Act* drive the need for public organizations to have access to consistent information to develop policies and plans, support conformity exercises, and ensure reporting aligns with regulations.

Technology advances open opportunities to do things in a more effective way

There have been significant advances in Information Technology (IT) and GIS technologies, such as Cloud solutions that enable collaboration and provide opportunities to be more effective. For instance, the Partnership could support real-time data access, maintenance and editing. Mobile technologies and applications could enable field workers to conduct asset inventory and maintenance, inspections, incident reporting and analysis.

Geographic Information Systems (GIS)

GIS is a specialized but core technology requiring unique skills, data types, and technology, and it is essential to the business of municipal government. There is now at least some GIS capacity within all the partners, and there are tools in place and more being introduced that make “GIS” (or the use of spatial data) part of the everyday toolkit for staff and the public.

Current State Assessment

Partner Engagement

Regional staff worked with YorkInfo Partners to conduct an operational and client-focused review of the YorkInfo Partnership, its services and its effectiveness. Partner feedback on what works and what doesn't work was solicited through workshops, interviews and surveys. Here's what partners had to say:

What Works

The Partnership is highly valued. Working together is more relevant than ever before as government budgets tighten. Because the partnership includes all nine local municipalities, both school boards, two conservation authorities and the Region it is highly regarded. Few regions have a similar structure in place. All the Partners have developed internal GIS capacity to some extent. Most of the goals set out in the Charter are still relevant and have been/are being achieved.

Core geographic information is shared. The most important achievement is that there is an environment where everyone has access to common, core geographic information such as roads, parcel and address points and business data. The joint acquisition of aerial imagery enables the cost to be distributed between Partners.

GIS training and knowledge sharing is highly valued. IM/GIS, planning, engineering and other professionals can develop IM/GIS knowledge and skills at no additional cost. The training program builds and enhances GIS skills and knowledge in GIS and business area professionals. The workshops provide a forum for staff to build relationships with their counterparts in other York Region agencies. This information exchange, while informal, has great value.

Joint application development provides access to common information and methodologies. There has been some success in joint application development as evidenced by YorkMaps and East Gwillimbury Map Viewer, as well as 3D visualization. Web-based applications are one of the most

effective ways to make map information available to users. However, joint application development inherently comes with its own challenges. It requires significant effort to collect user requirements from multiple stakeholders and develop a solution that best meets the needs of all users. There is a corresponding loss of agility in making any changes to the application. A better solution is the current approach to leverage an organization's investments in web map solutions either by providing the source code to Partners to build or enhance their own web mapping, and/or have an organization host the web map solution.

What Doesn't Work

Data duplication introduces the risk of inconsistent information across the same geography and duplicates resource investment. There is still duplication of common datasets. For example, the Town of Newmarket and the City of Vaughan purchase Teranet parcels and the Region maintains a parcel fabric for the whole Region. Both the City of Markham and the Region maintain road information for the same geography. The Town of Newmarket and the Region both generate address points. Many of the local municipalities have processes and systems in place to collect data and the models and formats are set to meet their specific needs. This hinders combining the data into a regional or cross-jurisdictional model. Wherever possible, data should be created and maintained by the authoritative source and made readily accessible to Partner organizations that need it.

Business areas within organizations sometimes do not share data for common business needs and GIS staff either doesn't have access to the information or the authority to provide it. The absence of common data standards, multiple partner-specific data sharing agreements and protocols, and a lack of a centrally accessible data impede the efficient sharing of data. Across the Partnership, GIS staff report to a broad spectrum of departments including: CAO's Office, IT, Planning and Engineering. This reporting diversity makes it difficult to develop common priorities for the Partnership.

Governance needs restructuring to realize more commitment to joint activities. While much of the Charter is still relevant, it needs to be more clearly written. It should move away from a focus on the technology infrastructure and define a path forward as a partnership. Its principles should capture fiscal responsibility to one taxpayer. There is no authoritative mandate to share information, applications, knowledge or to adopt standards. The review finds there is a need to cooperate and coordinate efforts to most effectively deliver services through collecting data once, sharing with many and developing the technology and policies to manage and provide access to information. Its governance committees need to be structured to ensure the representatives have the authority to commit their organizations' resources to an agreed upon Partnership work plan. Partners participation would be based on interest and ability to commit resources to develop/implement and sustain.

Diverse business priorities and GIS capabilities prevent full participation.

There is no consistent business need from all partners. The information needs of municipal government are different from school boards or conservation authorities. Organizations are also at varying levels of expertise, resources and technology. GIS functionality reports into different departments in partner organizations—often making it difficult to get a corporate focus. Although, everyone wants to participate and contribute more to Partnership activities, resource availability and competing business priorities prevent them. These conditions contribute to being unable to take on initiatives that are of value to all. The partnership should concentrate on one or two strategic actions each year that benefit the majority of partners. The joint aerial imagery acquisition is a good example. There may be benefit in identifying different classes of stakeholders that focus their energies on activities that are specific to their business requirements and ability to contribute.

The Partnership's funding model is no longer sustainable. Partnership fees do not cover the cost of maintaining the partnership, but help defray administrative and coordination costs. Originally, the fees paid for York Region's GIS team to provide GIS data, products and services to the organizations that had limited internal capacity. As GIS capability has grown within these organizations, York Region now rarely provides products or services. Some partners are questioning why they have to continue to pay fees, when their GIS mapping needs are being met internally and they are providing business data to the Region to support its activities. The Cities of Markham and Vaughan, and the Town of Richmond Hill do not pay fees, with the intention that they would contribute their data for integration into the Region's. This has not been as successful as anticipated. The funding model is neither equitable nor sustainable. Partners also expressed the desire to work toward a "true partnership" where each partner contributes and contributions are recognized as of equal value.

Review of GIS Partnerships in Canada and the USA

Similar partnerships in other jurisdictions were reviewed to identify best practices and to compare against the YorkInfo model. There are a variety of approaches to GIS partnerships. The following provide a brief overview of the characteristics of the YorkInfo Partnership and four other GIS partnership/collaborative models. Three of the partnerships reviewed are located in Canada: the Calgary Regional Partnership, Calgary, Alberta; the Community Geomatics Centre, Sault Ste. Marie, Ontario; and, the YorkInfo Partnership, York Region, Ontario. Two are located in the United States: King County GIS Centre (KCGC), Seattle, Washington, and MetroGIS, Minneapolis, Minnesota. The population that the partnerships served ranged from 120,000 to 2,800,000.

