

Preparing for a Vibrant Future in the Township of Langley



Located in the heart of British Columbia's Lower Mainland, the Township of Langley is 45 minutes east of Vancouver and offers access to major transportation routes as well as the U.S. border. Its central location, affordable land, young labour force and diverse job opportunities make the Township appealing to families and businesses. As one of the fastest growing municipalities in B.C., the Township expects its population of more than 100,000 to double in the next 30 years. To support this growth, it uses GIS to plan sustainable community development and provide efficient services to residents.

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Designing Tomorrow's Communities

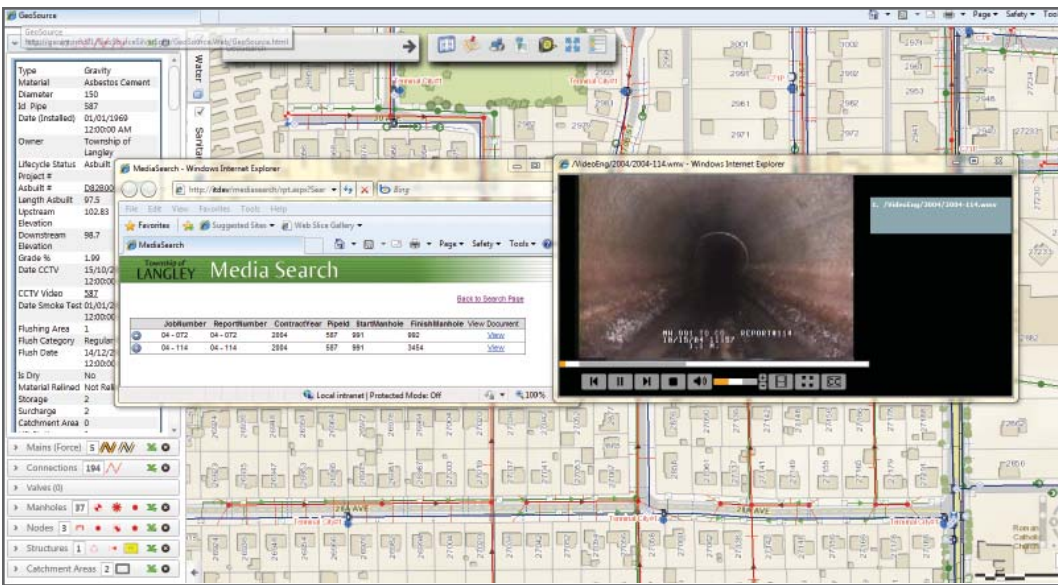
Rich in fertile soil, 75% of the Township's land is designated as a provincial Agricultural Land Reserve. While farming and agriculture remain important local industries, they have seen a steady rise in industrial and commercial development. In 2010 alone, the municipality issued nearly 1,000 building permits.

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Using GIS, they also conduct population and employment modelling to create projections by combining various data – including provincial land parcels (cadastral fabric) and land use, Township neighbourhoods, population and employment values.

Managing Municipal Assets

The Township also uses GIS to obtain a clear picture of its infrastructure and assets. Recently, they completed digitizing videos of sewer inspections which staff can access through the internal version of GeoSource. This has significantly increased efficiency and reduced costs. Previously, engineers needed to look up a proprietary database that lists all available recordings of the Township's sewer pipes. Then they had to manually find the disk or tape media to view the footage.



Engineers can now easily view videos of municipal sewer inspections through GeoSource.

Since 1995, the Township has used ESRI technology to manage land information across its enterprise and enable geographic applications in various departments including planning, finance, engineering and protective services. It maintains GeoSource, a Web-based interactive mapping system that provides staff and the public with access to maps, land data and aerial photography of the Township. To stay at the forefront of GIS technology, the Township upgraded recently to ArcGIS 10, the latest major release of ESRI software.

