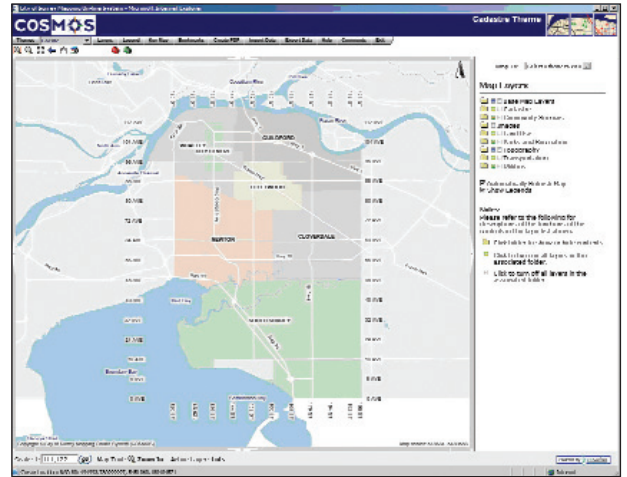# Improving service to residents and the business community in the City of Surrey
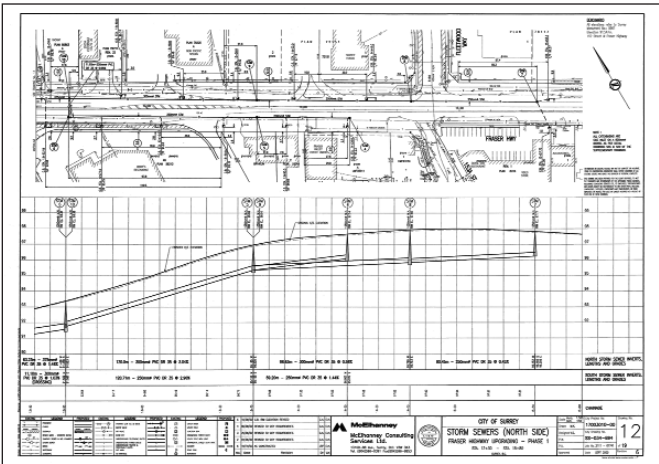
The City of Surrey is located in south-western British Columbia at the cross-roads of the Pacific Rim, Greater Vancouver, and the United States. It is one of the fastest growing major cities in Canada. With a population of over 410,000 and a land area covering 35,000 hectares, the demand for sophisticated City spatial data management capabilities is high.

In the early years, within a Drafting Section that consisted of just two land surveyors and one drafter in the 1960s, increasing to 15 employees by 1980, manual drafters used hard copy maps to maintain cadastre and infrastructure data. In 1983, the City went digital, and began the ambitious task of converting their hardcopy maps to CAD files. Shortly after, staff began experimenting with ArcView as a means to better utilize the digital CAD files, particularly for analysis and mapping. By the 1990s, with GIS

boasts one of the most comprehensive municipal geodatabases in BC. All corporate spatial datasets have been consolidated and organized into one corporate geodatabase. Many of the feature classes have related tabular data in other corporate business systems such as Property Taxation, Utility Billing, Project Tracking, Pavement Management, and Asset Management. This geocentric distribution model, a central geodatabase along with a number of related business systems, provides the means to effectively and efficiently maintain data without overcomplicating access and analysis needs. By disseminating information and empowering personnel to make fast, informed decisions that would not have been possible 20 years ago, the City's GIS has rapidly become a key tool for staff across all City departments from Engineering and Planning to Parks and Operations.

*COSMOS was released to the public in March of 2005.*

in the 1960s.

Like most web-based mapping applications, COSMOS allows users to query, view, and print a wide range of City information such as zoning, utilities, parks, roads, recreation facilities, other points of interest, and aerial photography. One of the most popular aspects of COSMOS is the ability for users to create and print their own maps.

"Our Section has always supported requests for standard and custom map products. By giving our customers the ability to create their own maps, we have provided alternative options to meet their needs," said Sean Simpson, GIS Manager, City of Surrey. "They don't necessarily have to put in an order to our Section and wait for the maps to be created and delivered to them. They now have the ability to serve themselves and get their maps right away. The increased functionality also has the added benefit of freeing up my staff so that we have more time to further enhance COSMOS."

By 2004 the number of staff using ArcView to interact with the City's GIS reached almost 100. Most were simple consumers of the data, performing basic analysis and mapping operations; tasks that an Internet based mapping application could easily support. Therefore, the main priority for the City's GIS Section was to implement a web-based front end to the City's geodatabase to provide broader access to the data, and to save on individual licensing costs.

As-built drawings like these can now be accessed immediately from COSMOS.

quickly becoming the industry buzz word for municipal data management, it was clear to City staff that GIS offered enormous potential. Since then, the City has remained at the forefront of mapping technology with the gradual migration from a CAD/GIS environment to an exclusively GIS environment. In 2006, the GIS Section (formerly the Drafting Section) developed an ArcGIS extension with custom tools and processes that have dramatically reduced the effort to maintain the City's cadastral and infrastructure datasets.