Essentially, the partnerships fall into one of two types. In the first type, the Partnership is led by one of the participating organizations and the purpose is primarily centred on creating, managing, providing and exchanging data; limited products and services; application development; and infrastructure

sharing. With the exception of the YorkInfo Partnership, this model seeks revenues from services and training programs to supplement their GIS budgets. In the second type, regional planning and operating agencies provides a leadership role in facilitating the sharing of data and knowledge and fully funds partnership administrative and coordination costs. In the planning council model, the council does not create, maintain or house data, but works with agencies to facilitate the compilation and sharing of standardized regional data.

Characteristics

The primary purpose of all partnerships was enabling access to geographic data to enable quality decision-making, service delivery and infrastructure management. None of the partnerships were established legal entities and therefore no partnership owns data. There was a wide difference in the extent and quality of data available through the partnerships. All partnerships worked together in acquiring aerial imagery.

All partner models identified knowledge sharing workshops as a key benefit of their partnership. Each held regular sessions to share needs and develop mutual understanding of technology, data and practices. Some alternate sessions between focusing on GIS professionals with holding general meetings focused on the business users. In addition to knowledge sharing sessions, King County GIS Centre and York Region have formal GIS training programs that are available to all partner organizations.

Joint application development was limited. The few applications developed collaboratively were primarily to assist in data discovery and delivery. A few web-based GIS applications were developed based on meeting common needs, such as providing a common capital projects view, or focused on providing information to the public.

Most Partnerships, either formally or informally, works within a governance structure. Typically, a coordinating committee leads the partnership with management level representatives who establish the partnership's priorities and coordinate work. Each had either a technical level committee and/or ad hoc technical working groups that provide technical recommendations on how to achieve goals. Where the planning council groups differ is that they have an established formal reporting to either a political body, or more senior level management. This provides the authority to direct the activities of participating organizations to cooperate toward common goals and regularly receives and reviews reports of progress. Only two have formal operating guidelines.

Primary membership was very similar across all four Partnerships, ranging from 14 to over 300 members. In all models, regional, county and local municipal governments were identified as the primary stakeholders. In many cases, there were secondary or tertiary stakeholders which often included: metropolitan commissions and boards, provincial or state governments, federal government, education, community and health services, emergency response, First Nations, conservation authorities, utilities, non-governmental organizations (NGOs) and non-profits, utilities and in some cases the private sector.

All the partnerships reviewed are informal, voluntary collaborations without legal standing. Only the YorkInfo Partnership has a Memoranda of Understanding that formalizes the relationship between the Region and individual partners. In some cases, simple datasharing agreements facilitate internal exchanges of data and disclaimer language describes how it can be used or restricts redistribution. In the case of MetroGIS, letters of intent related to paid maintenance of parcel data ensure a clear understanding of expectations.

There are a wide variety of funding models. In the two Partnerships where the role is primarily related to the facilitation of data and knowledge, sharing the costs of the coordination is entirely funded by the metropolitan planning council. In the MetroGIS case, the Planning Council also pays local municipalities \$4,000 annually to maintain and share their parcel fabric. In King County, Sault Ste. Marie and York Region the budget for partnership activities are not separate from operating the GIS as a whole. In the Council funded models, they are exploring partnering with utilities to help with the cost of operating the Partnership. Funding was identified as a challenge for all Partnerships.

What works

Joint development and acquisition of data was identified as the key benefit for all the partnerships. Maintaining core information, such as parcels at source and sharing with all reduces duplication and creates a common information source on which to base business decisions. Data standards should be developed through discussion and consensus on what best represents the needs of the entire community. Collaboration requires cooperation from organizations with related business needs and a willingness to participate. Joint aerial imagery programs results in huge savings and enables all organizations to acquire the data that would otherwise be beyond their financial capabilities.

Where policy makers and senior management actively participate it is easier to establish and maintain commitment to common goals. Working together toward common goals provides strength in numbers to approach decision makers and funding opportunities.

Everyone stressed the importance of maintaining a knowledge and networking forum. By increasing awareness of projects and identifying common needs, sharing knowledge and resources, organizations are able to learn from one another and build on best practices. GIS training programs build GIS capacity in GIS professionals and also within the user community and organizations.

Tiered membership allows primary stakeholder agencies with similar business goals, such as municipalities, to collaborate in developing and sharing information and solutions to meet their needs. Additional levels of stakeholders benefit from the efforts and achievements of the Partnership and/or contribute without requiring the same level of commitment or have the same influence in determining objectives. Expanding the membership to include utilities and the development industry may provide access to additional information and result in additional funding.

What doesn't work

Establishing standards that will meet the requirements of all was identified as the primary challenge for all the partnerships. In most cases, partner agencies developed data based on their internal business needs and systems prior to the formation of the partnership. As a result, dependencies on data and representation standards constrain the establishment of regional standards. Datasharing only works if it meets partner business needs better and more cost-effectively than they can meet them on their own.

Where there is no high level commitment to set priorities or authorize resources partnership activities depends on voluntary participation. The primary issue for all is although everyone wants to participate, no one actually commits the resources required to fully realize the potential benefits from collaboration. Sustained collaboration requires high-level leadership and commitment from organizations with related business needs.

It is difficult to develop and sustain joint business applications to serve the varied business needs of many. There are challenges not only during the initial development phase, but especially as disparate user needs evolve and drive the need for additional functionality.

Getting consistent, equitable funding for coordination and Partnership activities was identified as a challenge for all partnerships. Even the partnerships that are currently fully funded through Regional Planning Councils look for ways to gain additional financial contributions, either through exploring introducing partnership fees, joint applications for government funding programs, or partnering with utilities.

All Pipes Project Lessons Learned

The All Pipes project was initiated to identify how local municipalities and the Region can work together to create and share a single integrated water and wastewater “All Pipes” GIS database that reflects the physical integration of the pipes and make it easier for both the Region and the local municipalities to plan, manage and deliver this core municipal service. Lessons learned recommended practices that should enable more consistent sharing of this important business data to support the delivery of services on joint infrastructure.

Lessons Learned

Several critical factors must be achieved to make common service delivery projects, such as water/wastewater successful.

- High-level commitment from senior management within the local municipalities and the Region
- An appropriate governance structure with a clear mandate for reporting and accountability

- Appropriate financial commitment from the partners for the initial build and ongoing maintenance
- Standards that dictate rules, guidelines and definitions to ensure that products, procedures and services are fit for their purpose
- Core database attributes and rules for data integrity, ensuring they meet the business needs without creating undue effort
- Build and implement secure online data access/sharing mechanism
- Staff capacity is in place within the Region and the local municipalities to maintain datasets, allowing all partners to benefit

The recommendations set out in the “All Pipes” report have been accepted by the Municipal Liaison Committee and are moving toward implementation. If this approach is successful, it can then serve as an example for other joint data sharing activities and initiatives.

