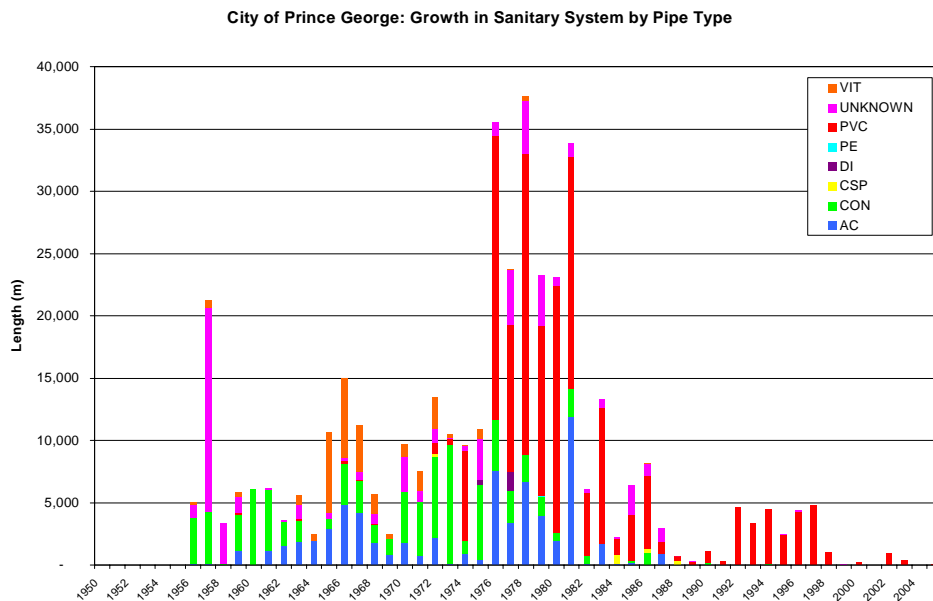


Network Level Infrastructure Assessment



The Network Level Infrastructure Assessment is a current project following recommendations that Earth Tech made to the City in a December 2004 study titled the “City of Prince George Infrastructure Asset Management Plan”. As a result, the City appointed Earth Tech in June 2005 to conduct a Network Level Infrastructure Assessment of the assets in its Transportation, Utilities and Environmental Services Divisions. The intent was to conduct a “top-down” review of these assets to enable the City to make strategic decisions regarding asset maintenance, rehabilitation and replacement. This type of review would cover the assets in a level of detail supporting the 80/20 rule in that it would provide sufficient information to develop long-range capital forecasts, while using a high-level knowledge of asset inventory, valuation, risk, service life and replacement timing. This methodology is actually based on the now well-known Six Whats of asset management first put forward by the NRC and later adopted by the InfraGuide.

For the City of Prince George, Earth Tech has gone one step further and developed an asset management methodology incorporating elements of asset criticality (i.e., impact of failure) which, used in conjunction with the asset condition defines the asset risk. The City collected asset data for its range of transportation, utility and environmental services assets, and Earth Tech is currently analyzing the data and generating “Nessie” or expenditure projection curves to determine whether the City has a gap in expenditure on asset rehabilitation and replacement. The City has also asked Earth Tech to help develop public information brochures that could be used to advocate the need for infrastructure reinvestment, and to help build support for potential future rate increases to fund the reinvestment. This “top-down” assessment will also form the basis to potentially perform a more detailed and data intensive “bottom-up” assessment in the future.

PROJECT DETAILS

CLIENT: City of Prince George
 LOCATION: British Columbia, Canada

REFERENCE INFORMATION

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PROBLEM

Following the recommendations of a Strategic Infrastructure Asset Management Plan produced by Earth Tech, the City wanted to conduct a high-level infrastructure assessment to determine the potential expenditure gap on asset maintenance and rehabilitation.

CHALLENGES

The City wanted to review assets that resort under the Development Services Department, which included utility, transportation and environmental services assets. The challenge was not only to collect asset data on a broad and highly diverse group of assets, but to model the long-term expenditure on infrastructure rehabilitation and replacement for each of these asset classes in a logical and consistent manner.

SOLUTION

Asset data collection and reinvestment modeling using the NRC’s Six Whats approach, while incorporating elements of asset criticality and risk. Generation of “Nessie” curves to model future rehabilitation and replacement expenditures.

BENEFITS

Knowing what the Equivalent Annual Cash Flow (EACF) requirement is to maintain the utility, transportation and environmental assets in a sustainable manner. Having charts, graphs and diagrams available as information material to build public and Council support for increased expenditure on asset rehabilitation and replacement.