

Trusting your expert gut in wastewater network renewal planning

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The principles of asset management are well understood by our industry experts, but when it comes to their application the waters are murky. Wastewater network asset managers are left to apply their own expert judgements to determine when and where their capital renewal millions should be spent. Trusting the expert gut is a good thing and can lead to high quality decision making if done right.

In this paper I present my master's thesis research examining "Intuitive Decision Making for Wastewater Pipe Networks".

The levels of service and performance of our wastewater networks are not just technical but also impact the economic, environmental, social and political systems in our communities. This makes their optimised management highly complex. The greater the complexity the more we must rely on the intuitive judgements of industry experts.

To capture this phenomenon, I've created and tested an industry survey to model the typical risk-based decision making process. The survey results capture the intuitive insights of over 40 industry experts and document the collective importance of the various factors considered during the wastewater network renewal planning process.

Beyond showcasing the premise and results of the thesis, my hope is that this topic encourages insight of how we might continue to acknowledge and harness expert intuition for effective infrastructure decision making.