Recommended Solution

The re-imagined and newly effective partnership will reflect the following:

1. Purpose

- Be a data collaborative for creating, maintaining and making geographic information accessible by eliminating or reducing duplication and enabling the sharing of business information related to common service delivery
- Facilitate business intelligence by making knowledge out of data and information through aggregation, analysis and design
- Build and maintain IM/GIS capacity in business areas

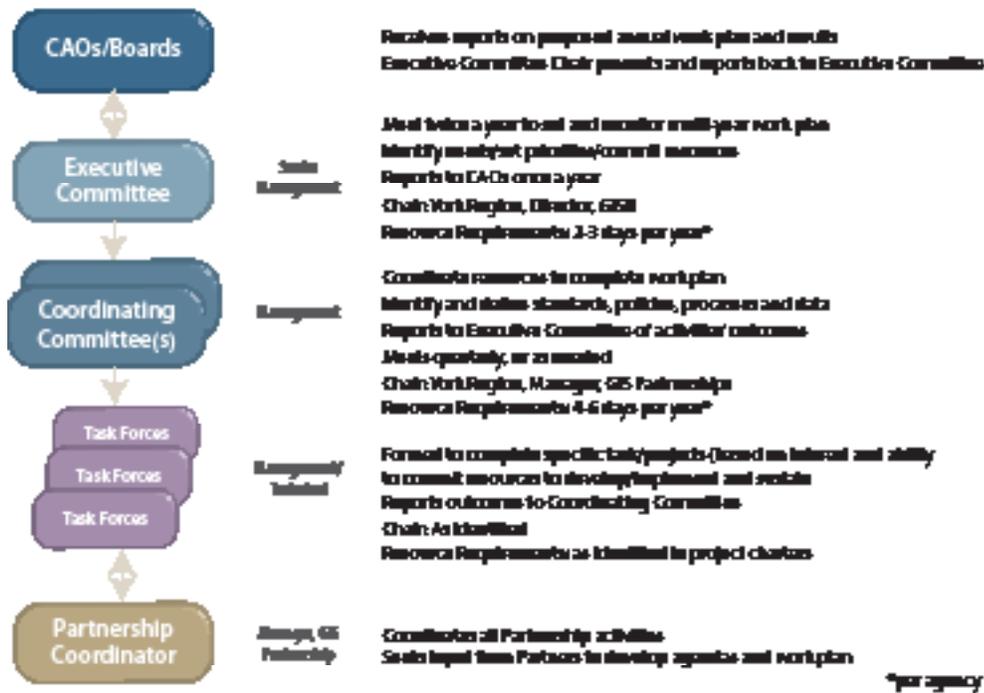
2. Governance

The partnership's governance structure will ensure accountability and resourcing appropriate to deliver the services and realize the benefits associated with the many opportunities. The re-constituted partnership will need a clear statement of support from senior management along with appropriate committee representation and a reporting relationship to the Chief Administrative Officers group. It is envisioned as:

1. Municipal CAO Group. Receives information reports on proposed annual work plan and results
2. Executive Board. A committee of change champions from each organization that have a broad understanding of their organization's goals, ability to commit resources, and have accountability for commitments. The committee meets twice a year to identify needs, set priorities, commit resources and review the overall program and progress
3. Coordinating Committee. The Coordinating Committee identifies and defines standards, policies, processes, and infrastructure and coordinates staff resources from individual agencies required to achieve the goals established by the Executive Board

4. Task Forces. Task forces are formed to complete specific tasks/project based on interest and ability to commit resources to develop/implement and sustain
5. Coordination. York Region leads the governance structure, coordinates joint partnership activities and acts as the facilitator and administrator in the sharing and distribution of business information

Governance Structure and Roles



3. Data

Data are the primary driver for the partnership. The partnership can do more to establish the infrastructure, policies and processes that enable partner data and workflow processes to be used – a concept called a Federated Data Warehouse. A framework (standards, policies, processes and infrastructure) necessary to leverage data and workflow processes while respecting individual business requirements and systems should be established. Duplication can be reduced through defining data stewardship roles and responsibilities that encourage the best quality data at the least cost to the taxpayer. Expanding data sharing to include geographic and non-geographic business information will support service delivery. Similarly the partnership can:

- Work with the business owners to identify information needs associated with service delivery
- Work with business owners to propose acceptable minimal standards for key shared information such as road centerlines and parcels
- Incorporate cross-jurisdictional business information, such as roads and pipes as well as development and demographic information
- Reduce duplication by identifying who owns the business process and consequently the data stewardship role
- Establish agreements for efficient data sharing between the partnership and potential future stakeholders, such as utilities

4. Funding

The Partnership must demonstrate that it will save money and improve service delivery. The funding model should be fair (everyone contributes) and sustainable (from base budgets).

Special projects would be identified and funded separately as would additional funding opportunities from others – such as with utilities and the development community. Not all organizations will be ready for or interested

in participating in all joint activities. Where opportunities do exist for only a few, these can be undertaken by parties with the interest and resources to develop and maintain. Multi-year work planning would enable budget planning for partnership activities.

The Region should establish and fund a position to coordinate the Partnership and facilitate its activities. The cost of this position may be recovered through eliminating duplication in creating and maintaining data, and accessing information (such as “All Pipes” data) that promotes efficient service delivery.

5. Membership

In a successful partnership, everyone benefits. However, not all partners necessarily benefit or participate equally. The YorkInfo Partnership will recognize different types of partners. Primary partners are the Region and local municipalities. Their financial and organizational commitments are the same.

Other public sector partners like the school boards and conservation authorities, whose primary needs are for access to core data, form the second category. A third-tier or category could be introduced for others, such as utilities, health sector, insurance companies, the development community and more.

6. Results-based Accountability Framework

The Partnership will operate within a result-based accountability framework with defined performance measures. These measures will be used to organize, monitor, evaluate and improve the work of the partnership.

7. Marketing

The partnership will be promoted and communicated so that partners and clients understand the new roles and value. The message will focus on the cost/benefits of information sharing and not the enabling technology.

8. People

The partners have information management professionals who have the experience, capability, and drive to make the partnership successful through the delivery of its services and the realization of its goals. Technical/IM/GIS capabilities need to be maintained and enhanced by holding workshops and providing continued access to the Region's enhanced GIS training program.

9. YorkInfo Partnership Charter and Partnership Agreements

The new Charter's vision, mission statement and goals will reflect changes in the partnership model. It will emphasize fiscal responsibility and be presented to the CAOs' group. Similarly, the agreements will be revised to reflect the partnership's new roles, responsibilities and funding. The current MOU is included as Appendix D.

Timetable

1. YorkInfo Partnership Review – Completed
2. Draft Proposal Document – Completed
3. Presentations to Partners – Completed November 2012
4. Final Proposal – Completed May 2013
5. Initial Executive Board/Change Champion Meeting – ~Q3 2013
 - Refresh Charter
 - Re-establish goals
6. Annual Work Plan 2013 Established – ~Q3 2013

Appendix A

Current State Assessment and Partner Feedback

The following chart documents the discussions with partners on proposed solutions to address what doesn't work.

