

Infrastructure Asset Management

Introduction

Infrastructure asset management is the process of collecting information on a municipality's physical assets (sewer pipes, manholes, roads, sidewalks, buildings, vehicles, etc.) and managing them using a database linked to a Geographic Information System (GIS) map. The database stores the physical conditions and estimates of replacement years and costs, and the GIS map provides visual display of stored data and data queries. The GIS map and data work together to improve planning efforts and prevent breakdowns and emergencies in the most cost-efficient way possible. Asset management's goal is to minimize the total cost of ownership of a community's infrastructure assets throughout their lifecycle.

Stormwater, Asset Management, and Wastewater (SAW) Program

In 2013, the Michigan Department of Environmental Quality (MDEQ) started the SAW Program, which gives grants to communities to create asset management plans for wastewater and stormwater systems. MDEQ requires an asset management plan for any wastewater system renewing its NPDES Permit.

Communities build asset management plans in five steps, which include:

1. Collecting and mapping asset data.
2. Analyzing an asset's condition, assessing its remaining service life, selecting repair intervals, and estimating ownership and replacement costs.
3. Defining the community's expectations for an asset's level of service.
4. Determining an asset's criticality by considering its risk and the consequence of failure.
5. Creating a financial plan to minimize an asset's total ownership cost over its lifecycle.

Asset management involves coordination and cooperation of field staff, engineers, community leaders, department staff, and the public.

Water Asset Management Plans (Water Supply)

MDEQ requires that systems supplying water to over 1,000 people implement a Water System Asset Management Plan (WAMP).

Road Asset Management Plans

For over a decade, communities have used their roads' PASER ratings to develop Transportation Asset Management Plans (TAMP). Without a TAMP, a city or village cannot transfer more than half of its Act 51 road money to fix local roads.

Coordinating Asset Management Programs

Asset management is a financial planning and management tool for water, wastewater, stormwater, and transportation systems, along with other physical assets like sidewalks, streetlights, and parks. The more interrelated these systems are within an asset management plan, the more powerful and beneficial the tool becomes.

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