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GEOMATICS - ANNUAL REPORT 2009

The Planning and Economic Development Committee recommends:

- 1. Receipt of the presentation by Nancy Prout, Director, Geomatics and Duncan Rowe, GIS Project Manager; and**
- 2. Adoption of the recommendation contained in the following report dated January 27, 2010, from the Commissioner of Planning and Development Services.**

1. RECOMMENDATION

It is recommended that this report be received for information.

2. PURPOSE

This report informs Committee and Council on key program and project activities, and Geographic Information Systems technology delivered by the Geomatics Branch in 2009 to enable efficient operations, growth management and strategic initiatives in the Region.

3. BACKGROUND

Geomatics Branch serves growth management information needs across the corporation through spatial data, analysis, applications and technology

Spatial information which ties information to geographic location is essential to address complex growth management challenges and is used in current operations and planning for the future by York Region, its partners and stakeholders. Geospatially-enabled applications allow users to use and analyze information with respect to location as part of their business processes.

Geomatics Branch is responsible for the Region's geospatial infrastructure and services comprising geographic information desktop and server-based hardware and software, applications, integration with the Region's business processes, spatial information management, analysis, mapping and training. This information infrastructure encourages data-sharing among Regional business units and between the Region and local municipalities. With the strategic goal of providing access to current data, the geospatial infrastructure includes a desktop self-service environment used by staff throughout the corporation. Staff and the public also make extensive use of the internet to access the

comprehensive suite of spatial information and mapping services that the Geomatics Branch delivers.

Some of the key achievements in 2009 include: establishment of a new Orthophotography program in participation with all local municipalities, mapping for the Regional Official Plan, 3D collaboration with municipalities along the Region's Centres and Corridors, and the development and implementation of a strategy and tools to "Use Google Maps, Be Like Google Maps, Be Like Google Earth".

Geomatics Branch has three sections which are Information Management, Analytics and Applied Mapping and Business Solutions

The focus of the Information Management Section is the efficient creation and management of current, accurate spatial data which is fundamental to decision making processes and growth management in York Region. This is accomplished through the development of procedures, standards, models and documentation. Efficiencies are realized in the reduction of duplication by sharing with clients and partners through standards, continuous improvement and documentation.

The Analytics and Applied Mapping Section provides Geospatial analysis, high quality mapping, and GIS training which are fundamental to the business needs of Regional Departments, York Regional Police, YorkInfo Partners and the public. These products and services are delivered through ongoing programs as well as through projects and client requests.

The Business Solutions Section manages the Region's geospatial technology infrastructure, which comprises server and desktop GIS software, data warehouse, on-line mapping, and applications. The section also plans, designs and delivers location-enabled applications to improve operations and decision support.

4. ANALYSIS AND OPTIONS

Current Spatial information key to efficient regional operations and decision making

In addition to maintaining core databases and creating new information, enhancements were made to models, standards, and automation of processes. More than 550 databases and their attributes were maintained on a demanding schedule and stored in the Spatial Data Warehouse (SDW) to ensure current, quality geospatial information (*Table 1*). Updates are performed weekly, monthly, quarterly, bi-annually or annually dependant on client need or rate of change. Information from across the corporation and from other organizations such as the Ministry of Natural Resources (MNR), Conservation Authorities and the Ministry of Agriculture, Food and Rural Affairs (OMAFRA) is hosted and updated as part of the schedule.

The Geomatics Branch continues to support the geospatial data requirements of business applications that have map-based displays, but do not directly connect to the Region's Spatial Data Warehouse, by loading spatial data into the applications (*Table 2*).

Table 1
Information maintained and created in 2009

Databases	Created or Added in 2009	Total Information Assets Maintained
Thematic databases	25	550
Road segments	150 "proposed" 325 assumed	26,817
Individual parcels	4,225	299,612
Georeferenced plans	1,180	5,227
Address points	10,000	292,786
Plans of Subdivision	41	1,280
Registered Plans	36	1,895
Reference Plans	667	10,709
Site Plans	83	289
Condominium Plans	32	306
Storage volume	72 Gb archived	1.3Tb stored