"GIS is an integral part of our information technology strategy," says Steve Scheepmaker, Information Technology Manager, Township of Langley. "We've been using the technology for more than 15 years to increase ef-

To effectively plan new buildings and communities, the Township uses ArcGIS 10 with the ArcGIS 3D Analyst extension to view and analyze large datasets in three dimensions. This includes remotely-sensed or Lidar data that provide an accurate geographic position of properties. The application allows them to conduct line-of-sight and shadow analyses to plan multi-family housing structures and mixed-use buildings, which are taller than the single-family houses predominant in the Township.

"Our planning department had always used print maps and traditional architectural scale models to envision how new communities would look," says Derik Woo, Geomatics Manager, Township of Langley. "Now, they're able to model a 3D virtual city that more accurately represents Township

"In just a few clicks, our engineers can now easily view videos, photos and documents related to our underground infrastructure through GeoSource. This enables them to plan timely maintenance schedules and respond to requests for repairs more quickly," says Chad Huntington, GIS Coordinator, Township of Langley.

The GIS also contains data about the Township's infrastructure projects, thereby assisting in meeting the Public Sector Accounting Board (PSAB) requirements.

Increasing Community Engagement through Open Data

The Township recently opened its data to the public to conduct their own research or develop commercial applications. In addition to providing an open data catalogue on its Web site, the Township contributes geographic content integrated into a free, national Web basemap through ESRI Canada's Community Maps Program.

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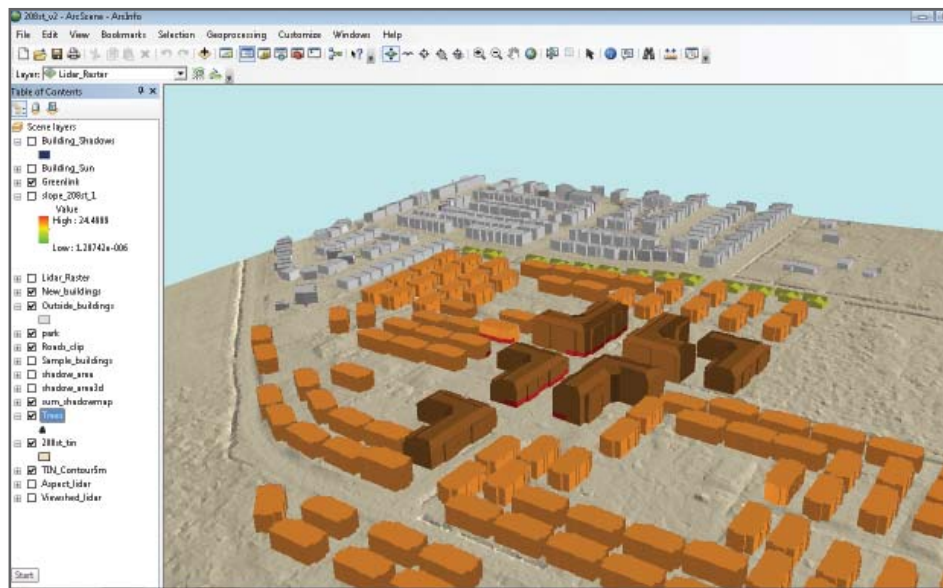
**Derik Woo,
Township of Langley**

It was also selected to participate in the Community Maps Exchange, a pilot project that tested two-way data exchange between the Township’s database and ESRI’s ArcGIS Online Web site, where the community basemap is hosted. This allows data to be automatically updated and helps ensure that information on the basemap is always up to date.

“The Community Maps Program reduces costs for people who regularly use Township information,” says Mr. Woo. “In the past, they had to pay a fee to obtain the Township’s topographical, infrastructure and neighbourhood data. Now, businesses planning to open a site here can access the data for free through the community basemap. ESRI Canada’s program also reduces our costs by allowing us to leverage outside resources to

distribute information and encourage current and future residents to participate in improving our community.”

In embracing GIS technology as part of its corporate strategy, the Township is well-positioned to meet the needs of its growing population. ■



3D modelling allows planners to visualize the impact of new buildings on the current landscape.