

## **Integrated Sewer and Wastewater Treatment Plant Asset Management**

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### **Background**

Sanitary sewer network system and Waste Water Treatment Plants (WWTPs) are often managed by two-tier organizations in Canada. The wastewater collection network systems are managed by the local municipalities, and the WWTPs are managed by the regional municipalities. Although these two systems are not isolated from each other, their asset management plans are prepared separately.

### **Objective**

The purpose of this study is to model the joint wastewater collection and wastewater treatment systems in order to evaluate the feedback mechanism between their financial and operational performance in taking different asset management strategies.

### **Methodology**

The Life-Cycle System-Dynamic Sustainability-Assessment (LCSDSA) tool developed by the Center for Advancement of Trenchless Technology (CATT) at the University of Waterloo is been applied in a case study. The data for the sewer network system is collected from a city in Southern Ontario, and the data for the WWTP system is taken from the Highland Creek treatment plant in Toronto. Two asset management strategies, 1- reactive, and 2- proactive rehabilitation, are developed and their results are compared for a 100-year simulation period.