Table 2
Client Applications served by Spatial Information

Client	Application
Police Services	• Dispatch and support the Fire CAD project
EMS	• AIR2 unit's helicopter night locator
Environmental Services	• Automated Vehicle Location application • Ambulance positioning
Planning and Development Services	• Wastewater Decision Support System for modelling wastewater inflow and infiltration • Field locates and red-lining • Growth and development information management • Regional Planning Atlas calculates current and forecast densities, legislation and regulation impacts
Transit	• Bus scheduling, routing, bus stop management • Scheduling door-to-door shared ride accessible public transit service
Transportation Services	• Bus Automated Vehicle Location bus tracking • Traffic Engineering System • Road patrol compliance reporting • Pavement management system

- Permit Application Tracking System
 - Street trees inventory and maintenance
 - Speedzone maintenance application
 - Facilities management system
- Corporate Services

Police, EMS and Transit all rely on current roads data for dispatch, routing and tracking – 475 new and proposed road segments

The three databases fundamental to regional operations, growth management and emergency response are the Road Network, Parcel Fabric properties, and Address Points. These core databases, used by the Regional Departments, the YorkInfo Partners and the public and private sectors, are valuable to the delivery of services such as property notification, development tracking, site location, and emergency response. The further subdivision of parcels (for townhouses, semis, condos) using the Reference Plans has continued enhancing the completeness of the Parcel Fabric to track development and for First Responders to more accurately/quickly locate their destination.

The Roads Network Geodatabase can be obtained via electronic data, hardcopy maps and through the internet. A rigorous delivery schedule was also followed to provide the most recent information to the York Regional Police and EMS to enable dispatch and aid in the delivery of their services. Additional delivery schedules were followed to provide data to the York Regional Police (Search and Rescue) for the use in Avalex, a navigational aid utilized by Air 2, the York Regional Police Helicopter, York Region Transit for routing, scheduling, tracking and dispatching purposes, and the Ministry of Health for the CACC 911 Response.

Asset management programs are supported by location data

Asset management initiatives supported in the Transportation Department, Environmental Services Department and Property Services includes assisting in identifying and implementing technology that maximizes the geospatial infrastructure. Desktop GIS and mobile GPS applications (such as the transit facility, street light, street tree and West Nile Virus GPS applications) were developed to assist regional business operations. In 2009, Geomatics assisted the Forestry Branch with a new mobile application to manage street trees and the urban forest.

Accurate address points data serves to make informed decisions

In addition to creation of more than 10,000 new address points in 2009, efforts focused on parcels that may have multiple addresses or multi-unit buildings (commercial properties, apartments, condominiums) to ensure all addressing and individual suite information has been captured. This will facilitate first responders and better support such applications as the Address Locator for a 98% accuracy.

New higher resolution Orthophotography program established in 2009

Detailed digital imagery has proven to be one of the highest-impact tools in providing rich geographic context in infrastructure development, growth management and emergency response. On February 29, 2009, Report No. 2 of the Planning and Economic Development Committee, Council authorized entering into a contract with First Base Solutions Inc. for acquisition of new 15 cm digital orthophotography for 2009, 2011 and option of 2013. A Request for Proposal (RFP) was developed with input from our YorkInfo Partners to address multiple data and products needs and establish pricing for additional products. The 2009 digital information was distributed to YorkInfo Partners in Q4, made available to the corporation through the warehouse and the web for the public.

New base map information was derived for proposed alignments for the Western Vaughan IEA Project and 3 cm resolution orthophotography and detailed mapping were acquired for the Toronto Transit Commission and York Region Rapid Transit Corporation Yonge Subway extension project.

Advancing Information Management towards knowledge management through a new database structure

Migration of the Region's geographic information into the new relational database structure (ArcSDE) and version 9.2 ArcSDE was accomplished in 2009 by maintaining a secure creation and editing environment and then moving the "authoritative version" to a warehouse of all data called the Spatial Data Warehouse (SDW) accessible by the Corporation, with enhanced security provisions.

New processes have been developed to create efficiencies for access, distribution and quality control

Efficient, secure data distribution to clients, applications and partner agencies has been accomplished by developing new Extract Transform and Load routines that enable collection of diverse data and formats from various departmental silos. This increased the level of automation, quality control, integration, and interoperability of data among Geomatics, regional departments and clients. These processes take a matter of minutes to create potential error reports versus the previous method of manually checking which would take days.

