

Understanding your Top 5 Risk Drivers

Why Fracta places one factor above another.

For each pipe segment, the Top 5 highlights the factors that contribute most toward a higher predicted likelihood of failure (LoF). **The list is specific to that pipe and that assessment.**

HOW THE ORDER IS DETERMINED

Fracta combines pipe attributes, available break history and environmental data. The model learns patterns from historical failures and the relationships among these inputs. Their importance is learned from data; it is not assigned through a fixed rule such as “age always comes first.”

Fracta evaluates how much each risk-driver category contributes toward a higher predicted LoF for that pipe, then ranks the strongest influences first. The ranking reflects the inputs together: a factor can matter more for one pipe because of its material, history or surroundings.

Environmental category examples. These are illustrative categories, not a fixed ranking. A pipe's Top 5 can also include pipe attributes or break history.

Soil

Elevation

Precipitation

Temperature

Major roads

Distance from water

WHAT THE RANKING TELLS YOU

01

Relative Influence

First place does not mean a pipe is certain to fail, and second place does not mean half the influence. Where bars show contribution relative to the first driver, they are not percentages of failure probability.

02

Other Model Inputs

Factors outside the Top 5 can still affect the prediction. A pipe-level list and a network-wide summary describe different scopes.

03

Physical Interpretation

A high-ranked driver explains the model's prediction. It does not prove what will physically cause a break, or measure a pipe's present condition.

EXAMPLE · SOIL RANKS ABOVE AGE

This means the soil-related inputs contribute more toward higher predicted LoF for that pipe than age does, given the other inputs. It does not establish corrosion, and it does not make age irrelevant. Likewise, an elevation driver alone cannot establish high operating pressure; that requires hydraulic or field evidence.

READING THE RANKING IN CONTEXT

U.S. and international assessments

There is no fixed U.S. or worldwide top-five list. Regional and utility-specific models reflect different pipe inventories, failure histories and available environmental datasets, and driver availability and display details can vary by deployment. **Interpret the ranking within your own utility's assessment rather than transferring another utility's order to your network.**

Use it to guide the next decision

Read the drivers alongside the pipe's LoF, its consequence of failure and your engineering context. Use them to focus data checks, inspection and renewal discussions. If a driver seems inconsistent with local conditions, ask Fracta to review the pipe attributes, break associations and environmental data behind it.