With over 270 feature classes, the City now

In early 2004, the City teamed up with ESRI Canada and Latitude Geographics to develop COSMOS (City of Surrey's Mapping Online System), the gateway to Surrey's GIS. COSMOS was launched internally in September 2004, and externally to the general public in March of 2005, resulting in worldwide usage that staff members could not have dreamed possible at the conception of the Drafting Section

The most recent enhancement to COSMOS is the ability to access as-built drawings over the web. Engineering consultants create and submit as-built drawings to the City once new development projects are complete. They depict where the new utility infrastructure such as water, sanitary, and drainage mains are installed and are regularly referred to when planning new development projects or maintenance activities. These drawings can now be immediately accessed via COSMOS. Previous-

ly, customers could use COSMOS to generate a list of drawings for a given area, and submit the list to the GIS Section as a request for the drawings. Staff from the GIS Section would compile the drawings and send them to the customer, a process that could take up to a day or more to service, depending on how many other jobs were in the queue. The City used to charge a $3.50 handling fee for each as-built drawing requested. Now COSMOS provides a link to access drawings immediately. The cost savings to the City is passed on to the customers, and the drawings are now provided to customers free of charge.

"We get hundreds of requests for data and as-built drawings every year," said Mr. Simpson. "We have wanted to implement self-serve access to our as-built drawings for a long time, but we had to make the functionality as simple as possible for the general public first. That meant changing the way the tools in COSMOS worked, which required us to alter the structure of our database, and undergo a large data clean up process. It took over a year but the work was worth it, and we are very pleased with the end result."
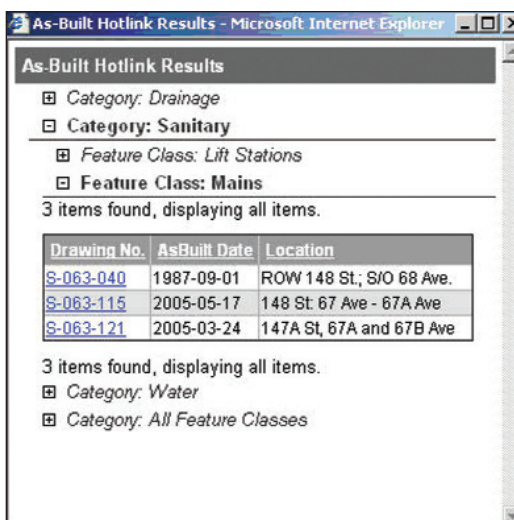
Hotlink query returns a formatted and interactive list of drawings found, along with a link to the image.

"COSMOS is a good example of how GIS technology can increase a City's level of service to its residents and business community," said Paul Ham, City Engineer, City of Surrey. "It has empowered users throughout the organization and community by broadening the user base and providing public access to information that

was previously only accessible by coming to City Hall."

Future Plans
The City's GIS Section is currently in the process of adding even more functionality to COSMOS. The City has teamed up with SAFE Software and again with Latitude Geographics to add SAFE's Spatial Direct capability to COSMOS, which will allow users to download vector and raster data directly from the City's GIS. The new functionality will provide even more self-serve options for customers external to City Hall, which should have the desired effect of increasing productivity and further echoing the City's motto of being "Open for Business".

City of Surrey
www.surrey.ca

Urgences-santé utilise les SIG pour sauver des vies

nomenclature spéciale gérée par Urgences-santé. Diverses analyses spatiales sont ensuite effectuées, notamment en ce qui a trait à la connectivité du réseau routier. Tous les changements détectés sont, ici encore, inscrits dans une des 17 tables journal (log) faisant partie du projet

3. Révision finale : Toutes les tables journal générées durant le processus de synchronisation sont réutilisées par des outils de navigation permettant de « zoomer » sur les tronçons routiers sur lesquels des changements ont été détectés. Les tables journal servent également à alimenter une série d'outils de révision spéciaux. Les trois outils les plus importants sont le « détecteur de changements de sens de circulation », le « détecteur de changement de nomenclature des voies rapides » et « l'utilitaire de résolution de conflits de connectivité » qui permet

de valider la connectivité aux points de jonction des différentes géobases impliquées dans le processus.

« Le Module de Synchronisation de Géobases a permis un gain appréciable de productivité puisque nous ne consacrons presque plus de temps à convertir manuellement les données. Le module a également permis d'augmenter considérablement le niveau de confiance que nous avons en nos données » a déclaré François Robitaille.

L'intégration des données des fournisseurs, qui prenait de deux à trois semaines en moyenne, s'effectue maintenant en moins d'une journée puisque le module peut travailler de jour comme de nuit. Le processus est lancé la nuit et les révisions peuvent être effectuées le lendemain matin. De plus, les bonnes relations main-

tenues entre Urgences-santé et ses fournisseurs, permet d'améliorer continuellement la fiabilité des données sources. La population peut donc être confiante qu'Urgences-santé utilise au maximum les derniers développements technologiques pour répondre adéquatement et efficacement aux situations d'urgences.

La Corporation d'Urgences-santé
www.urgences-sante.qc.ca