Information has been distributed to YorkInfo Partners and consultants

Quarterly updates of 81 databases were sent to the YorkInfo Partners (local municipalities, conservation authorities, school boards) including development plans, parcels, the road network, schools, hospitals, water and wastewater, and numerous other themes. Additional data provided this year included the 2009 orthophotography and elevation data.

Numerous requests from consultants working on behalf of the Region or the YorkInfo Partners were provided with hundreds of copies of the Region's various databases (roads, parcels, infrastructure) relating to a specific area for their project and decision making purposes. Licence agreements are provided to consultants before they receive any Region data so that there is an understanding of what is allowable use of the data received and that they provide any updates/changes in return. In some cases, the version they receive may be modified slightly to remove information that cannot be released to the general public or are covered by intellectual property issues. Demand continues to increase with the quantity, quality and awareness of these databases.

Corporate spatial databases comply with records management policies

Information Management continues to organize and maintain the spatial database inventory in accordance with the Corporate Records Management System. Therefore in 2009, a continuation of the inventory of databases was reviewed for projects created in 2005. Data for 256 projects from 2005 were reviewed, documented and over 72 Gigabytes (GB) of data were archived and removed from the server to DVD which will allow for future retrieval of historical data.

Self-Service Bureau empowers clients and simplifies quality map making

The Geomatics Branch conducts more complex analysis and the development of value-added products on behalf of clients. In addition, as part of the infrastructure, a major focus is the enhancement of a user-friendly self service environment for both corporate GIS users and the public is so that users can make simple or routine maps on their own from available information. GIS technology and maps have been popularized with the growing use of web mapping sites such as Google and Bing. The Geomatics Branch builds on users' experience and expectations by introducing new or enhanced tools and services to provide users with direct access to current, high-quality corporate data and a Self-Service Bureau (SSB) to create their own simple maps.

The Self-Service Bureau (SSB) centralizes corporate GIS users' access to customized geospatial information, user tools, regularly updated base and thematic maps and GIS reference materials. Templates and standardized symbols ensure a consistent corporate look, allow users to create high-quality results quickly and reduce duplication of effort. Client meetings and user focus sessions provide input for continual improvement of services. 2009 enhancements are provided in *Table 3*.

Table 3
New and Maintained Map Products and Services in 2009

Map Assets	New or Re-designed in 2009	Total Maintained
Map templates	52	52
Layer files	6	150
MapLibrary themed maps	40	276
Published web maps	14	167
Interactive map views	3	31
Google/ York Region combined ("mash-ups")	4 themes / 22 locations	0

GIS Training and Technology Transfer is key to users

Geomatics continuously introduces new tools and services enabling users to take advantage of technology improvements and the wealth of geospatial information available. The GIS training curriculum is an essential part of this process and consists of introductory to advanced level courses and was delivered through 16 sessions. The modularized program promotes a flexible, phased approach to GIS training.

Geospatial analysis and mapping enhances quality decision-making in Growth Management and Regional Programs

Clients are requesting more complex geospatial analysis to help provide a greater understanding of a place, make the best choices, or prepare for future events and conditions. Key projects that required more complex analysis, maps and custom application development are highlighted in the following sections to illustrate the diversity of GIS application across the Region.

- **Mapping for the Regional Official Plan effectively communicates policies**
The newly adopted Regional Official Plan required creation and updating of spatial data and complete rebuilding of the fourteen supporting map schedules. Concept and draft maps were developed to support staff in policy assessment and decision making. Data and mapping were provided to consultants for the Land Evaluation and Area Review for the identification of prime agriculture areas. (*Attachment 1- Figure A.*)
- **Identifying and calculating redevelopment lands in Centres and Corridors**
In support of York Region's Centres and Corridors Strategy, GIS continues to be used to identify lands available for intensification and potential redevelopment, identify transportation linkages to other areas of the GTA, and to illustrate a vision for the evolution of these key development areas.

