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GEOMATICS PRODUCTS AND SERVICES - ANNUAL REPORT 2004

The Planning and Economic Development Committee recommends the adoption of the recommendation contained in the following report, February 2, 2005, from the Commissioner of Planning and Development Services:

1. RECOMMENDATION

It is recommended that:

1. This report is received for information.

2. PURPOSE

York Region Geomatics provides products and services such as mapping and analysis essential to the business and planning needs of the Region, Police, YorkInfo Partners, private and public interests, and the residents of York Region. The purpose of this report is to highlight the Geomatics Products and Services delivered in 2004.

3. BACKGROUND

In addition to creating and maintaining a geospatial infrastructure, technology, tools, and management of information, Geomatics analyzes complex spatial relationships, develops quality map products and provides value-added services such as training and support for Regional Departments, Partners and stakeholders. The use of Geographic Information Systems (GIS) has become integral to the way we do business in York Region. Introducing change management through the use of GIS and delivery of effective mapping and analysis, Geomatics staff conducts a consultation phase with clients to understand project requirements and offer recommendations on how GIS can assist them. The increasing complexity and sophistication of requests received by Geomatics is testament to the increasing level of understanding of GIS and embracement of this technology in the Region. Technology transfer combined with an effective training program promotes a self help environment, increasing the use of and accessibility to geospatial information.

4. ANALYSIS AND OPTIONS

4.1 Geomatics Value-Added Products and Services Delivered in 2004

Geomatics responded to numerous requests for spatial analysis, and quality map products from the corporation, partners, private companies and the public at large. Efficiency, quality and customer service are integral to the delivery of products and services.

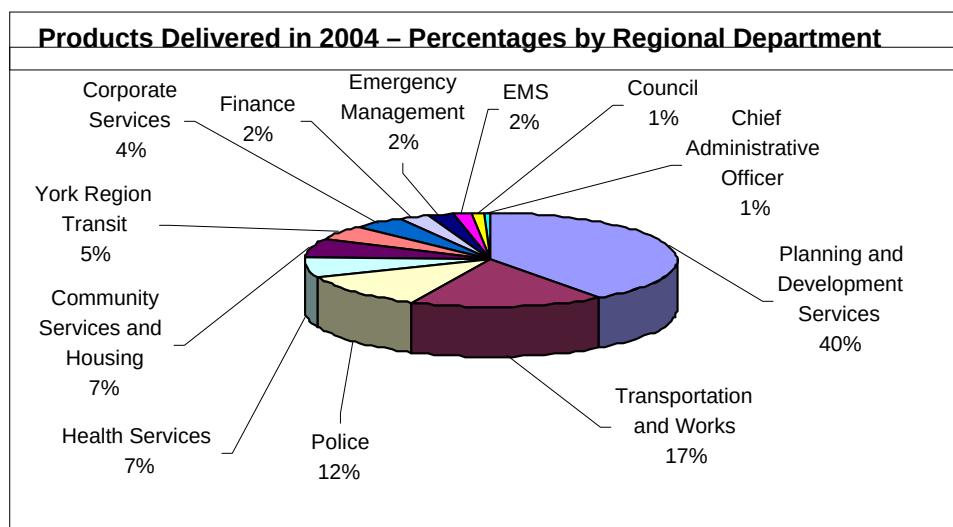
“Products” comprise data creation, analysis, spreadsheets, project related datasets, spatial statistics, charts, and creation of hardcopy and digital maps through the use of GIS technology. The time required to conduct analysis and create map products is determined by the complexity of the request and availability of information. Time requirements range from hours to weeks for the creation of a single product or series of products and may draw upon the skills of numerous Geomatics staff if there are multiple tasks such as data creation, analysis and cartographic output.

In addition to the customized products and complex analysis delivered by Geomatics, users access geospatial data and map templates to create their own products through the GIS self service environment. This is an efficient business model for increased use and distribution of geospatial information and products as demonstrated with over 70,000 maps downloaded from the corporate website in 2004. (Note: *Geomatics Business Solutions – Annual Report 2004*, March 2, 2005).

