

CASE STUDY: Building a Water Main Replacement Prioritization Tool for Denver Water, CO

Denver Water engaged Optimatics to develop what has come to be known as the AssetAdvanced™ Networks Packaging & Prioritization module to assist with their annual mains renewal planning. The module balances a range of different drivers for renewal, superseding the utility's existing manual replacement prioritization framework.

KEY POINTS

- Developed Intelligent Main Replacement Prioritization Tool to Assist Denver Water in Asset Management
- Consolidated all of Denver Water's Driving Factors for Main Replacement into a Common Assessment Framework

CUSTOMER REFERENCE

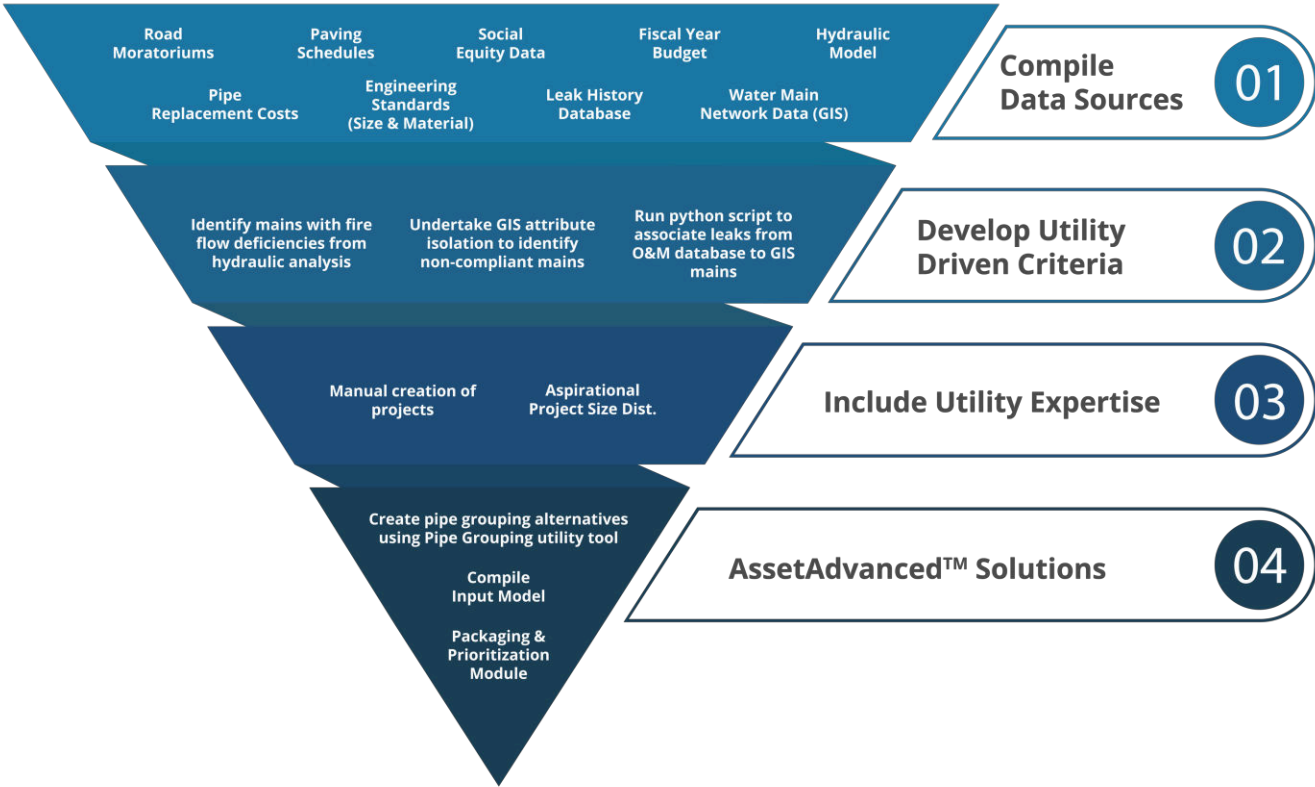
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Denver Water (DW), the largest water utility in Colorado, provides drinking water to over 1.5 million customers in the Greater Denver area. DW's distribution network contains thousands of miles of water mains, of varying age, material, and size.

To ensure it can maintain a high level of service for its customers into the future, DW replaces many miles of degraded mains each year. Selecting exactly which mains to replace each year is an extremely challenging and time-consuming exercise, as a range of different driving factors must be accounted for.



Seeing an opportunity to improve their existing manual mains replacement prioritization process, DW went to market for a solution. Having developed similar tools for other utilities previously, Optimatics was a natural choice to take on the challenge. The Packaging & Prioritization (P&P) module was built on top of the AssetAdvanced™ platform, utilizing its intelligent algorithm stack and cloud connectivity.



Throughout the configuration of the P&P module, Optimatics engaged extensively with a wide range of stakeholders within the DW organization, ensuring the prioritization logic led to high-quality and implementable renewal plans.

The DW P&P module outputs a summary for each replacement package, which allows DW to easily identify why each package is being recommended for implementation by the tool and quantify the benefits of replacements. The tool also tracks overall network KPIs, so DW can gauge how much a given renewal plan will move the needle for their objectives.

Optimized strategies produced by the module can be exported directly to ArcGIS Online from the AssetAdvanced™ application for integration into subsequent planning activities. Results can also be viewed and interrogated on a customized ArcGIS dashboard.



Example structure of results dashboard