- **Where do we grow from here? GIS supports the York Region 2031 Land Budget**
As one component of York Region's growth management strategy, the Land Budget outlines residential and employment land requirements to 2031. GIS played an essential role in identifying density targets outlined in the *Growth Plan* for the classification and calculation of developable land and the accurate calculation of developable land—both residential and employment—in built-up, designated greenfield and whitebelt areas based on the Land Budget Analysis methodology.
- **Water for Tomorrow Program marketing aided by analysis of demographic trends**
The Water for Tomorrow program is an innovative water-efficiency program designed to provide the tools York Region residents need to conserve water. Resident participation was analyzed and compared against socio-demographic data to identify the trends and characteristics of the communities participating in rebates and special offers initiatives. In an effort to increase involvement, marketing of future events is being targeted based on analyzed trends of past events.
- **Corporate Workplace Wellness programs are more effective through GIS**
The *Workplace Wellness* program works toward ensuring businesses are easily able to access a variety of public health programs and services for their employees. Using data from the *2008 York Region Business Directory*, employment locations were analyzed according to industry type and size. The identification of patterns and trends increased effectiveness of planning and target marketing to specific workplaces.
- **GIS Analysis assists in identifying optimum service locations for H1N1 Clinics, Community Environmental Centres and Police Community Stations**
Geomatics supported the effort of Health Services on setting up and operating H1N1 Immunization Clinics and Assessment Centres by providing socio-demographic theme maps and customized data layers for site selection analysis and tracking databases as well as web-based mapping.

Analysis of current and future population trends, land use and estimated service areas was conducted to identify potential locations for prospective Community Environmental Centres (CEC) locations that would maximize accessibility for residents.

Geomatics worked with York Regional Police to determine potential locations for future "Community Stations" in an effort to achieve more effective community outreach. Analysis identified densely populated areas and areas of future development intensification in close proximity to transportation. Shopping centres and recreation sites located within these areas present opportunities for station hosting.

- **Hillshade Relief map sheds light on the varied terrain features in York Region**
The Land Use Designations and Hillshade Relief map uses elevation data and powerful cartographic techniques to depict 3D surface features in a striking view of the Region's landscape. When combined with the land use layer, connections can be made between the physical landscape and areas designated for human settlement and environmental protection. (*Attachment 1 – Figure B.*)

Value-added products and services that are delivered by the Branch

“Value-added” products require analytical skills, subject matter expertise, and knowledge of regional operations in order to produce analysis, new datasets, statistics, reports, charts, and creation of hardcopy and digital maps. Geomatics delivers numerous key projects and facilitates hundreds of requests for spatial analysis and quality map products from the corporation, partners, private sector and the public (*Tables 4 and 5*). The nature of the project or request is varied depending on the complexity of analysis, availability of information, degree of innovation products require and duration. Staff strives toward ensuring excellence in quality, efficiency and customer service in the delivery of these results.

Table 4
Value Added Products Delivered by Client Category

Client Category	No. Products	Percentage
Regional Departments	327	84%
YorkInfo Partners	52	13%
External Clients	11	3%
Total	390	100%

Table 5
Value Added Products Delivered by Internal Client Groups

Internal Client Group	No. Products	Percentage
Planning and Development Services	128	38%
Health and Community Services	56	17%
Transportation Services	40	12%
York Region Transit (YRT)	32	10%
Environmental Services	24	7%
Office of the Chief Administrative Officer	12	4%
York Regional Police	12	4%
Corporate Services	10	3%
Finance	8	2%
Council	2	1%
Emergency Medical Services (EMS)	2	1%
Emergency Management	1	1%
Total	327	100%

YorkExplorer has a high utilization by Region staff, partners, public and private sector

The Region's *Take a Hike Trail Guide* continues to be the Region's most popular map followed by Regional and local municipal base maps.

Wellhead Protection areas are zones around wells to which specific land use restrictions apply in order to protect the quality of the water supply. An interactive web view was developed to provide Regional and local municipal staff with a simple and effective tool to quickly identify restrictions on development applications.

YorkExplorer is the Region's Internet mapping service accessible by staff, partners, and the public. With a 10% increase in content in 2009, 31 interactive maps, 167 pre-prepared maps, and a comprehensive inventory of the Region's geographic resources can be viewed. Usage of interactive mapping offered by the Region has significantly increased for the period January to December 2009 (*Table 6*). The most dramatic increase occurred when the public was accessing H1N1 and seasonal flu clinic locations. Use of web map services, incorporating York Region maps into user applications / different GIS software through the Internet, has increased by more than 200% in 2009.

