

Strategic Asset Investment Planning

A Town of Newmarket Case Study

BACKGROUND

Newmarket's vision for asset management is to be innovative and fiscally responsible stewards of infrastructure assets for the benefit of the community now and in the future. The Town is focused to continuously improve how it manages its infrastructure assets throughout its lifecycle to ensure they support a goal of a healthy, happy, thriving, and dynamic community. The Town of Newmarket commissioned Infrastructure Solutions (in collaboration with WSP) to develop its strategic asset management plan and implement a software-as-a-service investment planning solution for all Transportation, Structures, Water, Wastewater, and Stormwater assets.

A world class AIP solution to deliver the most cost-effective and realistic renewal decisions of the Town's capital assets

SOLUTION

DOT™ software was used to analyze the Towns' Transportation, Structures, Water, Wastewater, and Stormwater assets. More than 24 different asset types were analyzed including core infrastructure assets such as: roads, bridges, culverts, waterlines, sewerlines, stormlines, manholes, pumpstations, etc. The asset investment planning (AIP) solution helped to build understanding among staff and elected officials about the role infrastructure plays in providing services; better quality of life; and timely response to current and emerging trends in regulations, society and environment. The solution also helped to maintain a balance between an acceptable level of service and a cost that is sustainable for residents and businesses now and into the future and ensured that funding levels and revenue sources are sufficient to meet current and future infrastructure demands. Long-term strategic scenarios were analyzed using DOT™ scenario builder to establish reserve requirements and optimize the trade-offs between condition, cost, and risk across all asset types.

KEY RESULTS



Established asset failure modes, technical aspects of asset planning and potential recommendations for inventory data enhancement in attribute, replacement cost, condition and other information.



Developed risk assessment results for each asset class and identified potential improvements to the current risk assessment framework.

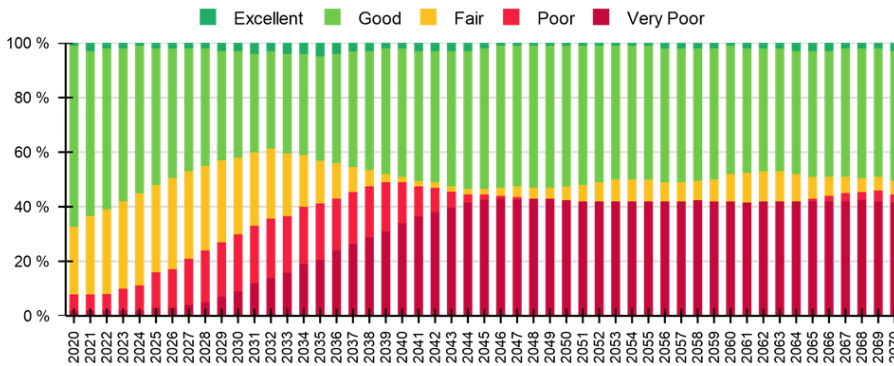


Defined lifecycle activities and interventions for each asset class, estimated costs, benefits, opportunity windows, impacts on service outcomes and condition for intervention alternatives.

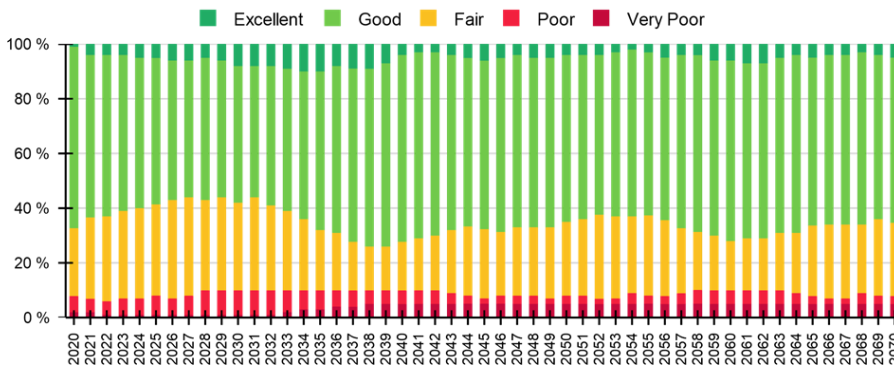


Developed recommendations on capital planning decisions and incorporated this into analytics to assess impacts on CapEx, Risk, Level of Service and O&M.

Asset performance under current budget scenario



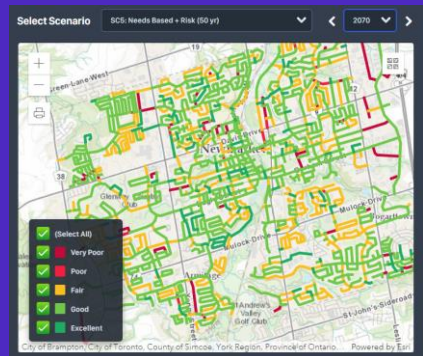
Asset performance under recommended investment



Current Budget Outcome



Optimized Budget Outcome



Practical and easy-to-use decision support tools that make the process of capital planning **transparent**, **defensible**, and **technically robust**.