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GEOMATICS PRODUCTS AND SERVICES - ANNUAL REPORT 2006

The Planning and Economic Development Committee recommends the adoption of the recommendation contained in the following report November 23, 2006, from the Commissioner of Planning and Development Services:

1. RECOMMENDATION

It is recommended that this report be received for information.

2. PURPOSE

York Region Geomatics provides products and services such as mapping and analysis essential to supporting the business and planning needs of the Region, York Regional 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 2006.

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 service environment, increasing the use of and accessibility to geospatial information.

4. ANALYSIS AND OPTIONS

4.1 Geomatics Value-Added Products and Services Delivered in 2006

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.

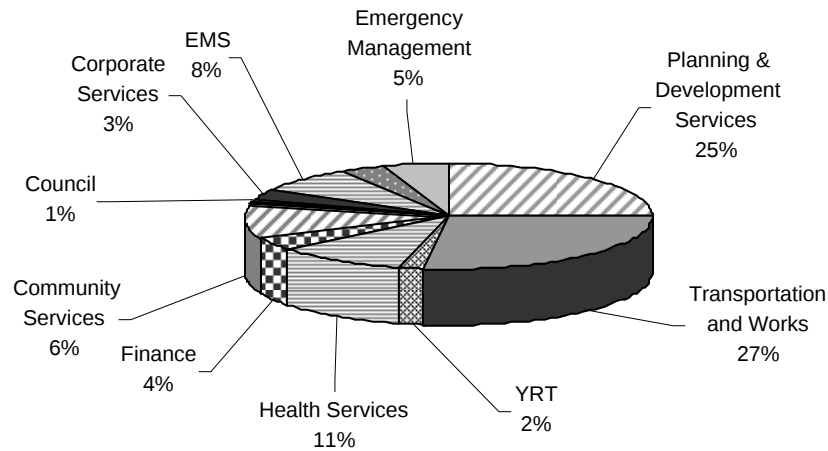
The number of products delivered in 2006 is lower in quantity from 2005 because we offer a self service environment as an alternative and the products produced by Geomatics demonstrate increased complexity. There are over 150 maps and 12 interactive web views that are available to the corporation and public, along with the Self-Service Bureau that have been utilized by staff. This combined with the need for complex analysis and mapping, signals the embracement of GIS technology within the Region, and recognition of the GIS potential to provide answers to complicated questions aiding in the decision making process.

Total number of Geomatics products delivered in 2006 by Regional Department:

Number of Geomatics Value Added Products delivered in 2006

Internal Client Group	No. Products
Transportation and Works	152
Planning and Development Services	143
Health Services	60
Community Services and Housing	58
EMS	47
Emergency Management	30
Finance	24
Police	19
Corporate Services	16
York Region Transit Partnership (YRTP)	11
Council	6
Office of the Chief Administrative Officer	3
TOTAL	569

Products Delivered in 2006 – Percentages by Regional Department

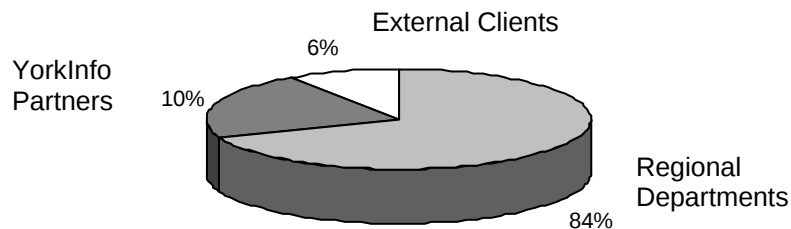


Total number of Geomatics products delivered in 2006 to Regional Departments, Partners and external clients:

Total Number of Geomatics Value Added Products delivered in 2006

Category	No. Products
Regional Departments	569
YorkInfo Partners	66
External Clients	41
TOTAL	676

Products Delivered in 2006 – Percentages by Client Category



In addition to the delivery of data and services outlined in the YorkInfo Partner's Charter and Partner Memoranda of Understanding (MOUs), Geomatics provides value added products to lower tier municipalities and is represented in the total number of products

delivered in 2006. External client's requests include over the counter sales to the public and requests from the private sector on a fee for service basis.

