

Challenge

Serving a population of approximately 100,000, the City of Lethbridge is managing over \$2 Billion stock of infrastructure assets. Since 2005, the City has been implementing asset management best practices and software systems to support a corporate-wide Community Asset Management Program (CAMP) initiative. To extend this effort, the City needed a solution to develop advanced risk-based optimization models to optimize project selections and investment strategies across all asset types. The City required the solution to support the entire asset management cycle: from data analytics, lifecycle modeling, and capital planning to program development and project management. Since the City has been using Cityworks for work management, the desired capital planning solution was required to interface with the City's Cityworks and to support integration between capital programs and project delivery and management processes, and to enable seamless data exchange between the two systems.

“Asset Optimizer has functional tools that provide valuable information about our assets. Customized dashboards provide insight into the current state of our infrastructure and reports can summarize this information and share with others as needed. The interactive mapping functionality makes it easy for non-GIS users to easily query the data and display it visually for better understanding. The renewal planning tool allows the entry of different budgets and helps predict the future condition and risk of our assets.

One of the most impressive functions of this system is its ability to determine capital renewal strategies across multiple asset classes and identify the most optimal scenario. IDS staff has been very helpful and efficient throughout this project with quick turnaround of information and system training. Staff have been very accommodating throughout this project and are very knowledgeable in deterioration model calculations for different asset classes.”

Blair Richter, City of Lethbridge

The screenshot displays the ASSET OPTIMIZER software interface. On the left is a tree view of asset classes including Roads System, Sanitary Sewer System, Storm Water System, Water System, Water Treatment Plant, and Parks. The main area is a GIS map of Lethbridge with various asset layers overlaid. A legend on the right shows PCI values: 80-100 (Very Good), 60-80 (Good), 40-60 (Fair), 20-40 (Poor), 0-20 (Very Poor), and Others. A data table at the bottom shows a list of road segments with columns for FID, OBJECTID, AssetID, SEGID, ST_CD_ID, FCODE, FDESC, FRADDL, TOADDL, FRADDR, TOADDR, FULLNAME, SPEED, ONEWAY, and FNODE.