Total number of Geomatics products delivered in 2004 by Regional Department:

Number of Geomatics Value Added Products delivered in 2004

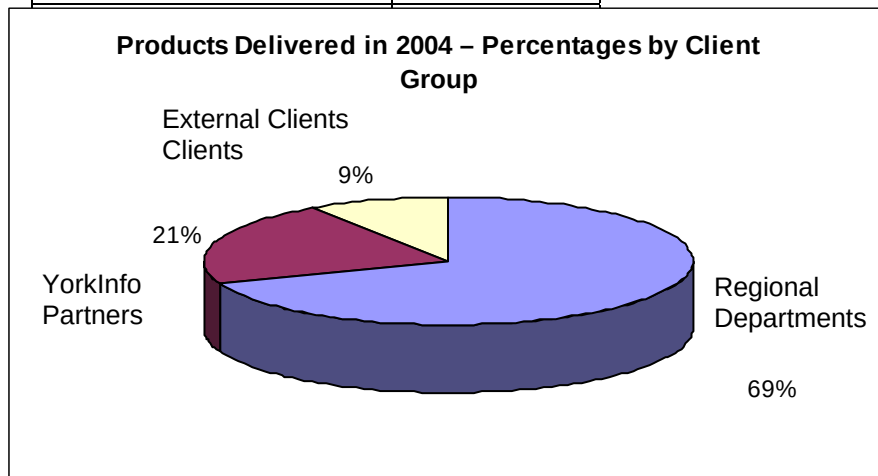
Department	No. Products
Planning and Development Services	243
Transportation and Works	101
Police	74
Health Services	40
Community Services and Housing	40
York Region Transit (YRT)	30
Corporate Services	27
Finance	15
Emergency Management	14
Emergency Medical Services (EMS)	10
Council	6
Office of the Chief Administrative Officer	4
TOTAL	604



Total number of Geomatics products delivered in 2004 by Regional Departments, Partners and external clients:

Number of Geomatics Value Added Products delivered in 2004

Client Group	No. Products
Regional Departments	604
YorkInfo Partners	186



In addition to the delivery of data and services outlined in the YorkInfo Partners Memorandums of Understanding (MOU's), Geomatics provides value added products to lower tier municipalities and is represented in the total number of products delivered in 2004. This includes King and East Gwillimbury Oak Ridges Moraine Official Plan and Zoning maps, Georgina's Keswick Secondary Plan maps and Topographic maps for Whitchurch-Stouffville. External clients requests includes "over the counter" sales to the public and limited requests from the private sector on a fee for service basis.

4.2 Geomatics Products and Services Key Projects and Initiatives

Key projects that required mapping and analysis are highlighted, along with services provided by Geomatics Products and Services to illustrate the diversity of GIS and its application in various departments of the Region.

4.2.1 Oak Ridges Moraine Conformity Analysis and Mapping

The Oak Ridges Moraine conformity exercise for Amendment 41 to the Regional Official Plan was approved by the Minister of Municipal Affairs and Housing in October 2004. This project required extensive geospatial analysis and complex mapping.

Through consultation and collaboration with the Township of King, Towns of East Gwillimbury and Whitchurch-Stouffville's, Municipal Official Plan maps were created, along with Zoning maps for King and East Gwillimbury to finalize their conformity exercises in accordance with the Provincial legislation.

4.2.2 Provincial Greenbelt Act Analysis and Mapping

With the introduction of the *Greenbelt Act*, Geomatics collaborated with Regional planners, conducting spatial analysis and created maps to examine the implications of the Act to evaluate the suitability of the data used by the Province.

4.2.3 Critical Infrastructure and Risk Assessment Project

Geomatics played a key role in the development of the *Risk Assessment & Critical Infrastructure Identification & Categorization Study* prepared by the Zeta Group Inc. for the Regional Municipality of York and its nine area municipalities.

Geomatics mapped infrastructure and relevant attribute information that served as the Study's base for the region-wide risk analysis. This risk analysis is used as a foundation for decision-makers to plan emergency preparedness programs and services and develop risk mitigation strategies.

Geomatics created and continues to maintain a database of this geospatial information and provides this data to the area municipalities.

