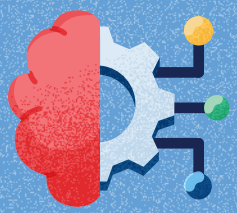
BlueConduit

SIMPLE WEIGHTED MODEL, WEIGHTED MODEL WITH REGRESSION, OR PREDICTIVE MODELING FOR WATER MAINS

How do they stack up?

	Benefits	Challenges
SIMPLE WEIGHTED MODEL	 • Simple • Easy to explain results • Can be performed in-house	• Highly subjective, limiting accuracy • Only includes a limited number of factors • Unable to manage non-linear, complex relationships in water mains dataset
WEIGHTED MODEL WITHREGRESSION	• Data-driven (statistical approach) • Non-subjective • Relatively easy to explain (but gets more difficult as you add variables)	• Requires statistical expertise • Only includes a limited number of factors • Cannot manage non-linear relationships • Cannot address how factors interact with each other • Concerns about variable correlation, which could bias results • Risk estimates are static over time
PREDICTIVE MODELING	• Data-driven (statistical approach) • Non-subjective • Can manage non-linear relationships • Can address how factors interact with each other • Dynamic, ongoing analysis • LoF predictions driven by most relevant features for each water main	• Requires machine learning expertise • Need to ensure use of tool/vendor with strong explainability ← ***not to worry, we can help with this!*** 

The vulnerabilities in your water main infrastructure are complex and evolve over time. Predictive modeling is the best, most accurate, most dynamic way to manage this complexity, empowering you to make the right decisions for your utility & customers.