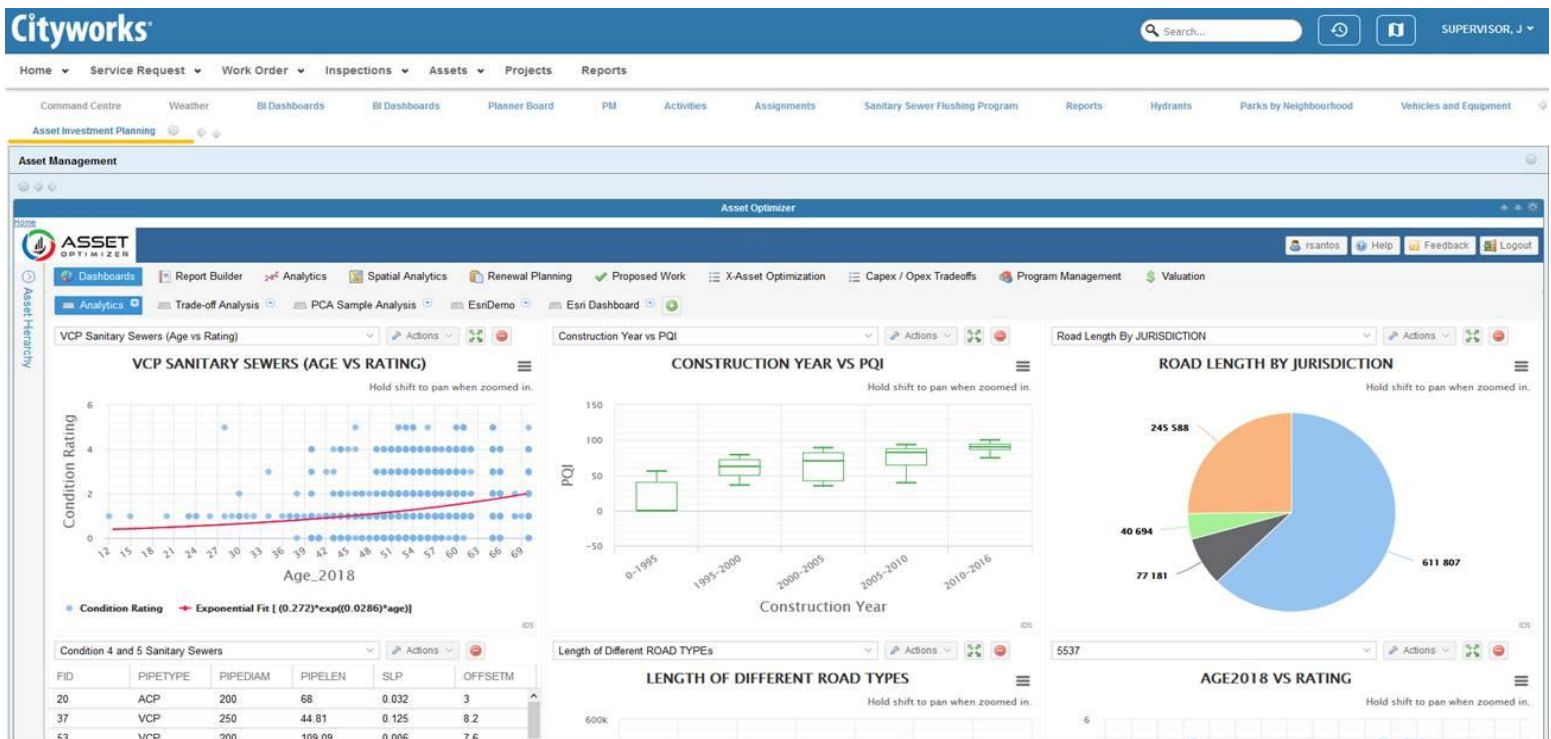
FID	OBJECTID	AssetID	SEGID	ST_CD_ID	FCODE	FDESC	FRADDL	TOADDL	FRADDR	TOADDR	FULLNAME	SPEED	ONEWAY	FNODE
900	5355	SLSLN_1000	1889	11310	15001	Local					31 ST S	50	FT	0
902	5358	SLSLN_1002	1875	10460	15002	Collector	3015	2905	2871	2801	PARKSIDE	50	FT	0
903	5359	SLSLN_1003	854	10460	15002	Collector					PARKSIDE	50	FT	0

Solution: Integration of Asset Optimizer™ and Cityworks™

IDS Asset Optimizer™ GIS-centered cloud-based software was used to support lifecycle modeling and asset management planning of the City's linear assets: roads, sanitary, stormwater, and roads networks. Assets data were imported from ArcGIS geodatabases and Excel sheets. Asset Optimizer™ was then used to perform in-depth data analysis and develop data-driven deterioration and risk models for different asset classes. Costs and benefits models for various asset intervention actions were developed, along with constraints or rules governing their applicability.

Optimal annual project lists for multiple planning scenarios were generated and analyzed to assess the impact of various funding levels on assets performance and risks, and to determine funding needs to meet specific performance and risk targets. Subsequently, a 10-year optimized capital improvement plan was generated for each asset class. Cross-asset analysis helped identify possible coordination of projects across different asset classes.

Working closely with Esri Canada, an interface between Cityworks and Asset Optimizer™ was developed. Asset Optimizer™ automatically created work orders associated with planned projects using pre-defined templates. As projects execution progress, status updates and actual project time and expenditure logged in Cityworks are tracked in Asset Optimizer™, enabling the creation of accurate up-to-date program status and budget reports, thus creating full visibility of programs and projects across different departments in the City.



For More Information

To learn how Asset Optimizer™ can help your organization optimize long-range asset investment plans and make better decisions, contact us today at +1 (306) 790-1415 or visit www.ids.consulting