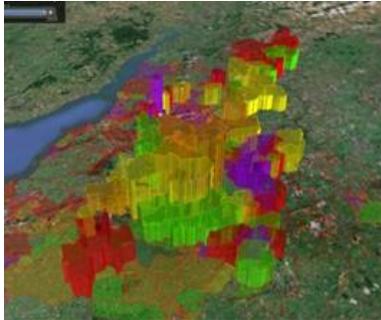


Programme Risk Optimisation & Visualisation Engine (PROVE)

Bristol Water

Overview: As part of a wider AMP5 Capital Programme Management project, B&V is assisting Bristol Water (BW) to understand the impacts of their capital works on their ability to supply water to their customers.



Visualising programme risk within the Bristol water area utilizing Google Earth

BW's biggest driver is to minimise the risk of network failure or supply interruption as a result of project impact on the network, and to reduce the cumulative impact of concurrent projects affecting the same areas (District Metered Areas). The capital programme includes a range of infrastructure projects such as construction of new mains, network replacement & rehabilitation works, a swabbing and cleaning programme, as well as non-infrastructure plant expansions and capital maintenance works.

B&V is assisting BW by developing PROVE which will enable them to better visualise and mitigate the project overlap and risk resulting from the different programmes of work.

Services: PROVE represents risk temporally in 3D with Google Earth using DMA's to represent the impacted supply area. The programme manager can use a time slider to display the cumulative impact of projects on DMAs at any particular time or for any period during the programming horizon. PROVE allows BW to quickly understand the number of project overlaps, the consequence of an impact occurring (e.g. impact on a sensitive customer), associated infrastructure and the impact of risk in adjacent areas.

PROVE directly connects to the programme software (e.g. MS Project) to retrieve all the necessary programme data and allows the operator to configure the quantification and display aspects of project risk before running the tool to create the various 3D layers (in KML) to be viewed in Google Earth. In addition, further supplementary information is available for each DMA (e.g. description of each impacting project, number of water dependent customers, etc). PROVE is used in an iterative nature to mitigate risk. Changes to reduce impacts are simply made in the programming software before re-running PROVE to visualise the residual impacts.

This innovative visual approach to displaying project risk allows BW to quickly understand the complexity of all the influencing factors that could impact a supply area and provides them with an easy means to iteratively evaluate and mitigate risk.

Added Value and Innovation:

- Provides an easy means to iteratively evaluate and mitigate risk.
- PROVE displays programme risk and consequence for any programming time period in a clear, concise and highly visual way utilising 3D and temporal mapping techniques
- Additional attributes such as sensitive customers are available to the programme manager allowing them to quickly understand all influencing factors.

Client

Bristol Water

Project Elements

- GIS analysis providing programme optimisation
- Risk calculation and visualisation

Key Team Members

M Fairfax, PM
Craig Roberts, Technical Director
S Sivakanesh, Lead Developer
Paul Hart, GIS Lead

Services

- GIS Analysis
- Programme Management
- Database development
- Google Earth Mapping
- Temporal and spatial risk analysis

Period of Service

July 2011 – May 2012

Cost

Project value£ 30k
B&V fees.....£ 30k

Client Reference

Contact B&V PM