



DECISION OPTIMIZATION TECHNOLOGY

FOR WATER MAINS

Affordable water distribution is an essential service for building a strong, vibrant and thriving community. To deliver water service efficiently, how do you decide when to expand, repair or replace what you already own? DOT™ inventories your water distribution system, along with its breaks and repair history, to apply predictive analytics and proactively identify the critical water mains most in need of repair.



DOT™ evaluates your water distribution system from multiple perspectives. In most communities, adding water main loops to improve system reliability competes with the option of maintaining and reconstructing leaky mains in aging neighborhoods. DOT™ balances planned budgets, network criticality and social justice goals to produce a defensible and implementable project-level plan using easily understood data visualizations.

As you inventory your water distribution assets in a geographic information system and add leak detection information, the scenarios in DOT™ can be customized to meet your community's ever-changing needs. The capital plan produced by DOT™ can be mapped and overlaid with plans from other asset types to advance important “dig once” policies.

The DOT™ water module can inventory and provide visual analytics on a variety of assets, including:

- water lines
- casing
- valves
- hydrants
- hydrant leads
- water meters
- water towers
- channels/streams
- water reservoirs
- wells
- pressure regulating valves
- pump stations
- treatment plants



**DATA -
MANAGEMENT
& INTEGRATION**

Collect and maintain inventory data, condition data and historical repairs across all asset types, with simple integration and data-sharing capabilities.



**GIS
VISUALIZATION**

Access georeferenced data, map-centric visualizations of condition and other performance indicators associated with various asset types, all with enhanced GIS capabilities.



**CLOUD
BASED
SOLUTION**

Enjoy a maintenance-free, fully web-based application with a high level of security, privacy and compliance.



**RISK
BASED
ANALYSIS**

Use our risk-based analysis to develop models of asset criticality and likelihood of failure to determine risk levels at various asset classes and align your capital planning process with risk-based asset management guidelines.



**SCENARIO
COMPARISON**

Set an unlimited number of scenarios with flexibility to investigate various budgeting strategies, policy decisions, treatment options, serviceability criteria and operational constraints while maintaining alignment with other projects.



**PREDICTIVE
MODELLING**

Employ powerful and customizable deterioration models across various asset classes for better long-term predictive analysis and advanced model calibration capabilities.

Capital Plan

Scenario Summary

Scenario

Name

Sample SSM 10 yrs

Description

2021

Optimization Settings

Optimization Mode

Standard

Planning Horizon

10

Include Warrants

Yes

Operational

Yes

Estimate Current Conditions

True

Optimization Objective

Type

Min/Max

Weight (Sum = 1)

Performance Attributes

Minimize


Max

1.00

NA

Year	Condition	Criticality	Risk Asset	Name	Applied Treatment	Buyout Cost
2021	5	8	3	SAH-10001	CRIP	\$23,254
2021	3.01	8	2	SAH-10002	Internal Gearing	\$2,508
2021	3.07	8	3	SAH-10003	Internal Gearing	\$1,809
2021	4.20	8	5	SAH-10005	CRIP	\$26,460
2021	4.40	8	6	SAH-10006	CRIP	\$7,367
2021	3.34	8	3	SAH-10007	Internal Gearing	\$2,369
2021	3.34	8	3	SAH-10008	Internal Gearing	\$4,342
2021	3.06	8	3	SAH-10009	Internal Gearing	\$4,355
2021	4.43	8	6	SAH-10010	CRIP	\$46,373
2021	3.01	8	3	SAH-10017	Internal Gearing	\$2,536
2021	5	11	11	SAH-10044	CRIP	\$41,195
2021	5	11	11	SAH-10049	CRIP	\$52,963
2021	5	11	11	SAH-10051	CRIP	\$58,638
2021	3.12	11	3	SAH-10055	Internal Gearing	\$22,896
2021	5	11	11	SAH-10058	CRIP	\$45,191
2021	3.06	11	4	SAH-10057	Internal Gearing	\$11,592
2021	3.12	11	3	SAH-10058	Internal Gearing	\$24,444
2021	3.25	11	3	SAH-10060	Internal Gearing	\$18,777

Prepared by



Infrastructure Solutions

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