What Doesn't Work	Opportunities
<p>Data duplication exists and introduces the risk of inconsistent information and increases costs to the taxpayer</p> <p>Resistance to sharing business data impedes common service delivery.</p>	<ul style="list-style-type: none"> • Focus Partnership purpose on data collaboration • Identify data duplication and assign stewardship to authoritative source • Expand data maintenance and sharing beyond core data to include data that support common service delivery, such as water/wastewater infrastructure • Expand role to include non-geographic data to capitalize on the technologies' capability to integrate and enable analysis • Establish regional standards for key shared information • Recognize the role of GISB to act as facilitator for business data exchange • Establish framework (infrastructure, policies and processes) to leverage data and workflow processes while respecting individual business requirements and systems • Enable more access to development and demographic information • Work toward a common Open Data policy to make structured government data freely available • Facilitate Business Intelligence across organizations and capitalize on the opportunities to make knowledge out of data
<p>Diverse business priorities and GIS capabilities prevent full participation</p>	<ul style="list-style-type: none"> • Recognize fiscal responsibility to one taxpayer • Focus on common business needs in developing projects for annual work plan • Special projects undertaken only by interested parties with committed resources to develop and sustain • Partnership activities be recognized in organization work plans • Build and maintain GIS capacity in business areas through <ul style="list-style-type: none"> • Continued access to GIS training • Workshops focused on business areas • Expand discussion to include ideas, expertise and best practices
<p>Governance needs restructuring to realize more commitment to joint activities</p>	<ul style="list-style-type: none"> • Establish external source of authority to align Partnership agenda with corporate goals and provide broad oversight to annual plan • Executive Board <ul style="list-style-type: none"> • Representative must be able to set priorities and commit resources (Director/CIO level) • Identifies common needs and establishes goals • Formal reporting to CAOs group, and similarly to school boards and conservation authorities

What Doesn't Work	Opportunities
	<ul style="list-style-type: none"> • Coordinating Committee <ul style="list-style-type: none"> • Representation must be at management, not technical level representation • Defines objectives and work plans and coordinates resources to achieve goals set by Executive Board • Reports to Executive Board • Replace Information Management & Technology (IM&T) team with working groups, as needed • Establish coordination role to be primary contact and facilitate partnership activities • Promote GIS capabilities and value and promote understanding of its value as a corporate asset and what it takes to sustain • Revise MOUs to reflect Partnership's new purpose, goals, roles and responsibilities and funding • Revise Charter to ensure vision, mission and goals reflect changes to the partnership model • Expand partnership to include utilities, health sector and development community. • Define categories of stakeholders based on need and ability to contribute, such as: <ul style="list-style-type: none"> • Primary stakeholders: Region and local municipalities • Secondary stakeholders: school boards and conservation authorities • Tertiary stakeholders: utilities, health, development etc.
<p>The Partnership's funding model is no longer sustainable</p>	<ul style="list-style-type: none"> • Recognize and fund GIS as a major corporate asset • Recognize investment in the Partnership results in cost savings and more effective service delivery • Develop a fair and sustainable funding model <ul style="list-style-type: none"> • Region funds coordinating and administrative activities • Partner contribute costs associated with staff participation and occasional meetings • Members would contribute an established amount on an annual basis to jointly purchase data • Partners wanting to participate in special projects must commit to resources necessary to complete and sustain

Appendix B

Current State Assessment Review of GIS Partnerships in Canada and the USA

Characteristics of GIS Partnership/Collaboratives					
Organization	York Region	Sault Ste. Marie	Calgary Regional Partnership	MetroGIS	King County
Lead Agency	York Region, Geographic Information Services Branch (GISB)	Community Geomatics Centre, Sault Ste. Marie, Ontario Not for profit strategic partnership between City and PUC and other stakeholders	Calgary Regional Partnership, Calgary GIS (CRP), Alberta CRP GIS is a pillar of Calgary Regional Partnership	MetroGIS, Minneapolis, Minnesota Metropolitan Council	King County GIS Centre, Seattle, Washington
Main Contact	John Houweling	Paul Beach	Jessica Letizia	Geoff Maas	George Horning
Position	Director	SSM Centre GIS Manager	CRP GIS Coordinator	MetroGIS Coordinator	King County GIS Center Manager
Phone No.	905.830.4444	705.942.6938	403.660.1160	651.602.1638	206.263.4801
Population	1,084,000	120,000	1,214,839	2,800,000	1,969,722
Purpose	Partner-led model Create, maintain, acquire and share geographic information, infrastructure, tools and knowledge Promotes GIS awareness	Partner-led model Promote and establish partnerships and technological means to share data, tools and knowledge among community organizations	Council-led model Facilitate data and knowledge sharing, networking and capacity building in member organization Support CRP with GIS needs	Council-led model Facilitate data sharing and standards development Facilitates knowledge sharing and networking for GIS professionals Support MetroGIS with GIS needs	Partner-led model Works in partnership with county agencies to provide GIS data, infrastructure and services to the County and its communities.
Data	Provides quarterly delivery of 80+ datasets including roads, parcels, and address points Joint aerial imagery acquisition	Provides quarterly delivery of datasets including roads, parcels and address points Comprehensive utilities and health data	Facilitates datasharing, but does not create or maintain No data standards in place. Everyone maintains their own roads, parcels, land use Would like to compile standardized regional data, especially water/wastewater Participates in state-coordinated joint aerial acquisition	Facilitates datasharing focusing on standards: <ul style="list-style-type: none"> Developing address points database and editing tool Purchases road network, working toward developing a street centreline Standardized parcel fabric maintained by LMs and “meshed” quarterly No water/wastewater model in place Joint aerial imagery acquisition 	Primarily data distribution on a quarterly basis Joint aerial imagery acquisition
Products and Services	Lead agency provides mapping and services at no additional cost	Lead agency provides mapping and services	Lead agency provides very limited GIS support and capacity development in smaller communities	Lead agency provides no GIS services or products	Lead agency provides GIS services to agencies on a pay as you go basis
Knowledge sharing	Yes	Yes	Yes	Yes	Yes
GIS Training	GIS training curriculum available at no additional cost	None	None	None	GIS training curriculum available at additional cost