4.2.4 West Nile Virus Surveillance Program

The Region is participating in a province-wide WNV Surveillance Program in conjunction with other public health units and governments to mitigate effects on the health and safety of York Region residents.

Taking a lead role, Geomatics created WNV Surveillance Applications that include a database management system and field data collection system, which enables Health Services to monitor the progress of the disease. The results from the bird, mosquito and human surveillance component of the program were collected, analyzed and mapped. The York Region WNV Surveillance Application tool was adapted and licensed for a fee to several government agencies across Ontario to manage, track, map and report on WNV in their jurisdiction.

Training on the use of the Applications was created and delivered to the staff of York Region Health Services that work with the surveillance applications, as well as several Health Units across Ontario including; North Bay, Timiskaming, Sudbury, Porcupine, Muskoka-Parry Sound, Sault Ste. Marie, Brant and Huron Counties.

The WNV Surveillance Applications ideally demonstrate how business process re-engineering and partnering can result in the development of tools that introduce standards and efficiencies, and can be adapted for other programs (e.g. Rabies, Asian Long Horned Beetle, and Beach Water Quality) in other organizations.

4.2.5 York Regional Police Search and Rescue Analysis and Mapping

York Region Police Search and Rescue (SAR) group use maps and mapping software extensively in their operations. To standardize mapping and introduce readily available data in the field, a customized application was created in ArcExplorer and loaded onto their field laptops and mobile unit for fast and efficient access to geographic information to assist in Search and Rescue operations. Geomatics continues to provide assistance in complex mapping and analysis.

4.2.6 Community Services and Housing Emergency Facilities Database

Geomatics upgraded and redesigned the Emergency Facilities Database in order to standardize and enhance data input and automate the process of mapping facilities. Data access and mapping is a critical part of the emergency preparedness effort. The Community Services and Housing Department can now readily maintain the information they require.

4.2.7 York Region Childcare Facilities Mapping

Geomatics created maps showing all childcare facilities with program descriptions and contact information in the Region for the Community Services and Housing Department. The products are updated semi annually to ensure representation of current programs and facilities for residents in search of childcare.

4.2.8 Health Care Facilities Mapping

Health Care Facilities maps were produced to illustrate all Long Term Care, Retirement and Acute Care Facilities in the Region overlayed with population information for individual municipalities. To assist Health Services staff, these products are used locate existing facility locations and plan for future Health Care facilities according to the growth and distribution of population in York Region.

4.2.9 York Durham Sewer System (YDSS) Capacity Assessment

Extensive data analysis and mapping was performed to support the YDSS capacity study to identify all proposed and approved development applications in the areas serviced by YDSS.

4.2.10 Emergency Medical Services (EMS) Service Area Modelling Project

The purpose of this project was to develop a model that will provide EMS staff with the service areas for each EMS station based on the legislated response time and the road network. This model allows for the evaluation of under-serviced and over-serviced areas, station staffing in peak and non-peak hours and provides a tool for informed decision making for the planning of EMS station locations.

4.2.11 Social Housing Mapping

Social Housing maps provide regional staff and residents with detailed, easy to read and understand maps of all social housing locations, number of units, providers and accessibility to public transportation routes.

4.2.12 Regionally Owned and Leased Properties Mapping

Regionally Owned and Leased Property maps are updated annually and provide regional staff with locations and descriptions of all facilities owned or leased by York Region. The maps are utilized by several departments, including Finance, Planning and Development Services, and Transportation and Works.

4.2.13 Daycare Inspection Areas

Geomatics created maps to illustrate daycare locations inspected by Health Services staff and divide locations into even workloads for two inspectors. These maps have been adopted as a guideline for other districts within the Region and are used extensively for work route planning.

4.2.14 Heart Alive

Creation of a visual representation for Automated External Defibrillator locations was an important component of Heart Alive. The public access defibrillation program was aimed at increasing survival rates from sudden cardiac arrest and was launched on April 1, 2004.

4.2.15 York Region Street Index Updates

Geomatics produces and updates the *York Region Street Index* map book on a quarterly basis. The Street Index is used as a support reference in EMS, Police and Fire vehicles, Transportation and Works, Community Services and Housing, Health Services and Corporate Services. This publication is also for sale to the public and is available at the front counter of Planning and Development Services.

