Data Analysis

Once you have imported their data, finalized their settings, and organized/pre-processed their data, InfoAsset Planner analysis can take place. Data analysis is the core feature within InfoAsset Planner. InfoAsset Planner contains many data analysis options described below. Select the data analysis option to immediately jump to the helpfile page.

Defect Code Tables - Defect Code tables are a special set of editable tables which control how survey import data is scored and how draft rehab methods are assigned to those defects. Defect Codes tables many contain many different survey standards and versions for the gravity main, manhole, and lateral line facility types, but they are also editable so that you can create their own custom survey standard if they wish. Defect Code tables are only available in the Sewer network.

Rehab Actions and Costs - This interface specifies how Rehab Methods, Rehab Costs, and Rehab Actions relate to each other for each asset type. To quickly summarize, Rehab **Methods** may have associated Rehab **Costs** and may even be tied to individual defect codes if available. These Rehab **Metho ds** may be combined into Rehab **Actions** which are then assigned to pipes in Rehab Planning on a pipe-by-pipe or facility-by-facility basis. You may specify these rehab component attributes for applicable facility types within this two-tab interface.

Baseline Replacement Cost - This tool gives an estimate of pipe replacement costs over time. It is a simple, approximation tool which requires few, but specific inputs. For more information beyond the helpfile, login to the Knowledge Base and User Forum.

Valve Criticality Analysis - InfoAsset Planner's Valve Criticality Analysis is only available within the Water network in InfoAsset Planner. This tool relies on meter and valve data, spatial joins, and pipe connectivity in order to determine isolated areas in the event of a main break. The additional data from this analysis can be leveraged in other areas of data analysis such as risk modeling or rehab planning, or it can be used as a standalone tool.

Pipe Redundancy - This simple tool runs a looping algorithm to help determine pipe redundancy. If pipes are redundant, this can be used as an extra factor in determining consequence of failure.

Batch Run - Batch Run gives you the ability to rerun all analyses within the Operation Center - Analysis tab. This is a useful tool for keeping the InfoAsset Planner project up-to-date.

Consequences of Failure (COFs) **-** Factors which should account for the negative impact if a particular facility or asset were to fail. InfoAsset Planner provides many flexible options for you to access in creating consequence of failure factors within their InfoAsset Planner projects.

Likelihoods of Failure (LOFs) **-** Factors which should account for the likelihood of a particular facility or asset to fail. InfoAsset Planner provides many flexible options for users to access in creating likelihood of failure factors within their InfoAsset Planner projects.

Risk - The combination of consequences and likelihoods of failure results in an overall risk grade for the facility or asset. Risk models in InfoAsset Planner can be generated using multiple methods. Additionally, each risk model contains a number of options (total risk score, risk by grading, normalized risk score) for prioritizing facilities or assets.

Deterioration Models - Deterioration models utilize user-provided failure data and run statistical analysis with it to produce different failure curves. Deterioration modeling takes what are normally complicated statistical equations and simplifies it to a wizard interface like many other InfoAsset Planner functions. You must be careful with these models, however. The models themselves can only be as accurate as the quality and quantity of data provided to them allows. For some of you, the data may not be present to run these statistical models effectively.

Rehabilitation Planning - Rehabilitation Planning is, in many ways, the culmination of all the data importing, organization, and earlier analysis within InfoAsset Planner. This is because rehab planning and the rehab decision trees can take into account all the data and analysis within InfoAsset Planner and, based on your logic, determine rehab actions to occur on each facility. Rehab decision trees are one of the key features within InfoAsset Planner and the optimal and most flexible tool for categorizing facilities and vertical assets.

Data Miner - Essentially, this tool is a combination of ArcGIS's ModelBuilder and InfoAsset Planner's rehab decision tree interface. With the Data Miner, you can create customizable tables and selections for export as standalone reports or to be used in InfoAsset Planner's other analysis options like the risk analysis or rehab planning. Data Miner's primary uses include: 'count', 'join', and 'spatial join' functions to create and manipulate data.

Project Prioritization - This tool is the final analysis created after results from the Risk analysis and Rehabilitation Planning are available. The tool allows you to specify a risk cutoff, and a budget per project to create projects for pipe rehabilitation/renewal based on proximity, connectivity or other parameters. Data from the rehabilitation analysis such as Rehab Actions and Total Costs are taken into account.