4.2 Enhanced Service Delivery

Further enhancement of a user friendly self service environment for GIS users within the corporation has remained a major focus aimed at improving the delivery of products and services.

4.2.1 Self-Service Bureau

In addition to the customized products and complex analysis delivered by Geomatics, the GIS self-service environment has been enhanced for users within the corporation. The "Self-Service Bureau" is a point of access to geospatial data through symbolized spatial information layers, standardized map templates, and published products. It allows users to create their own GIS products in a time-efficient manner, view and download maps created by Geomatics from a digital Map Library and use reference materials from a growing Resource Library.

Major improvements incorporated in 2006 include:

- The digital Map Library now has more than 200 maps are available for viewing, printing and download. Maps contain current and historic information about York Region and map metadata allows for effective search abilities and information such as publication date, and purpose of the map.
- Regular review and maintenance of symbolized geospatial information. There are 130 map layers now available in the Geomatics User Tools with standard symbology that allow for efficient map creation by regional staff.
- Creation of a Resource Library that is accessible through the Region's Intranet mYnetwORK, providing regional staff with GIS related resources such as user manuals, presentations on various areas of GIS knowledge and standards developed by Geomatics.
- Introduction of a standardized "York Region Symbol Gallery" which contains customized colours, symbols and fonts used in cartographic products across the corporation. Symbol Gallery is installed with internal GIS software in and promotes consistency in cartographic products "look and feel".

4.2.2 Public Accessibility to Maps

If a map created for corporate use contains information that may be beneficial to the public, client permissions for public distribution is sought from the originator and content sensitivity is reviewed. Geomatics publishes the approved maps to the York Region website on YorkExplorer which is accessible by the public to view, download and print.

4.3 Mapping, Analysis and Application Development

Key projects that required complex analysis, maps, and custom application development are highlighted to illustrate the diversity of GIS and its application in various departments of the Region.

4.3.1 Subway Expansion

Geomatics collected the best geospatial information available and created a series of map products illustrating lands impacted by the proposed subway expansion alignment and stations. The products focus on land use designations, gross floor area, future use, employment and population forecasting and 3D visualization. The products served as the basis for planning and financial analysis.

4.3.2 Southeast Collector Visualization Project

In supporting the Transportation and Works Department, Geomatics created a 3D flyover of potential alignments of the York Durham Sewer System used in the public consultation process for the Southeast Collector project. Potential alignment shafts flyovers were combined with still photos, oblique images and address ranges to provide information to the public, allowing for feedback, questions and alleviate concerns. The 3D flyover was a valuable tool in this process and was well received by public.

4.3.3 West Nile Virus Surveillance Program

Geomatics continues to support Health Services in the delivery of the West Nile Virus (WNV) Surveillance Program. Results from the bird, mosquito, and human surveillance component of the program were collected, analyzed, and mapped throughout the course of the season. Analysis was conducted to identify residential properties in relation to positive WNV activity and mapped for the Health Services WNV Residential Survey and a movie was created illustrating WNV positive results in a time sequence from 2001 – 2006.

4.3.4 York Region Street Atlas

Geomatics designed a new Street Atlas that is used as a support reference in EMS, vehicles, Police Dispatch, Fire Services, REOC, Transportation and Works, Community Services and Housing, Health Services and Corporate Services. The Street Atlas incorporates 32 layers of information and design features that improve locating roads and points of interest. The Street Atlas is available for purchase by the public at the front counter of Planning and Development Services.

4.3.5 Population Analysis for Infrastructure Planning

To assist in the capacity planning of water and wastewater future infrastructure, Geomatics has performed an analysis of projected population for water pressure districts and waste water service areas within local area municipalities for 2006, 2011 and 2016.

4.3.6 Assisted Community Living Service Analysis

Geomatics has performed a road network analysis to find a shortest route between Assisted Community Living facilities for Community Services and Housing. The result of this analysis was a series of maps depicting the optimal route as well as detailed driving instructions for regional staff.