Characteristics of GIS Partnership/Collaboratives					
Organization	York Region	Sault Ste. Marie	Calgary Regional Partnership	MetroGIS	King County
Application Development	Limited. Web-based business application development	Limited. Desk top modules	Limited. Working toward Open Data framework, protocols and delivery mechanisms	Limited. DataFinder a web-based data discovery and download tool for the public. Focused more the sharing of code and ideas	Limited. Joint application development based on common needs, such as web-based Capital Projects application
Infrastructure	Limited	Shared infrastructure	No shared infrastructure	None	Shared Infrastructure
Membership	<p>14 members:</p> <p>Regional municipality 9 local municipalities 2 school boards 2 conservation authorities</p>	<p>60+ members:</p> <p>Municipal government Sault Ste. Marie PUC Great Lakes Power District Health District Social services Education Emergency response Economic development Garden River First Nation Conservation Authority NGOs (United Way, YMCA)</p>	<p>15+ members (primary):</p> <p>Level 1: Calgary Regional Partnership (Regional Planning Council) CRP member municipalities</p> <p>Level 2: Other municipal districts and counties in the region First Nations Provincial agencies Utility companies Watershed groups Land trusts Irrigation districts Universities Regional service commissions (All end users of geographic data from the public to small nonprofit to businesses)</p>	<p>~300+ members</p> <p>Level 1: Metropolitan Council 7 Counties</p> <p>Level 2: School districts Watershed districts Metropolitan Commissions and Boards Several Cities Federal agencies Non-profits Counties and organization outside the 7 county metro area</p> <p>Level 3: Utilities, private GIS (currently vacant)</p>	<p>40+ members</p> <p>39 cities within King Country Water/Sewer Health & Social Services Adjacent counties Utilities Some non-profits</p>
Funding	<p>Annual Partnership operating costs: ~\$150,000</p> <p>Costs related to operating the Partnership are funded through the GISB budget</p> <p>Annual Partnership fees recovered from 8 of the 14 members totaling \$111,750 contribute to GISB's annual budget</p>	<p>Annual operating costs not available</p> <p>Costs related to operating the Partnership are funded through the GIS budget. Annual operating costs (for GIS) \$1.3m:</p> <ul style="list-style-type: none"> - 50% revenues from City, PUC, Great Lake Power, Health, and fees for additional services -50% consulting contracts for data management, IT, Strategic Planning, analysis and mapping for external clients (Completes with private sector) 	<p>Annual operating costs: \$173,000 to \$280,000</p> <p>Funded by the Calgary Regional Partnership for GIS Coordinator position</p>	<p>Annual operating costs: ~\$160,000 for:</p> <ul style="list-style-type: none"> - coordinating/administrative support -parcel data maintenance funding (7 counties paid \$4k/annually to maintain parcel) <p>Funded by Metropolitan Council</p> <p>Partners do not provide funds, but supply people, time, research, data work and is seen as valuable as money. Looking at members and utilities for funding in the future</p> <p>Pursues state and federal grant funds for specific projects , studies and initiatives</p>	<p>Annual operating costs not available</p> <p>Costs related to operating the Partnership are funded through the King County GIS budget</p> <p>Funding model continues to evolve</p>

Characteristics of GIS Partnership/Collaboratives					
Organization	York Region	Sault Ste. Marie	Calgary Regional Partnership	MetroGIS	King County
Governance structure	<p>Three levels of governance</p> <ol style="list-style-type: none"> 1. Executive Board is a sub-set of membership representing interests of the municipalities, school boards, and conservation authorities. It provides a leadership role in the coordination of activities, drafts agendas, reports and recommends priorities 2. Coordinating Committee is comprised of representatives from each organization. It collaboratively establishes guidelines, policies and standards, provides direction to subcommittees, identifies issues and opportunities, develops and monitors the work plan 3. Information Management & Technology team is comprised of representatives from each organization. It identifies technical means to achieve the Partnership goals <p>Ad hoc groups form to work on special projects, such as data agreements, promotional materials, aerial imagery acquisition</p>	<p>Two levels of governance</p> <ol style="list-style-type: none"> 1. Steering committee comprised of stakeholder representatives, no regular meetings held 2. Sault Ste. Marie GIS develops work plan and reports to Economic Development Board for approval 	<p>Four levels of governance</p> <ol style="list-style-type: none"> 1. CRP General Assembly(GA) provides broad oversight to the Business Plan 2. CRP Executive Committee (EC) provides broad direction on priorities, receives and reviews reports of progress 3. GIS Elected Steering Committee (elected official from CRP members) reviews progress, provides direction to the Technical Staff Committee and provides recommendations to the EC and GA 4. GIS Technical Staff Committee GIS staff, provides technical recommendations, coordinates resources from individual agencies to implement objectives 	<p>Four levels of governance</p> <ol style="list-style-type: none"> 1. MetroGIS Policy Board comprised of ~11 elected officials and one Council member 2. Advised by a Coordinating Committee made up of 25+ GIS professionals and managers representing participating organizations 3. Technical Advisory team has recently been disbanded 4. 25+ GIS professionals serve on special purpose workgroups: data access, data content, data standards and policy needs <p>Consultant facilitated task force in joint development of 2008-2013 work.</p>	<p>Two levels of governance.</p> <ol style="list-style-type: none"> 1. Oversight Committee comprised of 6 County agencies. (meets no less that twice per year, more often if necessary) <ul style="list-style-type: none"> • Reviews and approves <ul style="list-style-type: none"> » GIS work programs and recommends budget to budget office to be approved by King County council » Standards, technical and policy recommendations from GIS Tech committee • Recommends cost allocation model for Central GIS services • Make recommendations to Technology Management Board as needed • Resolve issues referred to GIS Oversight Committee as needed 2. Technical committee comprised of 18 members develops work plan. Decisions made by consensus, if consensus cannot be reached within Committee, the issue is referred to CIO
Operating Guidelines	<p>Charter defines vision, mission, principles, goals, organizational framework, membership, operating practice and governance structure</p>	<p>None documented</p>	<p>None documented</p>	<p>Operating guidelines and Procedures define the roles and responsibilities of the governing committees and outline how decisions are made</p>	<p>GIS Oversight and Technical Committee Charters sets out</p> <ul style="list-style-type: none"> • Purpose • Role • Leadership • Membership • Operating Assumptions and Guidelines