Table 6
Web User Statistics

Web User Statistics	2009	2008	% increase
Total Visits	227,000	140,000	62 %
Average length of visit	17 minutes	12 minutes	42 %
Internal visits / month	3,200	1,200	167 %
External visits / month	15,700	9,300	68 %
Downloaded maps / month	13,500	14,000	-4 %
Web map services accessed	60,000	17,000	235 %

YorkExplorer Internet Mapping Expands With New Viewers and Maps on Departmental Pages

In 2009, a strategy of "Use Google Maps, Be Like Google Maps, Be Like Google Earth", led to a radical expansion of the Region's map services and the need to provide the authoritative local data with the accuracy necessary to support Regional operations. The strategy was based on research, evaluation of alternatives, and in response to expectations of easy to use tools such as Google Maps and Microsoft Bing Maps.

Phase 1: "Use Google Maps" was to show Regional data in a Google Maps frame combining data and functionality from Google and York Region ("mash-ups"). These maps have been incorporated throughout the Regional Internet site, on departmental pages, rather than being concentrated in "mapping pages", thus making topical mapping content more readily accessible to users. These maps deployed to the Region's Internet

site during 2009, show how to drive or take YRT and VIVA transit to the location and hours of operation for H1N1 and Seasonal clinics, Solid Waste Drop-off Depots (*Attachment 1 – Figure C*) or Tourism Locations. Maps that are being tested for deployment in early 2010 include Traffic Cameras, Transit Ticket Agents, Crime Incidents, Municipal Offices and Schools.

Phase 2 “Be Like Google Maps” developed an easy-to-use interactive viewer: “yrGeoView” for improved facility and speed that feels and looks like Google Maps including new base cartography of current Regional data. The first map launched is the Region’s base map, including 2009 orthophotography and address searches. During 2010, maps from the existing interactive mapping site will be migrated to take advantage of the new interactive viewer’s fast performance.

3D Visualization enables communication of current and future built form

3D visualization is used to understand spatial impacts of plans for intensification and built form and effectively communicate options to governmental agencies, Council, consultants, and the public to aid in decision-making.

As part of the evolution of the Region’s 3D visualization program, photographs of key buildings within the Regional centres and corridors were used to enhance the facades of the buildings, bringing an increased level of detail and recognition. A flythrough video was generated that illustrates the existing Yonge Street corridor from Steeles Avenue to Green Lane for use in future analysis and studies of this area. (*Attachment 1 – Figure D.*)

As further evidence of the value of the YorkInfo Partnership, models of existing buildings and 3D training were provided to the Towns of Aurora, Newmarket and Richmond Hill giving them the skills necessary to create current and future scenarios to support growth initiatives. Pilot projects are identified with the Town of Markham and the City of Vaughan.

Upgraded technology enhances operations and efficient service delivery

The primary GIS software suite used by the corporation was upgraded to ArcGIS 9.2 in order to provide new features that improve efficiency to more than 200 desktop GIS users. Internet components were upgraded to ArcGIS 9.3.1, for significantly faster map drawing capability and support for a broader array of internet mapping options.

An automated data extraction tool was created that enables delivery of GIS data for the areas relevant to environmental assessments and infrastructure engineering projects where consultants rely on GIS data. Consultants can define the area and download the data themselves making this more efficient for infrastructure projects.

Self-correcting addressing tool was developed

An Internet-based addressing tool was created that corrects and geocodes Regional addresses, based on the address points database completed in 2008. The tool can be incorporated into Microsoft Office (e.g. an excel spreadsheet has been address-enabled), and into custom applications to correct addresses when they are entered and conform standards. It can also be used to “clean” long lists of addresses, add postal codes and geographic locations so they can be used for spatial analysis of service delivery.

Emergency Management and Operation Green Day served by Geomatics

Geospatial information, technology, products and services were maintained to support the Region’s Emergency Management activities and staff are members of the Regional Emergency Operations Centre team. As emergencies are typically location based, GIS plays an essential role during all phases of emergency management. Geomatics works with emergency services professionals on the annual review and update of infrastructure critical to the Region’s well-being, operations and continuity. This information and corresponding maps are distributed to each local municipality.

Geomatics contributed to the design of the corporate annual emergency exercise Operation Green Day and participated in the exercise by providing analysis and maps of residential population estimates, road closures, vulnerable populations and critical infrastructure in the area in response to a simulated hazardous material incident.

