## Infrastructure Risk Assessment

Not all assets are created equal. We know that physical assets degrade over time. As assets deteriorate, operation and maintenance costs increase, and customers experience negative impacts. At some point, all municipalities and utilities must analyze the financial exposure of additional maintenance or replacement.

However, not all failure is created equal, either. Some assets may be highly critical to a system's operation, while others are not. Certain types of assets may be critical in one system location but not in another. Each system must carefully examine its own assets to determine which are critical and why.

To effectively manage the complexity of public infrastructure and assets, GIS must be at the heart of the data collection solution. GIS-centric technology serves as the system of record for risk-based assessments. Basic data identifiers—such as asset attributes, location, age, condition assessments, failure history, and more—provide valuable information for calculating risk.

MaintStar EAMS analysis provides the level of exposure the agency may confront through a potential failure of the asset or asset class..
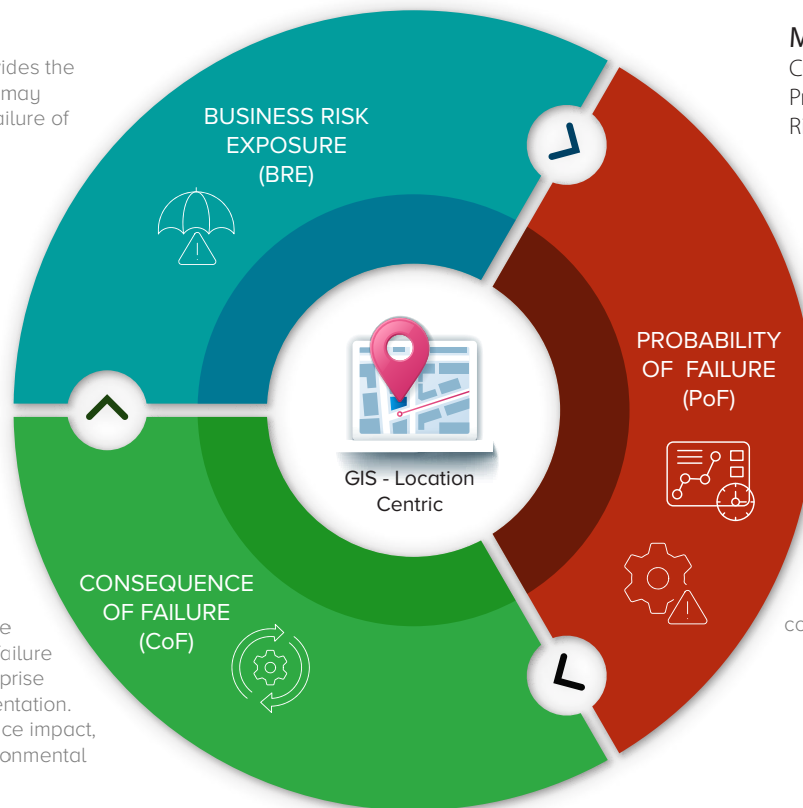
MaintStar EAMS
Condition Monitoring
Predictive Failure
Risk-Based Analysis and Mitigation

MaintStar EAMS identifies the consequences of the asset failure is critical to successful enterprise asset management implementation. Consequences include service impact, critical users, financial, environmental impact, safety factors, etc.

MaintStar EAMS performs condition monitoring of assets with data collection with associated triggers that will identify the probability of failure. Data collected include condition scores, use, location (GIS, BIM, Location), failure history, and repair history.

Condition Monitoring, Predictive Failure and Business Risk Exposure

Risk-Based Analysis

In order to determine asset criticality, two questions must be asked: What is the likelihood the asset will fail? What are the consequences if the asset fails? These questions establish two important asset valuations: the probability of failure (PoF) and the consequence of failure (CoF). Together, these factors can help you rank your infrastructure and create meaningful arguments for the allocation of funding resources and increased capital improvement.

Risk Scoring

Trough operational assessment, consequence of failure is expressed from the asset failure. Identification of impacts along with associated costs (fiscal, environmental, safety and legal). Through operation assessment these are assigned scoring on a scale of 1 to 5 (Extreme to Negligable).