Characteristics of GIS Partnership/Collaboratives					
Organization	York Region	Sault Ste. Marie	Calgary Regional Partnership	MetroGIS	King County
Legal Agreements	<p>MOUs between the Region and individual local municipalities and school boards, none with conservation authorities</p> <p>MOU includes datasharing licence agreement</p> <p>Partner agencies also have various licence agreements to provide data to the Region, other Partners and consultants doing work on their behalf</p> <p>Task force currently drafting a common Data Sharing Agreement to enable easier, more efficient sharing of data between the local municipalities, conservation authorities, school boards, the Region, and potentially utility companies</p>	<p>No MOUs or contracts for primary stakeholders</p> <p>Contracts in place for Health, and “fee for service contracts”</p>	<p>No MOUs</p> <p>Datasharing agreement signed between CRP members to facilitate internal exchanges of data</p> <p>Development of licence agreement with Calgary challenging, but share freely with all others</p> <p>Working on establishing MOUs with utilities</p>	<p>No MOUs</p> <p>Informal, voluntary, collaborative structure without legal standing</p> <p>Letter of Intent with counties related to parcel data sets out clear understanding of expectations of the affected data custodian organizations</p>	<p>No MOUs.</p> <p>No formal datasharing agreements for regular data. Data Disclaimer language describes how it can be used. No redistribution permitted</p> <p>Legal agreements exist for aerial imagery acquisition</p>
What works	<p>Highly valued by members</p> <p>Sharing core data</p> <p>Knowledge sharing forums</p> <p>GIS training program used by all</p> <p>Limited joint application development</p>	<p>\$4 million dollar initial investment in infrastructure and data</p> <p>Substantially funded by City & PUC, not by partners</p>	<p>Only in initial stages of collaboration.</p> <p>Planning Council very supportive</p> <p>Informal data and knowledge sharing.</p> <p>Working toward Open Data portal</p>	<p>Parcels being maintained at county level and shared with all</p> <p>Development of data standards through discussion and consensus on what best represents the needs of the entire community</p> <p>Maintaining a forum for awareness of projects and shared needs and resources of members</p> <p>Strength in numbers to approach decision makers and funding opportunities</p> <p>DataFinder clearing house makes massive amounts of data available to public for free</p>	<p>Joint aerial imagery acquisition significantly reduced costs</p> <p>Established best practices</p> <p>Internal coordination on issues</p> <p>Providing downloads from data portal</p>

Characteristics of GIS Partnership/Collaboratives					
Organization	York Region	Sault Ste. Marie	Calgary Regional Partnership	MetroGIS	King County
What doesn't work	<p>No authority to set priorities or authorize resources</p> <p>Varied business needs and capabilities and few common priorities</p> <p>Funding model not sustainable</p> <p>Inconsistent provision of requested geographic data</p> <p>Duplication of creation, maintenance and acquisition of common data</p>	<p>Balancing primary commitments to City and PUC with contracts obligations</p>	<p>Key partner not sharing or coordinating data with the group</p> <p>Lack of complete, standardized data, especially "pipes"</p> <p>No technical infrastructure in place</p>	<p>Difficult to keep elected official interested with data, they often assume data just happens</p> <p>Ad hoc committees fail because of redundancy and individual agendas</p> <p>Difficult to get consensus on issues</p> <p>No legal standing or authority to set priorities or authorize resources. Dependent on partner good will</p> <p>100% dependency on one agency for funding of activities</p> <p>Difficult to balance the expectations and needs of the data producer and user communities</p>	<p>Duplication of road data in four larger cities</p> <p>Duplication of parcel</p> <p>Pipes not consistent, not complete</p> <p>Some partners not sharing or coordinating data with the group</p>
Staffing	<p>Led part-time by York Region Director, GISB part-time and supported by 3 GIS managers, and Administrative Assistant, and technical staff</p> <p>Partner organizations contribute time and effort by participating in meetings, working groups and on a project basis</p>	<p>Led by part-time the GIS Manager</p> <p>Partner organizations contribute time and effort by participating in meetings, working groups and on a project basis</p>	<p>Led by dedicated coordinator – tasked with implementing the Plan and a point of contact for the CRP Regional GIS program.</p> <p>Partner organizations contribute time and effort by participating in meetings, working groups and on a project basis.</p>	<p>Led by dedicated coordinator and supported by</p> <ul style="list-style-type: none"> • Project Manager (partial) • 3 GIS Specialists (partial) • Administrative Assistant (partial) <p>Partner organizations contribute time and effort by participating in meetings, working groups and on a project basis.</p>	<p>Led by King County GIS Manager (partial)</p> <p>Partner organizations contribute time and effort by participating in meetings, working groups and on a project basis.</p>

Appendix C

YorkInfo Partnership Charter

York Region covers 1,776 sq. km., with a population of 1,053,455 in 2011 and comprises both rapidly growing urban centres alongside vast farmlands, and environmentally sensitive areas including the Oak Ridges Moraine, Lake Simcoe, the adjacent Holland Marsh, significant woodlands, headwaters and wetlands. With approximately 30,000 new residents each year, the pressures related to developing infrastructure such as sewers, roads, schools and transit to support the growth while conserving green space and water resources are overlaid with the pressures of rising expectations associated with more efficient service delivery and infrastructure.

The YorkInfo Partnership comprises key municipal and education organizations with the responsibility to deliver services that fully employ our best use of technology for the best value to our residents. Through cooperation the Partnership and its members can develop an efficient information infrastructure that is requisite to manage the challenges of rapidly growing urban areas alongside vast farmlands and environmentally sensitive sites.

The YorkInfo Partnership works together to create a geospatial information framework among the Partners that enhances sharing opportunities creates efficiencies and common applications. By developing standards and facilitated by open policies and technology, duplication of effort will be reduced, costs avoided, access to information will increase and new business processes will be implemented among tax-funded organizations and their constituents enhancing service to the residents and businesses in York Region.

Vision

Our communities will be enriched through the provision of a coordinated geospatial information infrastructure.

Mission Statement

The Partnership will develop a Geospatial Information infrastructure enabling efficient integration and access to mapping technologies and information.

Principles

Strong partnerships evolve from mutual respect and complementary strengths, combined with collaborative planning and decision-making. Consequently, the YorkInfo Partnership is guided by the following principles:

The partnership will:

- Create and share data and knowledge in a coordinated and cooperative manner
- Enable access to spatial information for internal operations and the public
- Respect intellectual property
- Operate in a financially responsible manner through the efficient use of resources
- Adopt standards that enable interoperability
- Communicate and promote understanding of the Partnership's activities
- Foster awareness of geomatics

Goals

- Create a geospatial framework to facilitate sharing of accurate, current, relevant geographic information including:
 - » governance framework
 - » policies
 - » standards
 - » technology

- » information
- » knowledge and training
- » access
- Efficient creation and maintenance of spatial data
 - » reduce duplication of effort and costs
 - » jointly invest in the creation and maintenance of core geographic information such as:
 - » Orthophotography
 - » Parcel Fabric
 - » Single Line Road Network
 - » Address Points
- Create efficiencies and economies of scale related to the development and acquisition of business applications, tools, licences and training
- Create opportunities for joint initiatives
- Promote awareness and the value of GIS technologies and information to efficiently address complex geographically-related issues and help support enhanced decision making
- Promote awareness of the YorkInfo Partnership how participation provides value to our organizations
- Present a strong, unified voice in the geomatics sector at provincial and federal levels
- Provide coordinated GIS emergency management planning and support

Organizational Framework for the YorkInfo Partnership

The Partnership is coordinated through a framework of members participating in a Coordinating Committee, Executive Board and Information Management and Technology Team. Task forces and standing committees of appropriate representatives and duration may be established as required to meet objectives. Representatives may include GIS users, as well as management and professional staff who are GIS professionals.