Future developments in 2010

The 3D visualization and GIS technologies are dynamic, therefore as new approaches emerge, Geomatics will continue to advance in the creation of 3D models to illustrate and analyze the Region. To promote accessibility to all decision makers, 3D models will be made available to regional staff through the web using new software capabilities and enhancements to our self-service environment. During 2010, pilot collaborations with urbanized municipalities along the Region’s Centres and Corridors will move forward so that 3D GIS can be a shared resource. The goal is to offer a self-service offering enabled by 3D GIS tools available to users, with supportive user training, and accessible data.

York Region’s interactive mapping user’s experience will be enhanced through Google-like internet mapping functionality, response and cartography design. Phase 3 of the service expansion, still in development, will portray the Region in 3D, ‘like Google Earth’. Geomatics will migrate existing content from the interactive views into the new internet interactive mapping formats aligned with client priorities. In support of the joint Markham/York Region Internet and Intranet Portals, Geomatics will develop a GeoPortal strategy to realize the benefits afforded by the Region’s new Portal technology.

In 2010, a system health check of the geospatial technology infrastructure will focus on improving the responsiveness, evolution and manageability, essential to delivery of increased demand across the corporation for self-service and GIS integration.

The integration of GIS into the Region's business processes will continue in 2010. Some Region departments are investing in business solutions that directly interface or integrate with geospatial information and geoprocessing capability delivered on the Intranet or Internet. Future integration opportunities include asset and facilities management, additional W/Ww processes and community and health services initiatives, on-line addressing services with business areas/applications, and Automatic Vehicle Location solution for EMS and Roads.

5. FINANCIAL IMPLICATIONS

There are no financial implications associated with this report. Operations are included in the operating budget. Negotiated Service level agreements with key client groups define product delivery, service level expectation and associated costs.

6. LOCAL MUNICIPAL IMPACT

Local Municipal staff and residents use the internet to access YorkExplorer and the Region's Web Map Services to their benefit. Through the YorkInfo Partnership, local municipalities benefit from York Region geospatial information, technology, products and services and engage with the Region's GIS technology through shared web map services and 3D GIS pilot projects. The YorkInfo Partnership's goal to enhance collaboration through the sharing of existing data and on creation of new databases, standards and data sharing protocols reduces duplication and improves quality.

7. CONCLUSION

In 2009, the Geomatics Branch delivered an ambitious program of spatially enabling business processes across the corporation, providing information, applications technology, value-added products and services for regional operations, planning, and the management of growth. The goal of managed information is being delivered through standards and continuously improved processes, to ensure up-to-date and easy-to-access spatial information in a dynamic environment, through either the Spatial Data Warehouse or over Internet. Geomatics continues to achieve a high level of customer service and satisfaction through the timely and quality delivery.

The YorkExplorer Internet mapping website is heavily used by regional staff and the public, and usage has grown substantially with the addition of new modes of viewing the Region's spatial information.

For more information about this report, please contact Debra Kelloway, Manager, Analytics and Applied Mapping Ext. 1536 or Nancy Prout, Director, Geomatics Branch Ext. 1529.

The Senior Management Group has reviewed this report.