4.2.16 Request for Products and Services Database

The Request for Products and Services Database was created to warehouse all requests for products and services in a central location, where contact information, project and request details can be stored along with final deliverables to the client. This database allows for the creation of reports detailing all requests by client, branch and department with statistics on total number of products and time spent on each request. This information is reported on twice a year.

4.2.17 Public Accessibility to Maps

If a particular map contains information that may be beneficial to the public, originating client permissions for public distribution is sought and content sensitivity is reviewed. If the map meets established criteria for public distribution, the maps are then made public through posting on York Region's corporate website in digital format.

4.3 GIS Training and Technology Transfer

Training is a priority for Geomatics as it allows users to take advantage of GIS technology and information through a self service framework, adding efficiencies to how users conduct their business.

Geomatics Courses Provided in 2004

Course	Audience	No. Trained
GPS Applications	Transportation and Works	13
Introduction to ArcExplorer	York Regional Police	66
Introduction to ArcGIS	Corporate	56
Introduction to GIS	OPPI & CIP Conference	22
Map Book Reading Course	Emergency Medical Services (EMS)	50
WNv Surveillance Applications	Health Services & Public Health Units	51
TOTAL		258

In 2004, 236 Regional staff were trained at various levels through the GIS training programs created and delivered by Geomatics staff. 56 regional staff were trained in the use of ArcMap (63% from Transportation and Works and Police). In addition, 66 Police Search and Rescue officers were trained in the use of ArcExplorer. External courses were delivered to 22 planners at the Canadian Institute of Planners and Ontario Professional Planners Institute conference. Training courses were evaluated by participants, with 95% of the responses rating the courses overall as “Excellent” and “Very Good, and 100% of participants were willing to “Recommend this course to others”.

The technology and information transfer also consisted of the delivery of presentations at various professional organization conferences and seminars on Geomatics initiatives such as York Region’s West Nile Virus Surveillance Applications, Partnerships and Data Sharing, Emergency Preparedness and GIS Response. Geomatics staff delivered such presentations to a total of 560 attendees from across Canada representing various professions.

4.3.1 GIS Day

GIS Day was celebrated on November 17th as part of an international promotion of the use of Geographic Information and related technologies. Geomatics Branch showcased how GIS is used in York Region through the creation of a display, educational materials, interactive exhibits and Map Gallery in the Great Hall, YorkExplorer quiz with prizes on York Beat, Lunch and Learn for the use of YorkExplorer, and a User Group Meeting focussed on Transportation and Works GIS users.

4.4 Future Directions

Building on the strategic directions of the GIS self service environment, Geomatics will enhance this environment through the creation of updated standard templates, symbology and cartographic standards for GIS users. This will accomplish efficient access to managed geospatial information, standardized representation of data, and drive change in corporate business processes through integration of this technology, derivative products and information.

Training initiatives and the enhanced GIS self service framework will put the power of routine map creation and analysis in the hands of all GIS users. This will allow Geomatics staff to concentrate on the creation and delivery of advanced map products

and extensive geospatial modelling and analysis such as optimized routing for emergency response vehicles and three dimensional simulation of York Region for drainage analysis and works applications.

Municipal Base Maps are also being updated in 2005 in ArcMap that will access datasets dynamically from the server which will automatically show new roads with road names and additional base information every time the document is opened.

5. FINANCIAL IMPLICATIONS

No new or additional financial implications. Working with clients and partners through service level agreements and Memorandums of Understanding, Geomatics generally offsets costs related to new and enhanced projects and programs.

6. LOCAL MUNICIPAL IMPACT

Products and services have been created and disseminated by Geomatics to local municipal members of the YorkInfo Partnership, with particular emphasis on the Oak Ridges Moraine conformity exercise and Official Plan updates. Geomatics will continue to provide map products and spatial analysis to members of the Partnership who have outlined the need for quality products and services in their 2005 workplans.

7. CONCLUSION

Geomatics continues to achieve a high level of customer service and satisfaction through the delivery of quality mapping products and services in a timely manner, that have become an integral part of business processes in York Region.

The Senior Management Group has reviewed this report.

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