4.3.7 Sustainable Development

York Region has engaged the public in a series of public meetings focusing on Sustainable Development. Geomatics has created a series of maps illustrating land use, infrastructure and key natural heritage features of York Region used in displays to communicate the Region's landscape.

4.3.8 Scheduled Products and Applications

To ensure customer service and keep up with rapid change, products and applications that require regular maintenance or updates on a quarterly, bi-annual or annual basis are scheduled into a maintenance cycle. Some examples are Municipal and Regional Base Maps, Emergency Shelter and EMS Station Locations, Childcare and Health Facilities, Social Housing, and Approved and Draft Plans of Subdivision. This approach improves work planning by Geomatics to balance the numerous client requests that are submitted on a daily basis.

4.4 Emergency Management

York Region Geomatics provides geospatial information, technology, products and services to support the Region's Emergency Management Program. Information required for emergency management usually needs to be linked to a location, therefore, Geographic Information Systems (GIS) plays a vitally important role during all five phases of emergency management activities.

4.4.1 Emergency Exercises and Drills

Geomatics participated in the Region's annual exercise *Operation Flu Ready*. In October, Geomatics also took part in a REOC set-up drill conducted by the Emergency Management Branch. The drill gave Geomatics staff the opportunity to implement and review their technology set-up procedures and to identify areas where they could be improved and enhanced.

4.4.2 Pandemic Preparedness

The Geomatics Branch participates on the Health Services Pandemic Preparedness Logistics Committee, planning for the delivery of support incident response functions with the use of GIS technology. Two table top planning exercises were held and analysis and mapping has been conducted for Health Services including: potential immunization clinic locations and anti-viral distribution routes. If a pandemic should occur, Geomatics staff will conduct analysis and provide products throughout the course of the event.

4.4.3 Business Continuity/Emergency Management (BC/EM) Committee

Geomatics represents the interests of the Planning and Development Services Department on the BC/EM Committee in a collaborative approach for the coordination and implementation of the Region's Emergency Management by program stakeholders.

4.5 GIS Training and Technology Transfer

Training users to take advantage of the GIS technology, geospatial information, and a self-service environment supports and enhances their business processes. In 2006,

Geomatics introduced a new modularized and phased approach to providing GIS training and expanded the training curriculum to 9 courses ranging from beginner to advanced levels.

A total of 416 training hours was delivered to 93 participants from York Region, York Regional Police and York Info Partner organizations that have taken advantage of the GIS training courses provided. Training evaluation responses showed a high rate of client satisfaction with the curriculum and course delivery. More than 90% of respondents expressed “Strong Agreement” or “Agreement” with statements of satisfaction regarding the level at which the material was delivered, the instructor’s knowledge of subject, and facilitation skills. More than 96% of respondents indicated that they would recommend these courses to others and would also take another GIS course delivered by the Geomatics Branch.

Additional awareness and technology transfer was provided through the delivery of presentations at professional conferences, user groups and seminars such as the Transportation and Works GIS User Group Seminar, URISA Ontario Chapter Conference and an Environmental Educators Seminar.

4.6 Future Directions

Building on the strategic directions of the GIS self service environment, Geomatics will continue to 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 focus on the value added role of extensive geospatial modelling and analysis such as optimized routing for emergency response vehicles, three dimensional simulation of York Region, application development, and the creation and delivery of advanced map products.

5. FINANCIAL IMPLICATIONS

No new or additional financial implications. Geomatics works with clients and partners to develop service level agreements and Memoranda of Understanding.

6. LOCAL MUNICIPAL IMPACT

Various products and services have been created and disseminated by Geomatics to local municipal members of the YorkInfo Partnership, where they are also made available to

residents on many municipal websites. 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 2007 workplans.

7. CONCLUSION

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

For further information on this report, please contact Kimberly Gray, GIS Analyst, Geomatics Branch at ext. 1510 or kimberly.gray@york.ca.

The Senior Management Group has reviewed this report.

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