Membership

Members participating in the Partnership are tax-funded, not-for-profit organizations that operate within York Region and include municipal governments, conservation authorities and school boards.

Current members of the YorkInfo Partnership are:

- The Regional Municipality of York
- Town of Aurora
- Town of East Gwillimbury
- Town of Georgina
- Township of King
- City of Markham
- Town of Newmarket
- Town of Richmond Hill
- City of Vaughan
- Town of Whitchurch-Stouffville
- Lake Simcoe Region Conservation Authority
- Toronto and Region Conservation Authority
- York Catholic District School Board
- York Region District School Board

Operating Practice

Communication is the key ingredient to ensure that the Partnership is successful in achieving its identified goals. Therefore

- Regular meetings of the Executive Board, Coordinating Committee and Information Management and Technology Team will be held.
- Annual objectives and work plan will be developed.
- Additional committees and task forces will be established and reviewed as required to meet the work plan.
- Communication channels for the YorkInfo Partnership will include, but are not limited to scheduled meetings, recorded meeting minutes, email and telephone correspondence. Materials will be distributed in a timely, pertinent manner to ensure that sufficient time is allowed for members to review.
- Meetings will be conducted in a manner which encourages open communication, meaningful participation and timely resolution of issues.
- Members will communicate their key initiatives and individual initiatives may be explored to encourage Partnership opportunities.
- Members will
 - » Respect and value other members' contribution. Foster a culture that allows all members to express opinions freely and that is inclusive of the diversity existing throughout York Region encompassing both urban and rural issues for maintaining communities and managing growth.
 - » Make every reasonable effort to attend meetings and be reasonably available for consultation between meetings to ensure a continuous flow of communication is maintained
 - » Prepare for each meeting sufficiently in advance so as to enable him/her to be an informed participant and obtain the necessary information, approvals, and management support for the group's activities

- » Be an active participant and illustrate professional behaviour and integrity when communicating with participants of the Partnership
- » Advise their respective organizations of the activities of the groups and disseminate necessary details throughout their individual organizations
- » Review the charter as needed.

Executive Board

The Executive Board is a sub-set of the Coordinating Committee and is currently comprised of a maximum of five members with representation from the Region, rural, large and small municipalities, and conservation authorities.

Chair: Director of Geomatics, York Region

Co-Chair: Partner Representative

It is the responsibility of the Board to provide a leadership role in the coordination of the YorkInfo Partnership activities including drafting agendas, reports and recommending priorities. Membership will be for a two-year term and, with the exception of the first year, with one third expiring their term of office, notwithstanding the Chair.

Meeting Schedule: Quarterly

Coordinating Committee

The Coordinating Committee is comprised of one representative from each Partnership organization.

Chair: Director of Geomatics, York Region

Co-Chair: Same Partner Representative as Executive Board

It is the responsibility of the Coordinating Committee to:

- Establish a working framework that includes:
 - » Vision
 - » Mission Statement

- » Principles
- » Goals
- » Organizational Framework
- Establish guidelines, policies, standards
- Provide direction to sub-committees
- Identify opportunities and issues
- Develop and monitor the Partnership's annual work plan

Meeting Schedule: Quarterly

Information Management & Technology Team

The Information Management and Technology Team is comprised of one representative from each of the Partners' organization.

Chair: York Region

Co-Chair: Partner Representative

It is the responsibility of the Team to:

- Achieve consensus on the technical means of achieving the Partnership's goals
- Share knowledge about GIS data issues and data sources in York Region
- Communicate findings to the Co-ordinating Committee for coordinated action
- Recommend and develop standards

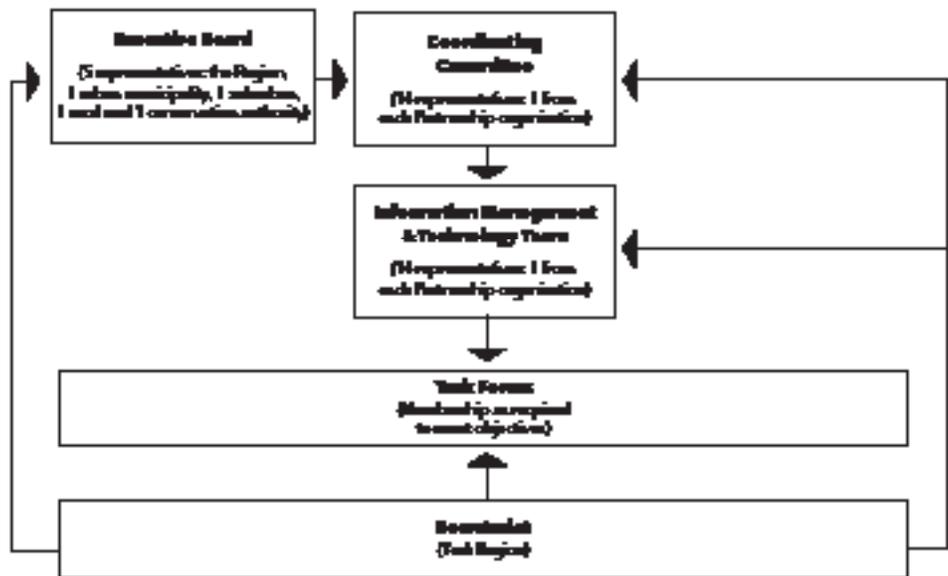
Meeting Schedule: Three meetings annually, with additional special topical sessions as necessary for work plan.

Secretariat

York Region will provide the secretariat and co-ordinate activities including scheduling of meetings, facilities, and coordination and distribution of minutes.

Additional Standing Committees and Task Forces

Such committees along with membership and duration may be established as required to meet the objectives and annual work plan.



Appendix D

Sample Memorandum of Understanding



[Partnership Participant
Logo]

Memorandum of Understanding ("MOU")

Between:

**The Regional Municipality of York
(the "Region")**

and

**[Partnership Participant]
("Partnership Participant")**

Regarding

A Coordinated Geospatial Information Infrastructure

1. Purpose

The parties agree that this Memorandum of Understanding is an expression of their intention to participate in the YorkInfo Partnership and to collaborate in the sharing of geospatial information, applications and resources to establish the creation and maintenance of a coordinated geospatial information infrastructure to enhance sharing opportunities, create efficiencies, reduce duplication, and maximize return on investment. For clarification purposes, this Memorandum of Understanding and any Schedules thereto, are intended to be the definitive agreement between the parties.