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

Council Attachment 1

Figure A
Regional Official Plan Maps

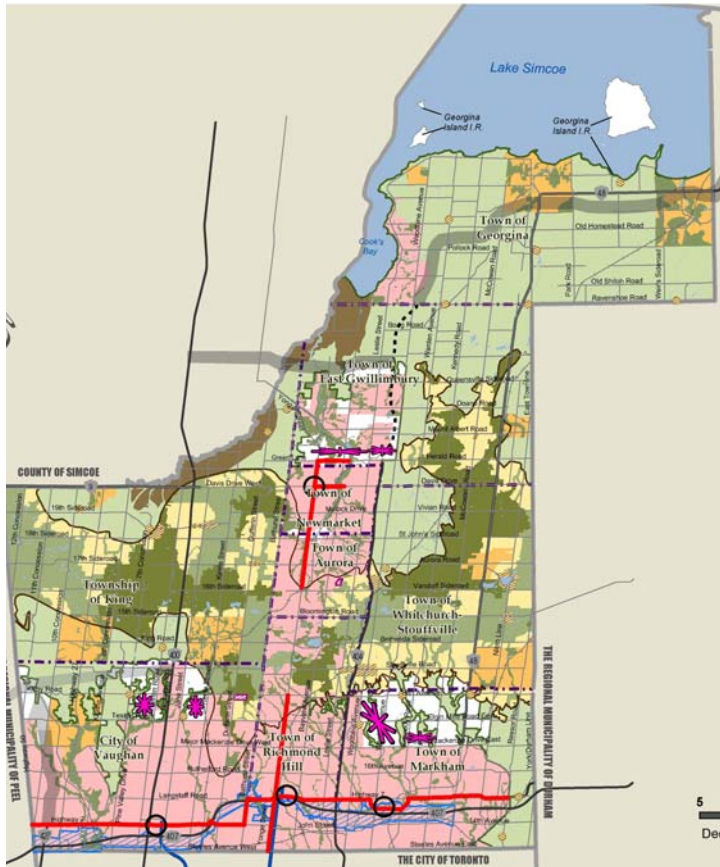


Figure B
Land Use Designation and Hillshade Relief



Figure C
Household Hazardous Waste Sites on Google Maps

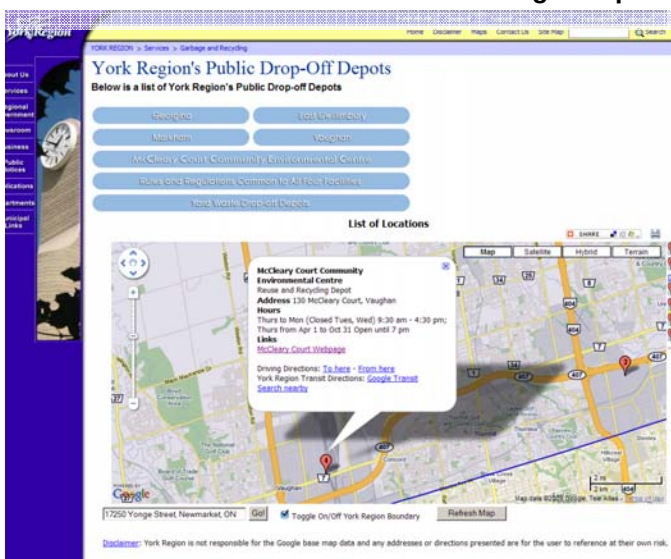


Figure D
3D Visualization Downtown Richmond Hill





Geomatics Annual Report 2009: Serving Growth Management Needs

Presentation to Planning and
Economic Development
Committee

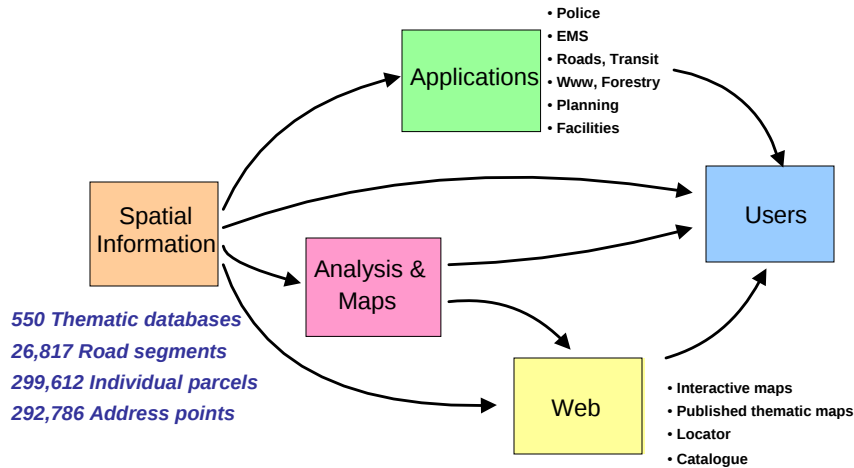
Nancy Prout
February 3, 2010

Overview

- ❑ Serving growth management needs:
 - ❑ information
 - ❑ analysis
 - ❑ technology
- ❑ Key 2009 achievements:
 - ❑ Orthophotography acquisition
 - ❑ Address validation
 - ❑ Google-ization of internet mapping



Spatial data supports users when, where and how they want it



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Self-service and Internet mapping has a high utilization by Region staff, partners, and public

