

Total Risk

Likelihood of Failure multiplied by Cost of Failure, expressed as a single monetized figure, so every segment in the network can be ranked by the dollars actually at risk.

LOF × COF

DOLLARS AT RISK

CIP READY

Likelihood tells you what is going to break. Consequence tells you what it costs when it does. Neither answers the question a capital plan actually asks, which is where the next dollar should go. **Total Risk multiplies the two, producing one objective criticality score for every segment that is directly comparable across the entire system.**

THE CALCULATION

01

Likelihood of Failure (%)

The modeled probability that this segment fails, scored one to five years out against 120+ variables.

02

Cost of Failure (\$)

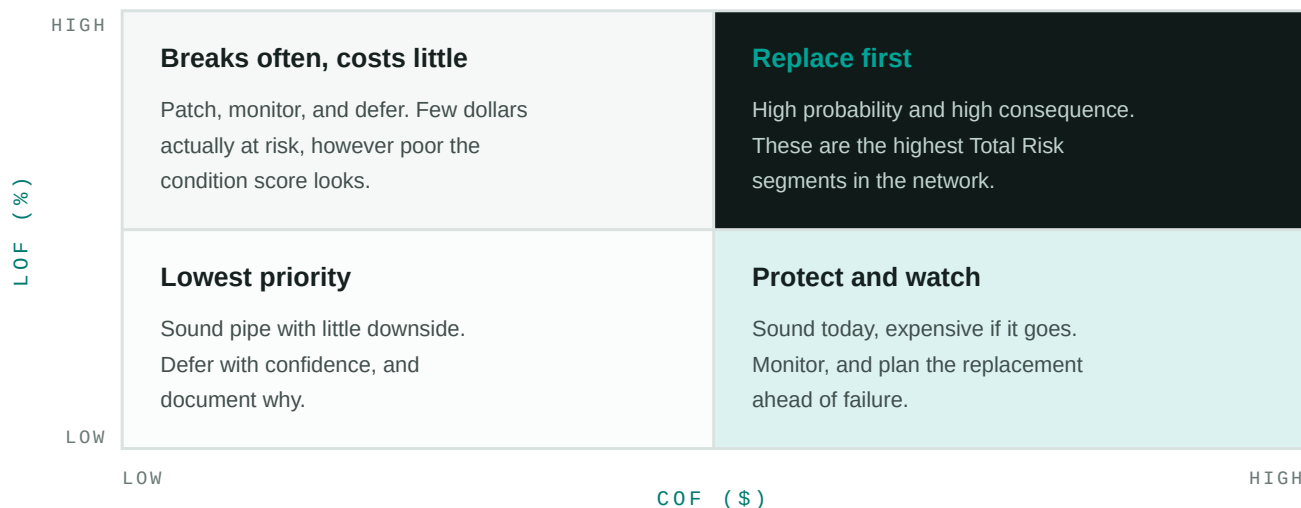
The direct and indirect cost of that failure, based on where the segment sits and what it serves.

03

Total Risk (\$)

The product of the two: expected dollars at risk on this segment, ranked against every other segment.

WHERE YOUR CAPITAL SHOULD GO



A segment's position on this grid, not its age, is what should drive the replacement list. The top-right quadrant carries the highest Total Risk in the network and is where capital buys down the most exposure per dollar spent.

SAME CONDITION SCORE, THREE TIMES THE EXPOSURE

	SEGMENT A residential side street	SEGMENT B arterial road near hospital
Likelihood of Failure 5-year	82%	31%
Cost of Failure	\$9,000	\$75,000
Total Risk	\$7,380	\$23,250
Rank in the CIP	#41	#6

Segment A looks far worse on condition alone, and an age or break-history list would send crews there first. Segment B carries three times the exposure. Total Risk is the only view that puts the two on the same scale.

WHAT TOTAL RISK IS USED FOR

01

Rank by Dollars, Not Age

A replacement list your finance team and your council can read without translation, because the ranking is already in dollars.

02

Size Budgets to Real Exposure

See how much risk each funding level buys down before capital is committed, then build the annual plan around the answer.

03

Defend Every Decision

Support master plans, rate cases, and grant applications with a monetized, auditable figure for each segment in the request.

WHAT YOU RECEIVE

- Total Risk in dollars for every segment
- System-wide ranking by dollars at risk
- Map layer symbolized by Total Risk
- Exportable ranked asset list for the CIP
- Cost-of-Failure scenario comparison
- Job Planner grouping for project bundling

PROVEN IN THE FIELD

200+

utilities served globally

200K+

miles of pipe analyzed

560K+

breaks analyzed and learned from

ABOUT FRACTA

Fracta applies machine learning to drinking water infrastructure, scoring every segment of the distribution network for Likelihood of Failure and Consequence of Failure so utilities can prioritize renewal against a finite capital budget. Total Risk is where the two scores come together, and it is the figure a capital plan is built on.