2. Goals

Through the YorkInfo Partnership, York Region Geomatics and the [Partnership Participant]'s GIS Program, the Region and the [Partnership Participant] share the vision, mission, principles and goals as identified in the YorkInfo Partnership Charter with respect to:

- (a) geospatial framework development,
- (b) information management,
- (c) development and acquisition of tools, licences and training,
- (d) joint initiatives and unified voice in the geomatics sector, and
- (e) coordinated GIS emergency management planning and support.

3. Roles and Responsibilities

The Region and the [Partnership Participant] acknowledge the mutual benefit derived from the creation and sharing of geospatial information and resources in a coordinated and cooperative manner, and therefore agree that:

- (a) The general activities of the YorkInfo Partners will be coordinated through the organizational framework as described in the *YorkInfo Partnership Charter*.
- (b) The Region will provide to the [Partnership Participant] geospatial information and services specific to the [Partnership Participant] as follows:
 - i) all unrestricted vector, and related unrestricted attribute databases as identified in Schedule A – Geospatial Information Provided by York Region. Schedule A may be revised according to availability of geospatial information; and
 - ii) quarterly updates of all unrestricted vector and related unrestricted attribute databases as listed in 3. (b) i) including a field indicating date modified.

- (c) The provision of any geospatial information will be subject to any restrictions imposed upon on the Region by the owner of the geospatial information, and will require the signing of the York Region Geospatial Information Licence Agreement set out at Schedule B. The Region represents and warrants that any third party consents to license the information set out in Schedule 'A' has been obtained.
- (d) The Region will provide to the [Partnership Participant] reasonable opportunity for consultation prior to it making any substantial changes to the unrestricted vector and related unrestricted attribute databases identified in Schedule A.
- (e) Requests for additional geospatial information (i.e. in addition to the geospatial information identified in Schedule A hereto), Regional staff resources, applications related to the value-added production of geospatial information and associated attributes, cartographic design, training, and technical or policy expertise with respect to matters associated with the implementation of databases, application, and resource acquisition, maintenance, and sharing will be considered by the Region and if approved will be set out at Schedule C "[Partnership Participant] Requests for Additional Geospatial Information, Resources, Applications and Training" as amended from time to time. Should requests form major projects requiring additional costs, then such costs would be provided as a quote to the [Partnership Participant].
- (f) The [Partnership Participant] commits to collaborate with the Region and consider on request providing certain geospatial information and services on terms similar to those upon which the Region is providing geospatial information and services as set out in Section 3(b) above.
- (g) Any requests for the [Partnership Participant]'s geospatial information will be subject to the then current applicable policies and agreements of the [Partnership Participant] and will require the signing of the [Partnership Participant]'s applicable license agreement.

- (h) The Region and the [Partnership Participant] will jointly commit to consider:
 - i) acquiring, maintaining, and sharing further geospatial information, resources and applications that avoids any duplication of investment and that maximizes returns for the Region, the [Partnership Participant], and other partners of YorkInfo; and,
 - ii) development of administrative and operational practices which will create efficiencies for maintenance of geospatial information, application, and resource acquisition and sharing.

4. Protocol for Geospatial Information, Applications and Resource Sharing

The Region and the [Partnership Participant] jointly agree that:

- (a) the ownership (including of intellectual property), confidentiality, and applicable use restrictions of the other party's geospatial information, applications, and resources will be respected by each party;
- (b) the exchange and use of geospatial information, applications, and resources, including the commercial use of the other party's geospatial information, applications, or resources referred to in this MOU will be subject to and governed by licenses of each of the Region and the [Partnership Participant] which, in the case of the Region's licence, will be substantially in the form set out in Schedule B;
- (c) applications or information to be shared shall not include any data elements, systems software or application software, which, through sharing, would violate the copyright, patents, or other intellectual property, or licensing provisions or confidentiality rights of others;
- (d) each party will notify the other party in writing immediately upon becoming aware that any of the other party's geospatial information, applications, or resources have been disclosed in any way to any person or anybody in a manner not permitted by this MOU;
- (e) each party will direct to the other party all third party requests for the other party's geospatial information, applications, resources, or as specified in the licence agreement; and,

- (f) requests for additional geospatial information, resources, or applications, specific to each party's own purposes and not identified in the Partnership's annual work plan will be identified and addressed in Schedule C "[Partnership Participant] Requests for Additional Geospatial Information, Resources, Applications and Training", and Schedule D "York Region Requests for Additional Geospatial information, Resources, Application and Training".

5. Intellectual Property

- (a) intellectual property in geospatial information shall remain with the originator of the geospatial information or of its licensors;
- (b) subject to the owner of geospatial information requiring another form of license for geospatial information acquired by the [Partnership Participant] after the date of execution of this MOU, all geospatial information provided through this MOU shall be licensed and distributed only according to the conditions outlined in Schedule B "York Region Geospatial Information Licence Agreement" or the [Partnership Participant]'s applicable geospatial licence agreement. These licences define intellectual property ownership, rights and usage and shall be signed by authorized representatives of the parties;

6. Term and Fees

Subject to Clause 7 below, and consistent with the terms of the partnered 2009/2011 Orthophotography – Sublicence Agreement, and unless otherwise agreed by the parties, this MOU shall be for a term of Four (4) years commencing [date of MOU execution] and ending [date of MOU expiration] (both inclusive). This Memorandum of Understanding may be renewed for such additional term(s) as both parties may agree in writing. The current annual membership fee for the [Partnership Participant] is {Annual fee in dollars}.

- (a) Payment of membership fees shall be due within sixty (60) days after the date the Region issues an invoice.

7. Early Termination

- (a) Notwithstanding Clause 6, either party hereto may terminate this MOU prior to the expiry of the Term by providing at least sixty (60) days written notice to the other party that this MOU is being terminated. Upon the expiration of

the sixty (60) day notice period, this MOU and any licences shall terminate and the parties hereto shall have no further rights, duties or obligations to one another save and except for the return of the geospatial information as required hereunder or under the terms of the applicable licence agreement(s);

- (b) Non-receipt of payment which continues for sixty (60) days past due will constitute early termination;
- (c) Upon termination, the delivery of geospatial information will cease, and the parties will comply with their post termination obligations as set out in the applicable license agreement(s);
- (d) Failure to comply with any other provision of this MOU or any violation of the terms of licence agreements will give to the non-breaching party the right to immediately terminate this MOU;
- (e) Section 4(a) survives termination of this MOU.

IN WITNESS WHEREOF the Parties have executed this Agreement on this _____ day of _____, [Year].

THE REGIONAL MUNICIPALITY OF YORK

Per: _____

[Regional Signing Authority]
[Title]

[PARTNERSHIP PARTICIPANT]

Per: _____

[Local Municipality Signing Authority]
[Title]



For more information contact:

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