- ❑ 31 public and secure interactive map views
- ❑ 167 published thematic maps, 109 secure maps
- ❑ 227,000 visits in 2009 : 80 % increase over 2008
- ❑ 13,500 maps downloaded / month
- ❑ Web map services streamed data to users 60,000 times : a 235 % increase in 2009



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Current spatial information key to efficient regional operations

- ❑ GIS increasingly integrated into regional business applications
- ❑ Police, EMS and Transit rely on current roads data for dispatch, routing and tracking segments
- ❑ Asset management programs are supported by location data
- ❑ Information has been distributed to YorkInfo Partners and consultants



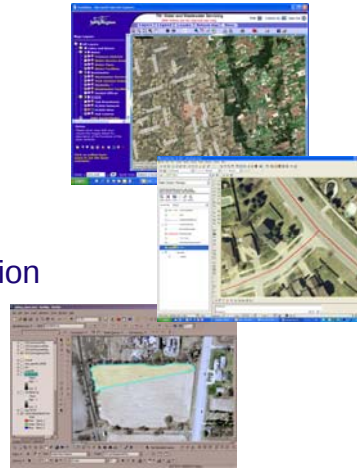
Geospatial analysis and mapping enhances decision-making in Regional programs

- ❑ Mapping for the Regional Official Plan effectively communicates policies
- ❑ GIS analysis for the York Region 2031 Land Budget
- ❑ Optimum locations for H1N1 Clinics, Community Environmental Centres and Police Stations identified through GIS analysis
- ❑ Hillshade Relief map shows varied terrain features in York Region



Key achievement: Orthophotography program on 2-year cycle

- ❑ High resolution orthophotography used as a base to create other information
- ❑ All 9 municipalities participating
- ❑ Accessible for desktop users, engineers, staff and by Internet
- ❑ Contours and detailed map collection for projects
 - ❑ Western Vaughan IEA
 - ❑ Subway Route along Yonge Street – Finch to 16th Ave.



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Key achievement: Address tools make Flu Clinic registration easier

- ❑ Address tools can be embedded in other applications (e.g., seasonal flu clinics; potential for call centres)
- ❑ Ensures correct addresses entered first time
- ❑ Mailing accuracy

Internal linkages to corporate GIS Data



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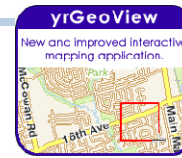
Slide 8

Key achievement:

New Internet mapping launch : yrGeo

□ Strategic approach

- use Google Maps **yrGeoLocator**
- be like Google Maps **yrGeoView**
- be like Google Earth **yrGeo3D** (coming in 2010)



- Ensure current, authoritative York Region data available
- Designed for ease-of-use, speed and familiar look
- Avoids duplication of technology, data and operational support requirements

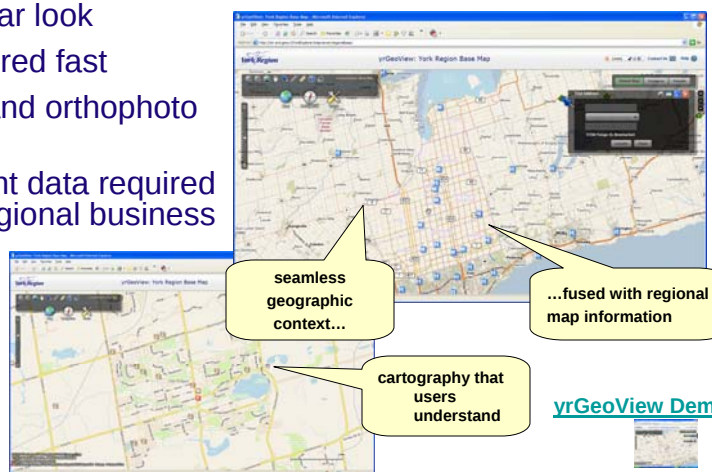


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yrGeoView is easy to use!

- Familiar look
- Delivered fast
- Map and orthophoto views
- Current data required for regional business



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Conclusion: Results Achieved

- ❑ Current spatial information is key to efficient regional operations
- ❑ Robust technology and a self-service framework make GIS available to all staff
- ❑ High resolution aerial photography with derived products supports infrastructure design
- ❑ Newly-launched internet mapping offers a better user experience
 - ❑ Easy-to-use
 - ❑ Improved access

